



GARDENING

Illustrated.
For Town & Country.

A Weekly Journal for Amateurs and Gardeners.

FOUNDED BY W. ROBINSON,

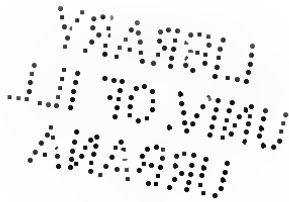
*Author of "The English Flower Garden," "The Wild Garden," "Humble Flowers," "Alpine Flowers," etc.
Founder of "The Garden" and "Even and Home."*

"YOU SEE, SWEET MAID, WE MARRY
A GENTLE SCION TO THE WILDEST STOCK;
AND MAKE CONCEIVE A BARK OF RABER KIND
BY BID OF NOBLER RACE: THIS IS AN ART
WHICH DOES MEND NATURE—CHANGE IT RATHER: BUT
THE ART ITSELF IS NATURE."—*Shakespeare.*

"CALL THE VALES AND BID THEM HITHER COME
THEIR BELLS AND FLOWERETS OF A THOUSAND HUES."—*Milton.*

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GARDENING

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VEGETABLES.

FORCING FRENCH BEANS.

Or all French Beans for growing under glass there is none to equal Osborn's Forcing. There are various ways of sowing the seed and bringing the young plants forward, but modes of doing this which might be the best in April or May would not answer very well during the shortest days. For instance, when the spring is well advanced the seed may be sown in boxes or in 8-inch or 10-inch pots, in which the plants will bear pods; but if this were done now many of the seeds would be liable to decay before they germinated, and the plants would not grow so strongly or rapidly as they will if the seed is sown in small pots, from which the plants will be transferred into larger ones as soon as large enough to handle. Our plan at this season is to fill a number of 3-inch pots half full of a light rough mixture of loam and horse-droppings, and to put six or eight seeds into each. The soil is pressed down as firmly as possible, and some of it is placed on the top of the seeds to the depth of 3/4-inch or so. They are then placed in a house or pit in which the temperature ranges about 60 degs., and here they get little or no water until the first leaves are formed and a few roots have been made. This treatment prevents all damping or decaying, which must be guarded against at this season. When efficiently advanced in growth to bear and require water they have a plentiful supply, and then they grow freely. It is a great advantage to have them near the light and in rather a dry atmosphere.

As soon as the plants are 5 inches or 6 inches high, and have made half-a-dozen leaves each, it will be found that the small pots are well crammed with roots, and they should then be shifted into larger pots. The 8-inch ones are the best. They should be well drained, and the potting mixture should consist of rough loam and horse-droppings. Fine soil should be avoided. After potting they may be returned to their old quarters, but water should be given sparingly until the roots have taken possession

of the new soil, when more must be given. Those who wish to keep up a constant supply of Beans should sow a quantity every fortnight. At times we have placed only one of the small pots of young plants into the 8-inch one, but where space was limited we have put three small pots into this size. When this can be conveniently done it is a profitable way of growing them, as a great many more Beans are secured from the pots with the most plants than the others, and the space required for both is just about the same.

When in bloom the flowers should be kept as dry as possible, as the fruit forms with more certainty than when the blooms are damp. We never allow any of the growths to fall over the sides of the pots, as this checks them; but when any of them are so tall or weak as not to be able to stand without support, pieces of birch from old brooms are put in to hold them up. Osborn's Bean does not, however, require so much attention in this way as such kinds as Canadian Wonder, which cannot be grown without support. As soon as any of the pods become large enough to gather they should be removed from the plants at once, as there is nothing so much against the production of a long succession of fruit from the same plants as allowing some of the first formed pods to become old. Liberal quantities of liquid manure assist old plants to keep on fruiting, but we do not approve of this, as plants are so very easily raised, and young vigorous ones are always the most fruitful.

LEEKs.

WHEN Leeks are grown to produce large, long blanched stems to present at exhibitions, the trouble involved in such production usually greatly exceeds the results, except for such particular object. But no one wants such huge stems for table use as these show plants commonly are. As a rule, judges ignore the requirements of the table, and think only of size of stem, if allied to considerable blanched length and whiteness. But for table use, stems equally well blanched and pure in colour, that are but one half the dimensions are best—that is, instead of being as big round as a broom-handle, more

nearly represent the size of a whip handle, as these are so much more tender when cooked, and are for that reason so much more enjoyable. The exhibition stems are the product generally of very early sowing, early planting in trenches half filled with manure, frequently, later, liberally watered with liquid-manure, and blanched with bands of brown paper. Even then the stems are sometimes enclosed in drain-pipes, and these are partially backed up with soil, no trouble being spared to get the stems long, stout, and very white. But to have a long supply of Leeks for table use—and good stems well grown and blanched under ordinary culture when well cooked make a delicious dish—it is enough to plant them from the seed-pots or boxes when 6 inches in height out into shallow trenches into which a moderate dressing of manure has been put, and which is well mixed with the soil. As the plants grow give occasional liberal waterings, and get good growth on to the plants before commencing to earth them up. Before doing that remove a few of the lower leaves. Good blanched stems should be about 10 inches long and very clean.

A. D.

FORWARDING VEGETABLES & OTHER THINGS ON BEDS OF LEAVES.

It is astonishing how much can be accomplished in cold-pits and frames, which at this season are so useful for forwarding crops for early use. During the first four months of the year the soil is very cold and the weather very changeable, but with a little warmth and glass shelter (covering the glass on very cold nights) plants grow rapidly, the crops often being from one to two months earlier than those on sheltered, warm borders. It is a very simple matter to provide a little warmth. This may be done in many ways, and often at very small cost. In country gardens leaves are abundant, and even in small suburban gardens many leaves may be stored by attention in autumn and winter. If collected in a heap and kept dry they do not rot. If a little stable or other fresh manure is added sufficient heat will be forthcoming. Last year I made a bed large enough for a three-light frame with tree-leaves and green Box that had been clipped off some big bushes. On this I

grew a crop of Radishes and Potatoes, and when these were cleared off a crop of Melons was taken from the same bed. Strong heat is not desirable. Asparagus, Turnips, Radishes, French Beans, Lettuces, Carrots, Cauliflower, Peas, and numberless other things are raised in these beds. In such beds, too, Hyacinths, Tulips, Narcissus, and other bulbs are grown, and now (middle of January) I have Narcissus, such as *maximos*, *Horsfieldi*, etc., standing on well, these being stood on a bed of leaves, etc., in a cold-pit. Lily of Valley is satisfactory when put in such places for April and May flowering. Deutzias, Dielytras, and Spiraeas also do well. For raising seeds, etc., from February onwards these beds are excellent. I cover the leaves, etc., with ashes to prevent slugs getting at the seedlings. When rotted, the leaves make fine material for dressing land, potting, and a number of other uses. J. CROOK.

NOTES AND REPLIES.

New Pea Ideal.—This Pea can be recommended to amateurs as well as gardeners. It is one out of a great number grown for trial at Chiswick last year that gained an A.M. at the hands of the Vegetable and Fruit Committee on June 10, 1901, the raisers being the Messrs. Sutton, of Reading. Ideal may be described as a first early dark green Marrow Pea of excellent table quality, and a heavy cropper. Another advantage is the fact of its coming to maturity at the same time as the round, white-seeded kinds, while to this must be added that the haulm does not exceed 3 feet in height. As the time is at hand for making the first sowing of Peas outdoors, I would advise that Ideal be given a trial, and shall be much surprised if those who do so are not satisfied with the results.—A. W.

Parsnips.—It is fortunate for the grower of these very useful roots that we have very few varieties. Practically there are but three in ordinary cultivation, the Hollow Crown, the most widely grown and having several designations, the whiter-fleshed Tender and True, a particularly nice selection from the former, and Student, a true stock of which has raised necks and not unken ones as the Hollow Crown has. Parsnips are neither the best nor most profitable when very long. Judges at exhibitions do, as a rule, favour roots ranging from 24 inches to 30 inches in length if they be smooth and, for their length, handsome. But by far the sweetest and most marrowy flesh is got on roots that are but 12 inches in length, have nice broad shoulders, and good, tapering, firm roots, literally all flesh, and when properly cooked of delicious quality. Parsnip ground should not be freshly manured, yet be fairly good and well worked. The plants may be hot 0 inches apart in the rows, the aim of the grower being rather to get many of medium size than fewer of abnormal length.—A. D.

Turnips for late use.—There are few places where Turnips are not appreciated all through the year for flavouring soups, etc. This being so, everyone should endeavour to provide a supply over so long a season as possible. It is during the spring months this is the most difficult, but this may be overcome to some extent by a little forethought. For years I have made it a rule to sow very late a small quantity of Chirk Ceeble Bleekstone. This kind is very hardy. I allow the roots to remain where they are sown till the tops begin to run to greens, when they are pulled up, cutting off the greens about 2 inches from the head. Then the roots are laid in coil under a north border, and when growth begins again they are lifted, cutting the roots and tops and covering them with soil, moving them occasionally to prevent rooting. In this way I generally keep them till Turnips come in in the open border. In seasons when I have been short of Turnips I have taken up the small ones out of the main crop about Christmas, cut off the rough leaves, and laid them in a drill 3 inches or 4 inches deep. In this position they make new growth and are not affected by frost.—J. CROOK.

Brussels Sprouts.—Whilst many gardeners prefer to sow seeds of Brussels Sprouts under glass early and thus raise plants that, got out early into rich, deep-worked soil, grow by the autumn to great height and size, yet, as a rule, the Sprouts produced are large, coarse, and

quite unfit for ordinary use. It is wiser to sow seed outdoors at the same time that Antomn (Giant Cauliflower seed is sown, in shallow drills and thinfy, taking care to net them over to keep off birds. Such plants are hardy, starchy, and transplant well in good time. Generally, in small gardens room cannot be found for such plants until early Potatoes or Peas have been taken off. If the ground be just ploughed over and levelled, then holes dibbled into it in rows 2½ feet apart, the Brussels Sprout plants being put out into them and well soaked in with water, growth will be hard, if steady, at least sure. Stems will be hardened in time, clothed with small but hard, green Sprouts, perfect ideals of what Sprouts for table should be.

Up-to-Date Potato.—Few Potatoes are so universally grown as this, for it is the market growers' main crop sort, and at the present time hundreds of tons are stored in this locality, for it is in daily use nearly all the year round. In this locality no variety I have yet tried has turned out such sound, handsome tubers as this. It is one of these kinds that does not require very high manuring or any special culture to ensure tubers quite large enough for cooking. The brightest and best formed tubers are grown in rather poor soil, and anyone giving it a trial for the first time will do well to select soil that was well manured last year. Do not put on any fresh manure, but rely on deep cultivation. Give plenty of room, and keep the surface soil frequently stirred. The only fault I have heard from retailers is that it is too large for selling in small quantities. It is essentially a main crop sort, and if planted in March or April may be stored quite ripe in September. As it is a strong grower, 3 feet between the rows and 1½ feet from set to set will give far better results than closer planting. From a single tuber set out quite clear of other crops I have often dug over a gallon tubers.—JAMES GROOM, Gosport.

Flavouring Onions for summer use.—It often happens that there is a scarcity of Onions even for flavouring. Unless a unusually cool stove is available for Onions a large percentage of the bulbs becomes soft and outgrown. In this state they will not keep long. Some sorts of Onions keep better than others, and where late ones are desirable, varieties with this character should be grown, if only in small quantity, but without the suitable store there is sure to be this trouble with any kind. To tide over this season of scarcity many gardeners find it a good plan to select some of the best of these grown-out bulbs and plant them out in the garden in rows about 10 inches apart. This is done in February in favourable weather. An odd corner or a row or two put out between newly-planted fruit-bushes—it may be Gooseberries or Currants—answers. All that can be expected from them is green tops, the root will be gone entirely; but for flavouring these answer the purpose very well. This course, while it provides for a time of dearth, removes at the same time a source of waste, for Onions, when grown out, have lost their value in the dry store. These of your readers, then, who have plenty for their present use and a prospect of scarcity later on would do well to give this matter their careful thought while there is material available, and this is particularly important with those who require soup-flavouring vegetables almost daily. It is well known that Onions will endure a good deal of frost and cold, and a store for them need not be strictly frost-proof so long as it is dry. For this same reason there is no need to hesitate about prospective weather for the outdoor planting so long as it is mild and the ground in fairly good working order at the time it is done.—W. S.

Early Lettuces.—Where accommodation for wintering Lettuces does not exist, and an early supply is required, seed of a quickly-maturing variety should at once be raised under glass in a temperature of 45 degs. or 50 degs. If sown in a pan or box and placed on a shelf close up to the glass nice stocky plants will result. Prick these off when large enough (if a frame is not at liberty) into other boxes and grow them on as hardily as possible. By the time there is a danger of the plants becoming crowded a frame in which early Potatoes have been forced should be reserved for them. No preparation will be required, as there will be quite enough soil for them, and just sufficient

latent heat remaining in the hot-bed to give the plants a start. Set out the plants 9 inches apart each way, water and afford shade until the roots have taken hold of the fresh soil. Give air in the morning to prevent the plants getting drawn, but close early in the afternoon to promote quick growth. Water whenever the plants require it, and an overhead sprinkling with a fine roset can be also beneficial at closing time, particularly on bright, sunny days. By careful attention to these few details excellent Lettuces may be grown in a frame or a slightly heated pit. For this purpose the cabbage varieties are the most suitable, among which are Golden Queen, Paris Market, Harbinger, Forcing, and Perfect Gem, all of which can be recommended.—A. W.

Jerusalem Artichokes.—These may now be planted as they are quite hardy, and there is always more than enough work to get through in the garden in March. Moreover, the tubers only shrivel if left too long in the storehouse. The new white Mammoth is the best variety, being of better shape and quality than the ordinary kind. Jerusalem Artichokes are often grown for many years on the same ground, and in a success part of the garden; but this is a mistake, as not only the size but the quality also are thereby impaired if a fresh site cannot be given them every year, at least some fresh soil from the frame yard, or, falling thin, from another part of the garden, should be dug in deeply, together with a liberal quantity of well-rotted manure. The ground should be made firm and the tubers planted a foot apart in rows 18 inches apart. Where ground is plentiful 2 feet is not too much, as the more sun and air the plants get the finer the yield will be. Plant in moderately deep drills, and make the ground firm by treading. A mulch of old Mushroom-manure, applied when the plants are a few inches high, will prevent rapid evaporation, and if a couple of good soakings of liquid-manure can be given during the summer so much the better. The smallest and most inferior tubers are sometimes saved for seed, instead of which medium-sized, well-shaped ones should be selected, these being the only guarantee for a good all-round crop the following season.—C.

Tomatoes.—To keep up a succession of fruiting plants, a little seed should be sown at intervals of a month or so from now onwards. These plants are often injured from the first by pinching the pan or pot containing the seed in a hotbed, causing the seedlings to come up very weak, and some time is lost before these can be made sturdy plants. If the seed is sown thinly and the pan stood on a shelf near the glass in a warm greenhouse growth will be much slower at first, but the plants are much better later on. Young plants raised from seed sown last autumn should be potted on as required, but no attempt should be made to force growth by placing them in too much heat. A warm greenhouse with rather a dry atmosphere suits them well. They should be always kept well up to the light and receive ventilation whenever the weather permits. Stronger plants coming into flower should be assisted with weak liquid-manure. Shorten back the foliage somewhat where necessary to expose the flower-truss to light and air, and the blooms should be gone over daily with a feather or soft brush to assist the fruit to set. Winter fruiting plants are still cropping well, and they receive every support in the way of surface dressings of rich compost and a dusting of bone-meal. Heavy dressings of soil are not necessary; in fact, such may prove harmful at the present season, it being better to afford these at short intervals and in small quantities. When the plants are strong and healthy the tops may be pegged down in the border, and they quickly make fresh roots in the soil, or they may be pegged into pots filled with rich compost, and when sufficiently rooted covered from the parent plant, and a good batch of plants will be obtained that will commence to fruit at once. All fruit should be cut as soon as it is coloured, so as to relieve the plants as much as possible. Frogmore Selected is a good variety for winter work.—P.

Early Potatoes.—Kidneys or any early varieties for frame culture and planting immediately after the new year need not now be checked, as it would be an advantage to allow

them to sprout and have strong shoots by planting time. Other seed which may not be wanted until February or March should not be sprouting yet; but if it is, check it as much as possible by a cool atmosphere, and if some persist in growing after that it is best to break the meet forward of the shoots off and let the back ones take their place. Shoots 1 inch or 2 inches in length now would be of no use on seed intended for planting in March, as they would be much too long by that time to be handled or put under ground. It is a difficult matter to keep the shoots from growing when once they have fairly begun to push; it is much better to keep them back now than allow them to grow and keep them at a standstill further on. Nothing worse could happen to seed Potatoes than having

PLANTS AND FLOWERS.

CASSIA CORYMBOSA.

OCCASIONALLY in some old-fashioned garden a large plant of this Cassia may be found which can be depended upon to flower well every summer, and during the winter it is kept in the conservatory, or somewhere just clear of frost. In some of our public gardens, too, it may be seen growing outside during the summer associated with other tender subjects. The excessively hot weather of recent summers has suited it well, for it has given quite a mass of its golden blossoms, which lasted for some time. It is, as a rule, far more frequently

GLOXINIAS IN COOL GREENHOUSE.

ALTHOUGH the Gloxinia is classed as a stove plant, it is surprising what a fine display can be had in a cool greenhouse without much trouble when one has not a stove to grow the plants in. About the middle of February I make up a hot-bed for Cucumbers. When the temperature of the frame is about 65 degs. or 70 degs., I put up my bulbs and place the pots around the sides of the frames, setting a Cucumber plant in the centre of each light. By the time the Cucumbers reach the sides of the frames the Gloxinias have made a start. I then transfer them to theinery, the vines by this time being in full leaf affording sufficient shelter. With a little fire-heat and the moisture from syringing the Gloxinias make good progress. If there should be any blank places in the foliage of the Vines it is advisable to shade the plants with a few sheets of paper during the hottest part of the day. They are shifted on into larger pots as they require it. This is one of the points that should not be overlooked, as I find the Gloxinia enjoys plenty of space for its roots. While a great many plants flower best when pot-bound the Gloxinia is quite the reverse. I keep them here until they begin to show flower, then I remove them to the greenhouse. The house is span-roofed, with a path down the centre, and four tiers of staging each side. On the top I have a row of Tomatoes in pots, trained up the roof by means of string or wires. Under the shade of the Tomatoes I let the Gloxinias throw up their handsome blooms. The house is very pleasing, with the huge red and green Tomatoes hanging down, while underneath are the soft delicate blooms of the Gloxinias, with all shades of colour imaginable. After flowering the Gloxinias are gradually dried off. When quite dry the soil is removed, the bulbs placed in a shallow box, and covered with silver-sand. This keeps them plump through the winter. H. SUMMERS.

Silver-street, Godmanchester, Hunts.

BALSAMS.

It is difficult to understand why so few people cultivate Balsams. To have Balsams in flower in May one should sow the seed in February. I prefer doing so in shallow, well-drained pans in soil largely composed of rough leaf-mould over the crocks, with finer mould and turfy soil above, thinly scattering the seeds and barely covering with soil. Whilst the soil should be kept moist in a house where the temperature ranges from 55 degs. to 60 degs., too much moisture is apt to result in the seedlings damping off. It is safest, also, to get them into pots as soon as they are large enough for removal, and not wait until they begin to get too thick, giving them a shelf where they will have plenty of light. At the second and subsequent pottings one may be liberal with regard to the compost, adding to the leaf-mould and turfy soil some old manure from a heap that has stood a few months. In a compost of this character Balsams grow freely in a house where temperate heat prevails. Balsams should not be allowed to become dry. In a warm house where any attempt is made to push them into bloom they will imbibe a deal of water, and liquid manure occasionally administered a few weeks before the buds open will improve the quality of the flowers. Green-fly sometimes attacks plants that are apparently healthy; but, as a rule, heat and overdryness are the cause of their appearance. Gently syringing the plants before they bloom, or, if in bloom, fumigating, will quickly disperse them. Well-fed plants are least likely to suffer from green-fly. Balsams are extremely showy when in bloom, may be had in flower for many months by occasional sowings, and are not difficult to manage. W. F.

TREE-CARNATIONS.

THESE require very careful treatment during the winter. Tree-Carnations are often grown in dark-houses or pits, but the plants become weakly, and the flowers are few and of poor quality. I have seen them doing well on tier-above-tier stages in lofty lean-to houses; but a low span-roofed house running north and south suits them best. This should have a tolerably wide bench in the centre, and narrower ones on each side. The stage should be covered with rough deal, shingles, or shingle, and the plants



Cassia corymbosa.

them stored in mounds during the winter, and allowing them to remain in that state until they have become a mass of young shoots and roots, as the shoots emit roots when growing in this manner, and they all derive vitality from the seed. Many who possess seed Potatoes may be unable to keep them thinly laid out in winter, but everyone may turn and air them, a practice that is very beneficial. When we are obliged to keep more than we approve of on the top of each other in autumn, we always find some means of spreading them out thinly in spring to harden the shoots before planting. The very late sorts do not start freely into growth at this season, or, indeed, during the winter, and it is kinds like these that should be massed together, when massing must be done, and, as the early ones are cleared out and planted in spring, these can be spread out in their places.

met with across the channel than it is in this country. Cassia corymbosa is a native of the neighbourhood of Banase Ayree, and was introduced in 1796. It is of easy culture, succeeding, as it does, in any ordinary potting compost. The principal thing to be observed is the thorough ripening of the wood towards the end of the summer. In some gardens on the south coast it stands the winter if given the protection of a wall and flowers freely every year. Cassia corymbosa need to be planted out every season in the Royal Horticultural Society's gardens at Chiswick, and flowered splendidly. On the approach of frost the plants were lifted, cut down and potted, and placed in a house with Pelargoniums until required again for the flower garden. They invariably did well treated thus. Plumbago capensis, given the same treatment, also flowered splendidly.

arranged not too closely. If there is any greenfly on the plants, fumigate them on two or three evenings in succession, and syringe them with tepid water the first fine day after, repeating the fumigating every three weeks in winter, as, if aphid once gets a foothold, it is difficult to eradicate, and the plants soon become sickly. To ensure a constant supply of flowers in winter a little artificial heat is necessary, from 50 degs. to 55 degs. being a suitable temperature, and the rubble on which the plant stands should be moistened occasionally; admit air liberally in mild weather. The less artificial heat given to plants intended to flower in spring the better, and it is from these the cuttings for next year's stock should be taken. Keep the soil in the pots free from weeds, and loosen it occasionally with a pointed stick to admit air. If the plants are well rooted, liquid-manure of a weak nature may be given, say, once a week, and I have known native guano given with very good results; but artificial stimulants must be used with caution. Avoid watering in dribslets. Be sure the plant wants water, then give sufficient to moisten the ball through. Disbudding is seldom practised; but it is best to remove the small buds which usually cluster around the terminal one—this will increase its size and quality. Support the growths with neat sticks.

CHROMER.

THE BEST ABUTILONS.

A CAREFUL selection of the original species of Abutilons is now absolutely necessary, there being so many garden varieties, and, though they do not bloom so freely in a small state as some of the hybrid forms, half-a-dozen or so must have a place amongst the very best.

A. DARWINI, which is quite a shrub, with orange-red flowers, is interesting as having, in conjunction with the white-flowered *Boule de Neige*, laid the foundation of the numerous garden varieties, among which, however, are some in the way of, but superior to, the typical *A. Darwini*.

A. INSIPIDE is widely removed from any of the others, and is also of slower growth. The leaves of this are large, heart-shaped, and of a bright-shining green, while the flowers, which are borne in axillary pendulous racemes, have more spreading petals than any of the preceding, thus forming a shallower bloom. The colour of the flower is purplish-rose, with darker veining. This plant, which is also occasionally met with under the name of *A. igosum*, is very uncommon, though a most desirable member of the genus. It requires rather more heat than is necessary for the other Abutilons.

A. STRIATUM, a rapid-growing plant, is well suited for a conservatory pillar or some such spot. By continuous pinching it may be induced to flower in bush form, but is more effective when allowed to grow freely. The lobed leaves of this species are of a bright-green colour, while the drooping blossoms are of an orange-yellow, thickly reticulated with red. A thriving specimen of this Abutilon will flower more or less continuously throughout the greater part of the year.

A. VENOSUM is the grandest of all the Abutilons. The deep green, large, palmate leaves are very ornamental, while the blooms are such as much as 3 inches in diameter, and as the flower-stalks are often nearly a foot in length they are very conspicuous, especially where the plants are trained to a roof or pillar. The colour of the flowers is bright-orange, veined with red.

A. VEXILLARIUM is a slender yet free-growing climber, or rather a plant of rambling habit, that may be employed to furnish the roof or pillars of a greenhouse, while it is far hardier than is generally imagined. There is a great difference in colour between the two portions of the flower, the calyx being bright crimson, and the petals, which partially protrude therefrom, are yellow. This species is also known by the name of *A. megapotamicum*. There is a variety of it whose leaves are mottled with creamy-yellow, and very pretty it is in a small state under glass, but when planted out and growing vigorously the variegation frequently disappears to a great extent. *A. vexillarium* is a most continuous bloomer, but despite this fact and the bright colouring of its blossoms it does not appear to have been of much service to the

hybridist. A few years since a number of seedlings between it and several garden forms were raised, but on flowering it was found that the infusion of *vexillarium* blood had by no means improved the hybrids, the species being superior to any of the seedlings. Such being the case, the whole of them were discarded. The next species to mention is the Brazilian

A. VITIFOLIUM.—A native of Chili, and hardy in the more favoured districts of England and Ireland. This is quite a bush, whereas porcelain-blue flowers are borne during the month of May. There is also a variety with white blossoms.

Abutilons with variegated leaves are rather numerous, for besides the form of *A. vexillarium* previously mentioned there is a beautiful variegated variety of *A. Darwini*, known as *tesselatum*; the leaves of *A. Thompsoni* and its double-flowered form are mottled with a creamy hue, while the warm-house *A. Sellowianum variegatum* has handsome marbled leaves.

NOTES AND REPLIES.

Coleuses.—I have long since regarded the keeping of old Coleuses through the winter as a waste of time and trouble, to say nothing of the room they take up, and the additional heat necessary to carry them through. I do not think anyone would keep them after October after rearing a batch of plants from seed. Seedlings grow more rapidly, when once a start is made, than do old plants, and there is a freshness about young plants that old ones do not possess. To have plants for greenhouse decoration in June and July and onwards seed should be sown in March in a house where the minimum temperature ought not to fall below 60 degs., and no better place can be had than a propagator erected over the hot-water pipes or near the stove. Pans of light, sandy soil, with ample drainage, are necessary for their successful culture, and all the light possible should be given them, encouraging a moist, humid atmosphere, yet avoiding overwatering. The best coloured sorts will soon become apparent, and potting off separately should be undertaken when large enough for this. I have grown them from a March sowing, and had nice specimens in 48's by the middle of July, using nothing but old turf soil and silver-sand, with a little leaf-mould added.—LEAHUNT.

Climbing plants.—It often happens that the climbing plants employed to cover an end wall of a conservatory, or to furnish the roof, are the least satisfactory of its occupants. This is especially the case when the plants chosen are naturally of too strong and vigorous a habit. In this case they either smother everything else in the house or have to be so severely cut in as to interfere with their flowering, and, what is even more detrimental to their well-being, they generally exhaust the limited quantity of soil that can be afforded them to grow in to an extent that does not admit of its fertility being kept up by additions of manuring. Where such a state of matters exists it is much the best to remove the old plants and replace them with others of a less rampant habit; this will give an opportunity for completely removing the soil. This is essential, as with perennial plants of this kind comparatively little can be done in the way of removal without destroying the roots to an extent that would be injurious. Whatever is to be done in the way of cleaning conservatory climbers should now be carried out whilst the plants are comparatively at rest, as during this time the work can be done much more effectually as well as with less injury. An effort should be made to completely eradicate mealy-bug and scale, for where nothing is done beyond periodically freezing the plants from a portion of them the work has to be repeated indefinitely, the result being a continuous expenditure of labour, with more or less injury to the plants.

Fuchsias.—Young plants struck from cuttings at the latter end of summer, and that have been kept growing slowly in an intermediate temperature, will now require larger pots, for if they are allowed to become at all cramped from want of pot room they will not move freely afterwards. Such as have occupied 5-inch or 6-inch pots may be moved into others 2 inches or 3 inches larger, using good turfy

loam, with a little leaf-mould, some thoroughly rotten manure, and sand in proportion to the greater or less quantity which the loam naturally contains; but *Fuchsias* do not require the soil to be quite so open as some other quick-growing plants. Pot moderately firm; but not so much so as in the case of some things of a more permanent character; pinch out the points of the shoots to induce a close, well-furnished condition. Some varieties require less attention in this respect than others, being naturally disposed to branch out without stopping. A well-grown *Fuchsia* should, when in bloom, present a dense mass of pendent shoots drooping from a single stem, each clothed with healthy foliage and flowers. This state can be secured in these autumn-struck plants in a way that it is difficult to accomplish with old specimens or with later spring-struck stock, although the latter make nice small examples, but for large conservatories, where size is an object, autumn-struck plants are the best.

Camellias.—Where these have not, yet had their annual cleaning by sponging the leaves and removing any scale insects that may exist on the shoots, it should at once be attended to. In the neighbourhood of towns, where the atmosphere is charged with soot, they are greatly benefited by having their leaves sponged two or three times a year. If the plants are turned out in beds—and still more so when grown in pots or tubs in conservatories, where some warmth is kept up during the winter—special care must be taken that the atmosphere, as well as the soil, is not allowed to get dry, or the buds are sure to drop; this is particularly the case with the white varieties, which are more easily affected in this way than the others. Where any large plants of inferior kinds exist that it is intended to graft with better sorts, they may now be headed down and grafted. Many of the numerous ways in which grafting is performed will answer, but if the plants are large and the stems a considerable length before branching out, they may be cut down 3 inches or 10 inches above the collar and cleft grafted, putting in four or six, binding the stock round so as to keep the unions in their places, surrounding the whole with ordinary grafting clay, after which they may be placed in a house or pit where a little extra warmth is kept up. I have found *Camellias* succeed best when grafted thus early, before the sap is about to rise, as if the work is deferred too long the flow of sap is such as to often prevent the grafts taking.

Begonia Gloire de Seaux.—This is a most valuable plant for the stove, flowering as it does from early December right up to April, the foliage itself making it a conspicuous subject, but doubly so when laden with its pale pink blossoms, which push out at the axil of nearly every leaf. The plant also lends itself to discretion in the house, lasting in good condition for a fortnight or more. It attains 3 feet to 4 feet in height, and can be either grown on a single stem or pinched to form two or three shoots. Cuttings should be put in during April or May, and I find they emit roots very quickly if placed in a close frame or propagating-box with a gentle bottom-heat in a house or pit that commands a temperature of 60 degs. to 70 degs. Merely dibbling in the shoots in Cocoa-nut-fibre or sifted leaf-soil appears to suit the cuttings better than if placed in pots. As soon as rooted pot up into suitable size pots, and keep in the box for three or four days, when they soon get hold of the soil, and then can be placed near the glass roof in a house that does not fall below 60 degs. at night. Repot when necessary, using loam, leaf-soil, a little peat, and enough sand to keep the whole porous. Useful decorative stuff can be grown in 7-inch pots and quite large specimens in 6-inch or 7-inch. Keep the syringe from the plant when in flower, and avoid too much water at any time, as I have found plants go black in the stem quite close down to the pot just when coming into flower. This I attribute to the plant being kept too sodden at the root.—J. M. B.

As many of the most interesting notes and articles in "GARDENING" from the very beginning have come from its readers, we offer each week a copy of the latest edition of either "STOVE AND GREENHOUSE PLANTS," or "THE ENGLISH FLOWER GARDEN," to the reader of the most useful or interesting letter or short article published in the current week's issue, which will be marked thus "A."

THE POPPY ANEMONE.

It is needless to sing the praises of the Crown Anemone. Everybody who has any acquaintance with garden flowers knows its merits, its easy culture, fine bloom, and the variety of colour which a mixed collection affords. Those who planted in October will have abundance of bloom in spring, and there are few plants more serviceable for house decoration thus early in the year. A sowing of seed in June will produce plants which, set out in autumn, will flower the following spring; so that those who wish to grow them need not obtain named kinds, unless they have a partiality for any particular varieties.

CARNATIONS FOR SPRING PLANTING.

MANY amateurs prefer to buy what they require and plant out in spring; although they may be aware that the best results can be expected only from plants settled in their winter quarters in September or October, they do not like to run the risk of the winter, and there is something to be said in favour of this plan, as they can buy now strong, well-rooted plants and have

of the border, which it is as well to have trenched, two spits deep, some time before planting takes place. If, however, this is not practicable, or has been omitted, it should be done at once, and the soil trodden down before planting, or rolled all over, as it is an absolute necessity that the ground be in a firm condition before the plants are inserted. The most suitable soil is a good sound loam, neither too heavy nor too light; and, as to situation, experience leads me to select a border that is shaded from the hottest rays of the sun—during the middle of the day and during the afternoon—as, by this selection, the blooms last longer and do not require shading, which, if required for exhibition, they would otherwise do. Carnations should be grown in beds by themselves, and not mixed up with other flowers. The plants should be set out from 13 inches to 15 inches each way, according to the size of the plants, some being much stronger growers than others. They are also very effective if planted in clumps of any one colour—for this purpose the self-coloured varieties are to be preferred. What, for instance, could be more lovely than an entire bed of that exquisite new pink variety, John

plant, they will answer very well. Weak growers and some of the more delicate varieties of yellow-ground Picotees are better grown in pots, as they can then have the protection of cold-frames when required, and it is not judicious to plant out in the open border plants that have been grown in large pots and not provisionally potted up. The plants being set out, if the weather is exceptionally dry it may be as well to give them one good watering, unless rain may be shortly expected, and if the border is in a sunny position it should be mulched all over with well-rotted manure about the beginning of May. This has the double advantage of strengthening the roots and keeping them cool from the scorching rays of the sun. Weeds should be carefully gleaned off the bed as they appear. Beyond this, no further attention will be needed until the plants begin to grow, which will, perhaps, be the subject of another paper.

As your readers may like to have the names of varieties, both self and fancy, which can be relied upon to give first-class results, either for the home garden or for exhibition, I give below a few, which may, perhaps, be sufficient



The Poppy Anemones (*Anemone coronaria*). From a photograph by Mr. F. Mason Good.

them delivered to them on to me almost identical with those ordered for layers sent out in the autumn. As this end next month are the best for spring planting, those wishing to cultivate these lovely flowers, or improve their existing collection by adding new varieties thereto, should send their orders to reliable growers at once, who will supply them with lists from which to choose, or supply collections on reasonable terms if the selection is left to them. It is as well to bear in mind that it is just as cheap to grow a good Carnation as a bad one, and far more satisfactory in the long run; and, seeing the great improvement that has been made of late years in the form, colour, strength of stalk, and soundness of calyx of the best varieties, it is really wonderful to see such as were in vogue twenty years ago still being advertised, and presumably sold to somebody, when newer Carnations of the same colours, with the faults eradicated, can be purchased for almost as little money. I refer to such as Ruby Castle, Redraze, Mrs. Muir, and some few more, which have been expunged from all collections years ago that have any pretensions of being kept up-to-date. Supposing, therefore, that the amateur decides to buy his plants now, his first consideration must be the preparation

Corlett, edged with a broad band of dark blue Lobelia?

The above remarks concerning planting refer to Carnations grown from layers. If seedlings are to be grown, more room must be given, as they become much larger plants—2 feet each way would not be too much space to allow. In either case sufficient room must be given between the plants, or there will not be sufficient space to layer them in July and August.

It is as well to plant, where possible, on a slight slope, so as to secure good drainage, as Carnations require this and cannot stand being waterlogged. The roots should be well covered, but not too deeply, so that the foliage stands up well above the surface, and under all circumstances the plants should be firmly set out in their places, and the soil pressed well down round the roots. If plants are received in pots, care should be taken not to break the ball of earth, and to guard against this a sufficiently large hole should be made with the trowel, and the plant inserted therein with care before being pressed down. But if the plants sent in the spring are from layers that have stood out the winter in the open border, but have not during that time been covered from the parent

for moderate requirements. I have omitted yellow Picotees, as these are best grown in pots, and the above remarks are intended to apply to spring planting in the open border alone.

Self-coloured Carnations.—White: Mrs. Eric Hambro, Evangeline, Diamond, Silver Strand. Bright scarlet: Banner, Tommy Atkins, Grenadier, Pillar-box. Yellow: Duke of Orleans, Agnes Dunham, Buttercup. Pink: John Corlett, The Major, Minerva, Pilot. Deep red: Faust, Isinglass, Lady Hindlip, Mrs. ManRae. Orange: Mrs. Gray Buchanan, Grange Lord, Minnie, The Dyak. Salmon: Miss Beechie Keats. Crimson: Gipsy, Mephisto, Crook, Uncle Tom. Flash: Nantoh Girl, Iris Exile, Darling. Purple: Cleopatra, Purple Emperor, Bendigo. Heliotrope: Blue Danube, Sophia, Springfield, Oarville Gem. Cerise: Miss Elma Sheppard, Vyryan Williams, Gordon. Crushed Strawberry: Lord Simon, Windsor.

The following are good fancies.—Yellow grounds: Cowslip, Thomas Renwick, M.P., Yellow Hammer, Australian Gold, Mrs. Ashby Proud, Dragon, Gitana, Infants, Butterfly, Brodrik, Climax, Amber Witch. White grounds and white ground Picotees: Duchess of Portland, Dresden, D. W. Bain, Old China,

Lottie Collins, Meta, Isabel Lakin, Joseph's Coat, Duchess of York, Mrs. Oppenshaw, Somerhill, Fortrose. H. W. WARELIN.

EARLY BLOOMING WALLFLOWERS.

THESE sweet-scented flowers are universal favourites, and we now have kinds which will yield flowers from the end of October until the middle of May, provided the proper varieties are selected and the seed sown at the proper season. Time was when the old Harbinger was the earliest to flower, and by sowing early in the spring it was possible to have plants that would yield a good percentage of bloom in the following autumn and winter. Since then other varieties have been introduced which have superseded Harbinger, foremost of which is named Earliest of All. This is rightly named, for it is not only the earliest to flower, but it yields a longer succession of blossoms than any I am acquainted with. It is of dwarf habit than Harbinger, is very hardy, and every growth produces a spike of rich yellow, sweetly-scented flowers. From plants raised from seed in the beginning of July I have seen cutting an abundance of flowers for weeks past. The frosty weather produced a temporary cessation, it is true; but now that mild weather has again set in the plants are flowering as freely as ever. Harbinger forms a good succession to Earliest of All, and lasts well into the spring, when the majority commence to bloom. The early-flowering varieties should be sown not later than the middle of June, and the resulting plants pricked out where they are to bloom as soon as fit. Rather poor soil is better for Wallflowers than that which is rich, as they then make harder and more sturdily growth. A. W.

PERUVIAN LILY (ALSTREMERIAS).

MUCH has been written during the past few years concerning the culture of these handsome plants, some correspondents apparently experiencing considerable difficulty in growing them successfully. As far as my experience goes, however, I have found them (I write only of the hybrid *Alstemerias*, *A. chilensis* and the orange-flowered *A. aurantiaca*) of the easiest possible culture. They have with me thriven equally well in retentive, damp soil, which some writers declare is fatal to them, as in a light, shaly steppe. In the autumn of 1894 I planted some tubers of *A. chilensis* in a bed of heavy red loam in a low position close to water, at a depth of 3 inches, and did not mulch them. Early in 1895 commenced the memorable frost, which continued with scarcely any intermission for nearly three months. About that time I read an article on *Alstemerias* by an experienced French grower, in which it was asserted that the roots were certain to be killed by frost unless they were planted from 6 inches to 9 inches deep and heavily mulched. I naturally gave up my plants for lost, for the ground was frozen hard and nothing could be done. However, greatly to my surprise and delight, they pushed up strongly in the spring, not a single plant appearing any the worse for the winter's experience. These plants grew and multiplied exceedingly, and were divided again and again. The seed-pods were never picked off until the seed was almost ripe, but this did not impair their vigour. In another site, on a steep slope of very light soil that becomes dust-dry in summer, they are equally at home. Here they throw up their flower-scapes out of the adjacent path and through the interstices of a neighbouring flight of wooden steps. *Alstemerias aurantiaca* is a perfect weed, and quite overruns the garden, being extremely difficult to eradicate. Of the two the hybrid *Alstemerias* are far preferable, and present a lovely sight when in full flower, with their suave colour gradations ranging from crimson-maroon to cream. They will withstand the roughest treatment with equanimity. Last spring I lifted a clump when the growth was about 3 inches high, took them 20 miles, and planted them the next day in a steep, sloping bank of light soil. They very naturally died down, and gave no further sign of life that year. Now, however, they are shooting strongly, and their growth is this day (January 18) about an inch above the soil. Plants are easily raised from seed sown in pans as soon as ripe and kept in a cold-frame for the first winter. The lovely *A. pelegriana* and its white variety I have never seen doing really

well in the open border. I have tried them, but failed in heavy soil. I have now, however, got both varieties in pots, in which I hope to bloom them the first season, and then to plant them out without disturbing the roots in light soil in a warm position. S. W. F.

PROPAGATING VIOLETS.

THERE are various methods of propagating Violets, probably the most common being to take runners from plants that have flowered throughout the winter in frames, and to plant them in the open in April. These are sometimes pegged down in the soil in the frame to induce them to form roots previous to being detached from the parent plant. Another way of propagating them is by cuttings inserted in fine gritty and leafy soil in a frame or boxes in autumn. These, if protected by a frame during winter and kept moist, become nicely rooted by spring and are ready for transplanting early in April. A somewhat new and, to my mind, good way of propagating them consists in pegging down the required number of runners, which form on the plants when growing in the open border in summer. August is a good time for this operation, as then the runners are well rooted by October. At the end of the latter month they should be severed from the old plants, carefully lifted with a trowel, and potted in $3\frac{1}{2}$ inch pots, using loamy and leafy soil. Pottings completed, plunge the pots to the rim in ashes in a cold-frame, where, with liberal airing and careful watering, the plants will make fine specimens, and, if planted out early in April, will grow into dense clumps and produce a wealth of bloom the following winter. C.

BLUE LOBELIA.

THIS old favourite for edging flower-beds and borders is not likely to be superseded for some time, for when it is well done there are very few edging plants that can equal, much more excel, it. The principal cause of failure is in having small, weakly, or drawn-up plants to start with, owing to the too common plan of growing seedlings and not giving them enough time to develop into dwarf, bushy little tufts, as they should be when put out in May. I know many who do not sow their seed until after my stock has been divided and pricked off into pots or boxes. If I rely on seedlings, I sow in boxes in August and winter in cold pits or frames, and then there is any quantity of sturdy little plants fit for pricking off in January or February. I prefer plants that have been left over from bedding out, and that have been flowering in boxes, so as to be able to weed out any inferior ones. Do not let them get exhausted with flowering, but clip all the bloom off two or three times in the autumn, so that in October the boxes are dense masses of very dwarf, tufty plants. I find they make excellent companions to yellow *Calceolarias*, being quite as hardy, and delighting in a cool, moist temperature. If they can be kept from getting sootily frozen by means of mats and litter, it suits them far better than artificial heat, and where a good many bedding plants are required it is an advantage to have a good lot of plants that do not need the shelter of artificially heated houses. One or two boxes of plants kept through the winter in this way will make hundreds of plants when divided early in spring, and there is plenty of time between January and May to divide a second time, as they will fill the boxes in a month. To keep them dwarf, clip off any tops that start to flower.

Gaspert.

J. GROOM.

TUFTED PANSIES.

PREPARING FOR SPRING PLANTING.

TWO often those who grow Tufted Pansies (*Violas*) leave the preparation of their flower-beds and borders until far too late. An early preparation of the soil is essential to success. Pansies are voracious feeders, and the soil needs to be enriched by the addition of some good manure, and the ground deeply dug as well. Many are the queries addressed to GARDENING ILLUSTRATED during the flowering season, and particularly during the month of July, regarding the failure of plants at that period. Failure may not infrequently be attributed to the strain of plants one may be growing. The gaudy and striking colours as represented by many of the

continental kinds attract many cultivators, but unfortunately these plants have no constitution worth speaking of. The warm days of July are too much for them, and in consequence they wither and die. This cannot, however, be said of the Tufted Pansies. The only risk of failure with the tufted form of these plants is when they occupy the same position in the garden year after year. As a rule, the plants succeed remarkably well the first season, and give a prodigious display of their welcome blossoms. During the second season in the same ground the display is good, but here and there a plant may fail, and to some extent mar the general effect. A third year in the same position the gaps will be more frequent, plants falling without any apparent reason. Growers usually shift these plants to fresh quarters each season, and in this way guard against failure. However, this is not possible in many gardens. It is a difficulty which may be overcome by deeply digging the quarter of the garden devoted to these plants in the winter-time. At least two spits deep should the ground be dug, incorporating some thoroughly good manure at the time, and leaving the surface in a rough condition or else in ridges. As some six weeks to two months at least must elapse before the planting will begin in most gardens, this will leave ample time for the frost to get well into the soil, and in this way pulverise and sweeten it. A garden well tilled is the chief factor in successful culture. Ground treated in this way may be lightly forked over and levelled just prior to planting. This winter cultivation also rids the soil of insect pests to a very large degree. D. B. CRANE.

PROPAGATION OF THE DAHLIA.

IN large nurseries where Dahlias are propagated to a great extent, the work of propagation has to be commenced early in the year, and a low-pitched lean-to house, with a south or east aspect, is generally used for the purpose. This is heated by means of hot-water pipes passing along the house immediately underneath the propagating bed, which is raised near the glass. The roots are placed on the bed, and partially, but not entirely, covered with soil; this is kept fairly moist, and when a temperature of from 70 degs. to 80 degs. is maintained a number of young growths spring up round the crown, and of these cuttings are made. The propagating-house is generally at the end of a snug potting-shed, so that the tender outtings should not be brought into contact with cold currents of air, for the Dahlia is a plant of peculiarly tender growth, and is soon affected by cold. In addition, it is usual to have a series of brick pits sunk below the ground level, so that manure lying can be placed about them to heat the beds. These pits are indispensable, for it is found that the outting-house is required almost entirely for obtaining outtings, and striking these cuttings has to be done in the brick pits. In these pits a moist heat of about 60 degs. is required, and should be maintained as equally as possible.

MAKING THE CUTTINGS.—When the shoots are about 3 inches in length they are taken off close to the roots and inserted in pots containing light soil, and then placed in the brick pits plunged in fibre. When rooted the cuttings are potted singly into $2\frac{1}{2}$ inch pots, returned to the hot-bed, where they are kept close for a few days, and then follows a careful and gradual process of hardening off, so that by the middle or end of April they can occupy a cold-frame. The great thing is to keep the plants sturdy, dwarf, and stocky, and this can be secured only by constant care and attention. Amateur cultivators, who require but a few plants, can begin the work of propagation early in March, using for the purpose an ordinary hot-bed, in which the roots can be placed, and, resting on a bed of soil, be also covered with it, but not to hide the crown. When the shoots are about 4 inches long the roots may be divided with a sharp knife, leaving a piece adhering to each outting, and in this way good plants are formed after they have been potted and plunged in the hot-bed.

Too much heat or damp must be guarded against, and also, if there is a decline of heat, fresh manure must be added. In all stages of the work of propagation the peculiarly tender character of the Dahlia must be borne in mind, and the effects of cold guarded against.

INCARVILLEA DELAVAYI AND OTHERS.

New and again the introduction of some entirely new and altogether remarkable species of hardy plant opens out, as it were, a new vista of the

slightly notched. A peculiar odour escapes from the leafage when freshly handled. The root is also exceptional—a long, fleshy tap root, as it were, that in strong plants would have a diameter of 1 inch or more, and 12 inches in length. At the summit of this tapering root the growth-buds issue and die away just as completely when the flowering is over. The plant produces seeds in great quantity. A deep bed of earth is an essential when planting it by reason of the length of root, and the plant succeeds quite well in ordinary loamy soil. The illustration affords a good idea of a small plant of this. In very dry seasons a good watering is helpful to the later flower-buds. This fine plant is a native of Northern China.

The other species of the genus pale into insignificance somewhat, so far as is at present known. The best, however, are *I. Olga*, with bright rose-coloured flowers produced on a more leafy stem than the last-named. There is, however, somewhat of the same pinnate leaf character, but the segments differ in being oblong, narrow, and pinnatifid, whereas in *I. Delavayi* they are broader and more rounded at the tips. Height 3 feet. Native of Turkestan.

I. COMPACTA. — Flowers rose-pink. North-west China. I cannot speak of this from actual experience, and the plant may not be in cultivation at the present time.

I. GRANDIFLORA. — A novelty as yet not generally in commerce. The plant, however, is very distinct, and the flowers are said to be finer than the best forms of *I. Delavayi*, while the throat is white, slightly lined yellow. The

be said to be an improved form of the first-named.

I. VARIABILIS, with smaller rose-coloured flowers, is of hushy habit, and it is probably not strictly hardy. F. J.

PHIORMIUM TENAX IN OPEN AIR.

THE beautiful illustration (see page 667) of this noble Flax growing in Regent's Park, with the description of its adaptability for open-air gardening in the warmer parts of these islands, causes one to wonder how it is that such a very distinct foliage plant is not more common on the coast, for its tough leaves seem to single it out as well suited for a windy locality. Doubtless many are deterred from trying it in the open air by reason of having been accustomed to see it growing in glasshouses, more or less heated, and that it does grow luxuriantly in them no one can deny. But I feel sure that there are many places in England where these plants would prove quite hardy. Last year I had a good lot of seed sent me direct from Taranaki, New Zealand, and as the seedlings came up more abundantly than I required them for pot culture, I resolved to give them a chance in the open air, and, although we have had 15 degs. of frost on several nights in succession, they do not seem in the least affected by it. If young seedling plants will survive this trying ordeal, I should feel perfectly safe as to older and hardier-tissued plants safely standing any frost on the coast, for we have no shelter here from the cutting winds. In places where good thick shrubberies or belts of trees break the wind there are generally plenty of sheltered nooks where plants of doubtful hardiness can be placed, and anyone trying these plants might add a new feature to his permanent foliage plants by placing *Phiormium tenax* and some of the graceful *Bambusa* in groups where some overhanging branches would mitigate the severity of our climate and give them a very near approach to that of New Zealand. JAMES GROOM.

Osport.

CAMPANULA MIRABILIS.

THIS handsome species from the Caucasus, although only biennial in character, deserves a place in every collection. It is quite distinct in appearance from all other *Campanulas*, forming rosettes of large fleshy leaves, from which issue erect stems bearing lovely pale blue flowers, each from 2 inches to 3 inches across. Large, delightful in colour, and free flowering are among the chief attributes of this handsome plant, and all who can should save seeds of this



Incarvillea Delavayi.

probable riches in store for the future. The comparative slowness, however, of the coming of such things leads one to believe that the army of hardy plant collectors is but a small one, or they have fallen upon idle times or barren places. Of the striking novelties that come before one at such a time, *Primula roses*, *fiachera sanguinea*, *Hemerocallis aurantiaca* major, with the above-named, are the most conspicuous. Not that these represent the actual array of novelties, but rather a few of the striking ones that cannot be left out from any garden. And this is the kind of plant we would see more of. It is in circumstances such as these that the *Incarvillea* above named come as a welcome surprise, accompanied by the oft-expressed hope that it may prove quite hardy. This much was expected of it, judging from the district whence it came, and the plant has not only proved quite hardy in the open, but one of the best and most showy things that have been introduced for some time. The plant belongs to the order *Bignoniaceae*, which does not give us many hardy plants at all, and still fewer those of a distinctly herbaceous character. Therefore, this well-marked species of *Incarvillea* is not only a distinct gain to hardy plants, it is at the same time capable of creating a feature entirely new in any garden in which it may be freely planted. The blossoms individually most nearly represent the flowers of a type of *Gloxinas* of a past period—viz., the drooping type. This is seen in the slightly arching tube, in the broad expanse of the reflexed margin, and in other ways. Not only is the plant perfectly hardy, it is of easy culture, and quickly gains vigour. Fully grown, the inflorescence rises to fully 3 feet high, bearing a long profusion of the rose-carmine trumpet-shaped flowers on strong stems. The foliage is quite remarkable, too, and in its Fern-like outline extends to 2 feet in length, the leaflets on each side of the mid-rib oppositely placed and

distinct, and the flowers are said to be finer than the best forms of *I. Delavayi*, while the throat is white, slightly lined yellow. The

foliage is broader and shorter than *I. Delavayi*, and ascends the stem to some extent. The root is only slightly tuberous, which stamps it as a distinct plant at once. In other respects it may



A Caucasian Bellflower (*Campanula mirabilis*)

striking Bellflower, and, when fully ripe, sow at once. If kept for any time the chances are against the seed germinating. Sow the seeds on the surface without any covering of soil, and place over them a piece of slate or shaded glass to exclude the light. As soon as the seedlings appear gradually inure to the light, standing close up to the glass to prevent them becoming drawn. It must have liberal treatment from the first if justice is to be done to it, and it would seem to be well suited for grouping in the rock garden or for planting in the border in rich soil. The plants should be set out early in the year if possible, so that they may get strong before the winter arrives.

Selection of Sweet Peas.—The varieties named at page 610 are all good, embracing

most of the best. But I may be permitted to name one or two other really good and distinct kinds. As a highly coloured kind I have seen nothing to equal *coccinea*. It is a new shade of red, a brilliant corise self. It has bold, erect blooms. This is an exquisite flower for evening wear or for table decoration at night. When better known it will be extensively grown. I grow all the last year's new kinds, and out of them the Hon. Mrs. Kenyon, Miss Wilmot, George Gordon, and Lord Kenyon were the best. Stanley I consider one of the very best dark kinds, and Vanus is a charming salmon-buff, the standards a delicate shade of rosy-pink.—J. CROOK.

PHLOX DIVARICATA.

For many years I have been a subscriber to your valuable paper, *GARDENING ILLUSTRATED*, and have found in it some very useful information; but though I have been a constant reader, I have not, as far as I can remember, come across an article concerning a very nice little plant named *Phlox divaricata*, syn. *Phlox oenandensis*, which a friend induced me a few years ago to cultivate. I gave it a fair trial, and it has proved to be both pleasing to the eye and easy of culture, and it now ranks as one of my special spring favourites. Perhaps a few notes on this plant might be acceptable, and, if so, would you kindly insert the information given, and thus perhaps be the means of encouraging your readers to adopt this nice old-fashioned plant in their gardens? I think they would find it worth their while. This plant was introduced from North America in the year 1746, but underwent the fate of as many good plants that were discarded for the so-called novelties, which were soon judged. But sooner or later the time of neglect ceased; many amateurs (here in Belgium) cultivate it already, and I am certain that in a few years to come it will be found in all the gardens, because to see it is to adopt it. The *Phlox divaricata* is, without contradiction, one of the nicest amongst its species, which show their blue bloom in early spring. It is a perennial, with simple, whole, opposed leaves of a dark green. The plant is 10-12 inches high when in full bloom. It resists very well to a temperature of 5 degs. Fahrenheit—that is to say, to our coldest winters. It flowers at the same time as the Forget-me-not, and notwithstanding the latter's real qualities, the former could very advantageously replace it—if not quite, at any rate it might with great fitness procure a change in the making of spring beds.

Propagation is easily done, either by division or by cutting. The former is done immediately after flowering, about the end of June. Divide the plants in three to five divisions or more, according to their strength; cut the upper part to within six or seven leaves, then place these divisions in a nursery on a border enriched with mould to a distance of 6 inches all ways. Keep the soil always moist and free from weeds. These divisions will soon grow into nice plants ready for planting in the spring beds in October in preference to March, with a good ball of earth to the roots. Distance, about 10 inches apart. At the end of April or the beginning of May they will reach about their maximum development—that is to say, 10 inches to 12 inches. Then they cover themselves with an infinity of tender blue flowers of the same form as *Phlox dasycarpa*. These well erected flowers form a carpet so close that the leaves are completely hidden by the flowers, and nothing is so nice to the sight than a bed of these *Phloxes*. If the propagation is done by cuttings, lift some of the strongest plants, after flowering, with a ball of earth to the roots, plant them in a good soil in a corner of the garden, water when necessary, and leave them there until July or August. Then take all the cuttings possible, 1½ inches or 2 inches long, cut off the lower leaves, and insert them in a well-prepared soil, to which mould has been added, under a close frame in preference. Keep moist and shaded. A fortnight after they will have rooted; then keep the frame open night and day, and water well. When well established take off the frame, and treat the plants like those propagated by division. July and August are the best months for doing this propagation, although the cuttings will strike at any time in the year. If done in February or March, the propagation by cuttings

must be done in a cold greenhouse of 40 degs. to 45 degs. Fah.; therefore, lift some plants in September, put them in pots, and keep them in the greenhouse, as that the plants may be in vegetation at that moment. But by this way the plants will be much inferior to those propagated in July or August.

The *Phlox divaricata* thrives in any soil, but prefers one on the light side and substantial, but can also grow in very wet soils if, instead of planting direct in the bed in October, it is planted on an elevated bed under a frame and left there until the end of March—the time when to plant in the beds. The frames are always left open, but covered over to keep the rains and snow off. For permanent borders this plant is also very useful. In this case renew the borders every two or three years by division. I hope that this plant will find as much favour in England as it has in Belgium.

Antwerp,

A. V. BAINES.

TUFTED PANSIES (VIOLAS) FROM SEED.

THERE is very good reason for believing that many gardeners regard these showy hardy plants as somewhat difficult to raise from seed. As a matter of fact, they are as easy to raise as are many of our best annuals, and may be treated somewhat similarly. For some reason or other, those interested in the *Viola* have often deferred commencing operations until the spring is well advanced. It has been my custom for years to sow a pinch of seed in the closing days of January, the temperature of the glass structure in which the pan of seed has been placed being maintained at about 45 degs. to 50 degs. Already the first lot of seedlings are pricked off and are just now developing the third leaf. They may or they may not be pricked off again later, but the chances are that before the end of March they will be planted thickly in a cold frame, and subsequently planted in their flowering quarters towards the end of April, and possibly earlier. By adopting this method of procedure these seedling plants should be blossoming freely during June and July. One season, some years ago, I was able to make up a spray of six lovely blooms from seedling plants in July, and the plants had been raised from a January sowing, so far as my memory serves me. These facts, surely, are sufficient to prove what an accommodating plant the Tufted Pansy (*Viola*) is, and as there is good reason for doubting whether there is a hardier and more profuse blossoming plant in the hardy flower garden, which also combines with these excellent qualities such a continuity of flowering, the points of merit are so overwhelming that no one who desires something really beautiful in their garden to look upon for months should hesitate longer before commencing operations.

Good seed is the all-important consideration in beginning, and that one may anticipate a successful issue, procure seed only from those who make a speciality of these flowers. Seed may now be purchased which has been saved from certain distinct sorts of proved merit, and in this way flowers of white, yellow, blue, and other colours may, to a large extent, be ensured in the resulting seedlings. Yet, for general purposes, a small packet of mixed seed—and this can be purchased for a shilling or half-a-crown—will be better. Procure the seed as early as possible, and make a sowing without delay. Pots, pans, or shallow boxes may be requisitioned for the purpose, and for choice the latter receptacles have advantage. Slightly crock the boxes and cover the crocks with some of the rougher portions of the soil. Pass through a sieve with a rather fine mesh equal quantities of leaf mould and loam, adding thereto a liberal quantity of silver-sand, sufficient, in fact, to make the compost porous. Mix thoroughly, and afterwards fill to edge of the boxes with the prepared soil. Sow thinly and evenly over the surface of the soil in the boxes, just covering the seed lightly with some fine compost. A slight pressure on the surface soil is all that will be required, and then the warmest quarter of the greenhouse should be chosen in which to place the boxes. When the soil shows signs of drying hold the boxes in a large vessel of water, allowing the latter to percolate up through the holes in the bottom of

the boxes, and as on through the soil. In this way one may be quickly satisfied that the soil is thoroughly moistened. An occasional dewing overhead with slightly tepid water from a fine-sprayed can is very helpful when the seedlings are appearing. Subsequently prick off each one in similar boxes of slightly heavier soil, spacing them out about an inch or rather more apart, and the same distance between the rows. When the genial weather of spring is with us place the boxes of seedlings in cold frames, planting them outdoors subsequently when properly hardened off. This is a most fascinating occupation, as one may raise something so much better than existing kinds.

D. B. CRANE.

FLOWER-BEDS.

(REPLY TO N. REGGLES BRISK.)

You would have helped us in this matter by giving the size and extent of the beds and their environment. So much depends on such circumstances. A set of small beds arranged in a formal way may be best set out with the usual summer bedding things, as being too small for much display of flowering subjects. In the absence of any such particulars we can only vaguely suggest. Corner beds, for example, are well suited to *Heliotrope* pegged down, and another set to *Verbenas* similarly treated. Smaller beds on the inside of those just named may be planted now with pale mauve and yellow shades of Tufted Pansies, for which the ground must be well prepared. Plant these quite thinly, and employ exclusively rooted cuttings as opposed to mere divisions. Later on, say in May, these beds may be filled up with *Tuberous Begonias* to take the place of the first when cut down in September. These spring cuttings of Tufted Pansies will start flowering in June and keep on right through August and often later; indeed, they make splendid beds alone. *Tuberous Begonias*, of course, may be freely employed in colours, and may be planted in April in the soil of the beds or started in frames. *Petunias* make a fine show in the open, and not less so the *Gazania*, which requires a sunny place. *Fuchsias* are also good, while the free-flowering Ivy-leaved *Persegoniums* are as good as most things. Much depends on what at present exists and whether you prefer such as the above to the usual so-called carpet bedding things, which, however, require almost daily care to keep them within bounds. The best things for the herbaceous border would be *Asters* in variety, particularly those of the *Comet* and *Triumph* section, which grow freely and give large, handsome flowers. *Stocks*, too, are very good for the same period, and such things as *Helichrysum*, *Love-lies-bleeding*, *Zinnias*, *Margaret Carnations*, etc. It is possible you may have room for some late-sown Sweet Peas. Your chief difficulty is that the position appears fully occupied up to July, when it would be late for transferring much of what we have named, unless it were possible to occupy part position quite near. We think, however, if the gaps referred to are large and occasioned by a superabundance of the *Poppies*, that these may be reduced another time and more permanent things inserted instead. At the time named there is a host of good things, but it is quite necessary to have them duly prepared elsewhere and of good size by July. Could you, in a reserve place, grow a series of early-flowering *Chrysanthemums*, and lift them bodily to the required position as early as possible, soaking well with water a day before lifting, and likewise when replanted? If so, no plant of our acquaintance will better endure the shift and more quickly recover or give a more varied display of flowers later on.

E. J.

Photographs of Gardens, Plants, or Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize Half a Guinea.

The Prize Winners this week are: 1, Mr. Geo. E. Lows, Dublin, for *Cuscuta reflexa* in Trinity College Botanic Gardens, Dublin; 2, Mr. E. Banbury, 80, Cadogan Square, W., for *Hedera ornariensis aureo-maculata* in a Norfolk garden.

ROOM AND WINDOW.

IRIS RETICULATA.

This Iris is a beautiful pot plant. Its sweet-scented flowers repay the closest examination, and when well grown it is an ornament to any greenhouse. In the open air its flowers appear naturally as early as February, so that little heat is needed in order to obtain bloom during the winter when the shelter of a greenhouse is afforded. Our illustration shows how, by growing a few bulbs around the sides of the pot, a very satisfactory effect may be obtained. It would look charming as a table specimen.

NOTES AND REPLIES.

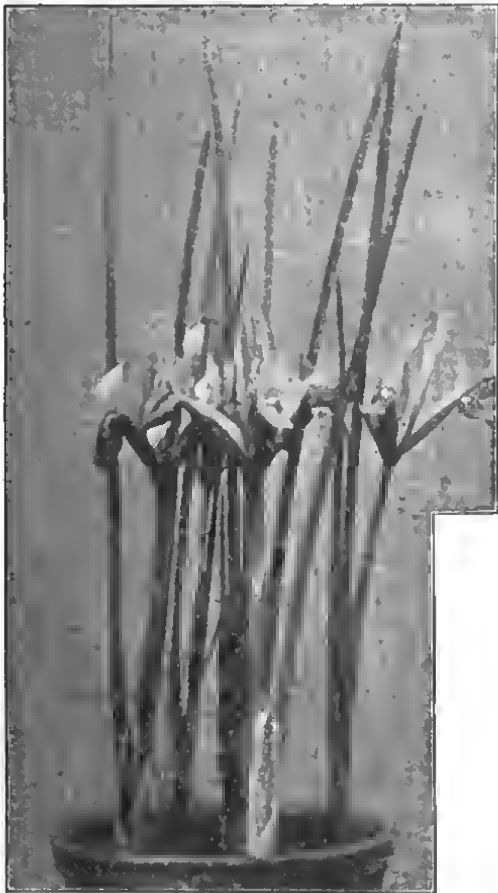
Geraniums in window-boxes.—We have lately had a severe spell of winter weather, the thermometer registering from 15 degs. to 20 degs. of frost on the Grass for several nights in succession, and I must own that I was surprised to see some window-boxes filled with Geraniums of several kinds looking quite healthy at some almshouses close by Gosport. On inquiry, I found it was no new thing for the old folks living in them to keep their plants for years without renewal by the following very simple means. The position faces full south, and even at this early date, as soon as the sun shines out, the windows get quite warm, and as the boxes are set well into the sill of the windows they get a little warmth from the glass of the dwelling-room and any chinks in the casement. But the main protector was a good thick roll of sacking, nailed firmly along under the window-sill, during the day rolled up tightly, but at night brought up and fastened securely so as to cover the plants entirely. Certainly this very primitive mode of protection had answered its purpose well, for the plants looked far healthier than many I had lately seen in glass-houses heated with hot-water-pipes. It goes to show what can be done by those who really love their flowers, and do not mind what trouble they take to preserve them. I may add that in other windows bulbs were made a speciality. Roman Hyacinths were in full bloom, and Dutch bulbs of many kinds coming on rapidly, while the little plots in front of these cottages are filled to overflowing with old-fashioned Cabbage, Moolthy, and Mee's Roses, bulbs, and herbaceous plants. Owing to their sheltered sunny aspect, it is very rarely that one does not find something in flower, even in winter.—JAMES GROOM, Gosport.

Kentias.—Since these have become so widely grown they have to a very large extent supplanted the older *Latania borbonica* and *Scaevola elegans*. *Kentia Belmoreana* and *K. Fosteriana* are now grown by the million. Very few Palms are so well suited to indoor decoration as these, for large heads of handsome foliage may be kept in good condition for a length of time in very small pots. The great thing to keep them in good health is careful watering, so that they never get dry at the bottom of the pots, as all the best roots make their way into the drainage. I find it an excellent plan to put a good handful of bone-meal over the crocks, as the roots find it very quickly, and to support a large head of foliage the roots must have good food. I find that if artificial fertilizers are applied to plants in pots crowded with roots the plants continue in better health than if shifted into too large pots. I often have plants brought by their owners to me to tell them what ails them, and, as a rule, they are either dust dry, or else have been over-potted, and are soddened with water.

ROSES.

PRUNING ROSES.

The amateur Rose-grower who finds his Rose bushes pushing out green leaves at the tips of last year's wood thinks he is getting all behind if he does not start pruning, but the old practitioner has more patience, and lets these premature growths carry off the sap that is excited by a few mild days, and waits until March is well advanced before he cuts back to the buds he expects to get his crop of bloom from. Then, as we usually get cold winds and slight frosts at night, it is some time before these firm buds get pushed out enough to take any harm from frost, and more genial weather may be reasonably expected after April is past. But in addition to pruning too soon, the majority of amateurs do not prune hard enough to get fine blooms, for they leave too much



Early Balbous Iris (*I. reticulata*) in a pot at Kew.

of the small weakly wood that is not strong enough to bring blooms, and fills the centre of the bush with weakly spray-like growths. Far better results would follow if they first of all cut away all dead and very small wood, and then shortened the strong shoots to a few really good buds, for it is surprising how few good strong shoots make a fine head of bloom. And if really large blooms are desired, the Rose must be disbudded similar to Chrysanthemums, for many kinds of Roses produce far more buds than they can bring to perfection, and then they only rob each other, so that none of them can attain full size. The disbudding should be done as soon as it is possible to see which are the best buds to retain, and having done this, proceed to apply liquid-manure freely to the roots, for the Rose needs liberal feeding if size, colour, and perfume are to be of the best, and fine healthy foliage denotes perfect health and good culture.

J. O., Gosport.

NOTES AND REPLIES.

Rose Aimee Vibert.—The illustration and information given at page 637 should do much to induce many to plant this good old kind. It is to be regretted that several others of this class are not seen so frequently as they were thirty years ago. I quite agree as to its making a fine standard. Twenty-five to thirty years ago this kind was grown largely in a large Norfolk garden in this form, and never failed to give good results. While some of the Hybrid Perpetuals often were killed grown as standards, this kind did not suffer. I have seen great specimens as standards in a Somerset garden, standing on the turf, the shoots reaching the ground.—J. CROOK.

Moving Tea-Rose cuttings.—When the gardener cut down the Tea-Rose last August I made him put the pieces in a trench in the border. A great many of them started, and looked rooted. When would it be safe to remove them to the place I wish them to grow permanently, as I require the piece of ground they are now in about April?—DAVID.

[It is a great pity you must decide move the cuttings this year, but as you require in April the piece of ground they now occupy, we should advise you to transplant them early in that month. The soil is by that time in a more congenial condition for the fine roots than would be the case at present. You must be very careful to avoid breaking the tiny roots, as they are extremely brittle in this early stage of growth. If possible let some soil remain attached to the roots, even though two or three cuttings are close together. A good watering a day before removing should help you to do this. A little fine gritty soil given to each cutting when transplanting is of great assistance, and should be pressed firmly about the cutting. If you have such a thing as a frame on a bed of leaves where a gentle heat can be maintained, the cuttings could be potted next month into small 60 pots and plunged in Cocoa-nut-fibre refuse in such a frame. Some of the cuttings may only have the white wart-like substance at base, which is termed "callus," and from which roots eventually appear. This gentle bottom-heat would be of great assistance to them. A slight syringing over each fine day would be of much help to the plants, but water at the roots must be very carefully applied, and when it is given it should be made lukewarm. The plants could be planted out from the pots in May or June.]

CHRYSANTHEMUMS.

CHRYSANTHEMUMS FOR BEGINNERS.

Each season's display invariably has the effect of inducing a goodly number of persons to take up the cultivation of the "Golden Flower." The large, handsome blooms met with in private displays, and those also seen at the numerous exhibitions held throughout the country, create in the minds of would-be growers a desire to excel, and this frequently results in the same individuals becoming quite infatuated. Thus it is that in the early days of the new year requests are often made for a selection of suitable sorts for exhibition, etc., but this is hardly what the embryo exhibitor should desire. A beginner in the cultivation of the Chrysanthemum would derive far more satisfaction if he were to take in hand a given number of sorts of easy culture. Many of the best exhibition varieties are plants somewhat difficult to grow, and often require superior skill to bring the blooms to perfection within a given period. It is, therefore, very pleasing to note that there is a goodly list of excellent sorts which the most inexperienced may grow successfully, provided that ordinary care be observed throughout the growing season, and the hints, given from time to time in the columns of GARDENING ILLUSTRATED, be followed. While gaining experience in the cultivation of the easily-grown sorts, the ambitious grower is qualifying for the succeeding year's work, and in this way will be able, with confidence, to take in hand the more difficult sorts at a later period. Among the more reliable of those suitable owing to their ease of culture, the members of the Vivand Morel family of plants are the better known. Vivand Morel is a pretty silvery-mauve pink flower of drooping form, and attains to large dimensions. There are several sports from this variety: two of the better varieties being Charles Davis, a pleasing honey-yellow, and Lady Hanham, a

corise colour on a chamois ground. Either "crown" or terminal-buds may be selected, although those buds known as second "crown" are regarded with more favour. The plants are rather dwarf and fairly sturdy. A good bloom of incurved-Japanese form is Mrs. S. de Prohin, the colour being a clear pink with a silvery reverse. In this instance a first "crown-bud" is desirable, the plant attaining a height of about 4 feet. An incurved-Japanese of the purest snow-white is Western King. I have seen beautiful plants carrying six to eight large and handsome blooms, and they were grown with comparative ease. These flowers develop well and evenly from any bud selection, and the plant reaches a height of between 4 feet and 5 feet. Few Japanese blooms are better than those of Mrs. Coombes, this being a deep rosy-flesh-pink colour and of drooping form. Quite a goodly number of flowers may be developed on any fairly well-grown plant, and the height of the latter rarely exceeds 4 feet from a second "crown"-bud selection. Lionel Humphrey, although not one of the most vigorous plants, is robust enough for most purposes, and each bloom, which is of pleasing, drooping form, is borne on a good stout foot-stalk. The blooms are valued for their colour, this being a rich chestnut-crimson. Second "crown"-buds should be retained, in which case the plant attains a height of about 5 feet. The dwarf plants of Mrs. A. H. Hall are always valued by beginners, because the blooms come good from any buds, and they are also of splendid size and substance. The colour may be described as a shade of light brozza. John Bridgman is a plant of the easiest culture, and quite a number of beautiful blooms of goodly size can be borne by most plants without the least inconvenience. It is a robust plant, about 5 feet high, and the colour of the blossoms is a soft rosy-pink; second crown-buds should be selected. A superb white sort is Miss Alice Byron, and there is considerable doubt whether there is any better "all round" variety in commerce. The blooms are of incurved-Japanese form of the most chaste description, and they are of the purest white. The blooms come satisfactorily from any bud selection, and particularly so from cuttings inserted in April and flowered on single stems in 6-inch pots. A strikingly handsome flower is that of Miss Evelyn Douglas, an English-raised seedling, as are several of those already reviewed. The blooms of this variety are full and of pleasing drooping form, the colour being a lovely rosy-mauve, with silvery reverse. The habit is good. Late-struck plants flowered on single stems in 6-inch pots are a great success. Another bloom of exceptionally large proportion is Mrs. Barkley. The petals are long, very broad, and of leathery substance, and the blooms are seen in good form and condition from any bud selection. Colour, rosy-mauve, with silvery reverse; height about 4 feet when well grown. A capital chrome-yellow flower of pleasing form and good substance is Mr. Louis Remy. This plant is a member of the well-known family of plants of which Mrs. C. Harman Payne is the original. The blooms should be produced from buds selected during the latter part of August, in which case the result is all that one could desire. A pretty canary-yellow Japanese of drooping form is Soleil d'Octobre, and this has recently given us a very beautiful bronzy-fawn sport, which is to be distributed in the ensuing spring under the name of Bronze Soleil d'Octobre. Second crown-buds should be retained, and these develop evenly and kindly, and make large blooms. They are plants which any novice could grow quite easily, and their habit of growth is beautiful. In 6-inch pots on single stems the plants succeed remarkably well. E. O.

United Horticultural Benefit and Provident Society.—The monthly meeting of this society was held on Monday, Feb. 10, at the Caledonian Hotel. Mr. C. H. Curtis presided. Twelve new members were elected. A member having allowed his subscriptions to fall in arrear over twelve months wished to be

reinstated, but the committee decided that Rule 14 must be adhered to; they, however, re-elected him as a new member. The death of Mr. James Clarke, of Taunton, was reported, and a cheque was drawn in favour of the widow for the amount standing to the late member's credit in the ledger—viz., £61 18s. 2d. A member having received his full amount of sick pay, was granted 5s. per week from the Benevolent Fund. The widow of a lapsed member applied for the amount standing to the credit of her late husband, but there being a discrepancy in the accounts, the secretary was asked to make enquiries respecting the same. Ten members were reported on the sick fund, the amount paid out being £18 2s. for the month. The Treasurer reported a balance in hand of £743 16s. 1d., and was empowered to invest £650 in the best available Trustee Stock. The annual meeting will be held at the Caledonian Hotel, Adelphi-terrace, Strand, W.C., on Monday, March 10th, at 8 p.m.

TREES AND SHRUBS.

JAPANESE WINEBERRY (RUBUS PHENICOLASIS).

This handsome plant was introduced into England some years ago, and, as it is not only ornamental, but valuable for its fruit, there is no doubt that in the future it will be largely grown. Belonging to the same family as the



Japanese Wineberry (*Rubus phenicolasius*).

Raspberry and the Blackberry (*Rosaceae*), it resembles both of these, but the fruit, instead of being crimson or black, is of the clear, transparent tint of sherry, and has a fine flavour, with an agreeable acidity and sweetness combined. I procured seeds from America and sowed them in slight warmth in April. The seedlings, when large enough to handle, were potted off singly, and soon outgrew their pots. They were then transferred to the warm, sheltered corner, facing south-west, of a Devonshire garden, in front of a half wild hedge of brake fern, growing over granite boulders, giving them light but rich soil, in which they flourished well, throwing out fine suckers from 5 feet to 7 feet in length. These, during the autumn, were wired back to strong stakes, much as though they were Raspberries. Even without fruit, their splendid silver-lined foliage and deep crimson stems are decorative, but every spray has borne masses of the scarlet fruit (changing to wine colour as it ripens), giving a really fine effect of colour, as well as a quantity of delicious fruit. This *Rubus* is evidently perfectly hardy, although it is possible that the fruit may need a warm position to ripen it satisfactorily. It bears fruit, like others of its family, on the wood of last season, which should be carefully preserved, the older wood (which has borne fruit) being cut away after the fruit is ripe (as in the cultivation of Raspberries), the soil surrounding the plants being well mulched with manure. The flower is small and insignificant, making but very little show when in bloom; but it is quickly followed by rich madder-brown sprays of hairy fruit coverings, which might easily be mistaken for buds. Each of these, however, opens to expose the half-ripe scarlet

berry, holding it until it has expanded into the ripe fruit, which then drops to the ground. Seeds grow without difficulty if collected from the ripe fruit and sown on a hot-bed in spring. Ripening as it does in the middle of August, the Wineberry will prove a valuable addition to our household fruits, for it makes delicious preserves and tarts as well as being useful for dessert. Grown under a south wall, or in any position in which it will obtain the full force of the sunshine, much on the same lines as the Raspberry, no difficulty will be found in its cultivation. R.

FRUIT.

CORDON-TRAINED PEARS.

ANY grower, whether he be a professional gardener, amateur, or otherwise, may be justly proud of a well-grown espalier tree, and one sometimes meets with instances of successful culture of Pear-trees on cottage, villa, and garden walls. I was recently told of a wall-trained Pear-tree whose branches extended right and left to a distance of nearly 100 feet. More and better quality fruit may reasonably be expected from younger trees covering the same amount of space. A slightly greater length of wall was recently noted that had been planted about five years since with cordon Pears, two and three trees of a sort. In this short time the wall had become filled from top to bottom with healthy fruiting growth, and the fruit, as regards size and quality, from trees recently planted was excellent. Had I a vacant wall to furnish with Pears I certainly should plant cordon trees. True, the initial cost is somewhat greater than for these espalier-trained, because it is possible to plant a dozen cordons in the same space as one would allow an espalier-tree. The additional cost, however, would yield a quicker profit, and thus the initial expense would prove a useful investment. There are the means of reducing the expense at planting time by adopting the double or treble cordons, which would render a less number of trees necessary. A distance of 18 inches between each tree is not too much for single cordons, for double cordons, of course, allow a little more. Trees may be bought already trained into shape, and usually for cordon training they are worked on the Quinos. All do not succeed on this stock, but are double grafted to accelerate a fruitful or a more uniform growth. It is only certain kinds that need this treatment, and naturally these, by the extra care and attention expended upon them, are higher priced accordingly. (Glen Morceau is one that does better on the Pear than Quince-stock; Louise Bonne of Jersey, on the other hand, froites so freely that the growth becomes stunted in course of time, unless well supported by watering and feeding in summer.

Maiden trees are those often chosen by gardeners for treating as cordons. These, when cut down to within a few inches of the union with the stock, may be trained either singly or in twin fashion as growth advances. The value of these cordon trees when in their best form lies in the quantity of extra fine fruit that is given from a limited area and in a short space of time. They are usually trained in a slanting or oblique fashion, as this tends to suppress an undue rush of sap and vigorous tendency. If it can be done, a border composed of new turf eil sets up a quicker and more lasting fruiting growth. This a yard or so in width and about 18 inches to 2 feet deep will suffice for a long time. If this is too costly, a very good substitute may be had in deep trenching, incorporating with the soil something of a stimulating and lasting nature. Burnt clay is beneficial to fruit-trees of any kind. Soil that is poor may have a fairly good dressing of this, a little leaf-mould, and also some short manure. Bones not too finely ground, too, might be added, and soot is by no means to be despised. If the soil is naturally heavy see that some drainage is provided. Copious supplies of water in dry weather are necessary, and thinning of the fruit should be carried out in early summer. With rational treatment it is by no means rare for Pears to be grown to over 2 lb. each in weight. W.

Pear Bergamote d'Esperen.—This Pear bears freely whether grafted as a pyramid, bush, or cordon, and it is owing to its fertility

that finer fruits are not more often seen. Setting, as it does, so freely, thinning should be done with no nneparing hand. The fruits will then not only grow larger, but the quality will be considerably enhanced by such a proceeding. When the trees are allowed to carry all the fruit that sets, it must of necessity be small when mature, and there is little or no favour in the produce.

APPLE COX'S ORANGE PIPPIN.

ON the great merits of this Apple there is little need to enlarge, for the simple reason that it is one of the most popular varieties in cultivation—in fact it may be said to be the best priced dessert variety that exists. What also is most satisfactory, it fully deserves all that has ever been written in its favour, and if all we hear and read of it is true, the time is not far distant when this excellent Apple will be plentiful in the markets throughout the late autumn and winter months. Partial failures will happen with this as well as any other variety of Apple, but a complete failure I have never known—at any rate where one or two trees are not solely depended upon. I have five good-sized trees growing in different parts of the garden, thin-

training suits my purpose better than any other, but it does not follow that it is the best under all conditions. On the contrary, the variety succeeds admirably on dwarfing stocks, and grown either as a bush or cordon, or horizontally trained, and on a variety of soils. Very good fruit is sometimes obtained from orchard trees, but much the best samples are gathered from those more highly cultivated, which also are less liable to be disfigured by gales of wind. Not only is Cox's Orange Pippin of excellent quality, or second to none in this respect, its appearance also being greatly in its favour, but it possesses the great merit of remaining in season from November to March inclusive. It is the favorite exhibition variety, especially for showing in single classes, none but the very best samples of Ribston Pippin standing any chance against it. The variety was raised by Mr. Cox at Colnbrook Lawn, Slough, Bucks, somewhere about the year 1830, and is said to owe its parentage to Ribston Pippin. W. I.

BUSH APPLES FOR SMALL GARDENS.

TREES of this form have much to recommend them for small gardens. I prefer them in this form to pyramids. It is astonishing how small

may be planted in corners of borders, planting spring-flowering bulbs under. In summer, when the trees are in fruit, the bulbs are at rest, and the trees can be assisted with artificial manure or liquid manure. Failing either of these positions, then a few may be planted at the outside of the lawn or in the shrub border. In either of these places they are highly ornamental, both when in flower and fruit. Last year I saw in a small garden at a seaside place a small portion on one side of the lawn devoted to three small Apple-trees, with Tritomas, Pampas Grass, and a few flowering shrubs that would bear pruning, all associated together. Amongst these were bulbs to bloom in spring. The Grass was mown occasionally. When I saw them the Apples were laden with good fruit, of good size and colour. When at Bicton, East Devon, in October I was more than ever impressed with the value of these small bush-trees. On a piece of land just outside the wall many were growing in this form. These were planted a good distance apart, the ground being cropped with vegetables between. Many of these were only 4 feet high, and had eight branches to each. They had been planted three years, and cost 1s. 3d. each at the time of planting. Many of these small trees had a peck or more on a tree, and when this is put into figures at 4d. per lb. (14 lb. to the peck), it will be seen that this is a paying way to grow fruit. Most of the kinds here grown could have been sold at such a price in any good market. Beside these were trees of larger growth, having been planted longer. All were equally well cropped. I could not help noticing the fine clean appearance of the wood and the splendid colour of the fruit, as on the red sandstone the fruit colours magnificently. This is seen by the brightly coloured fruit shown from Sidmouth in London and elsewhere every year. This type of tree should be worked on the broad-leaved Paradise-stock, and should a tree be prone to grow strongly, then lift it in early autumn.

J. CROOK.

KEEPING APPLES.

THE excessive moisture we have experienced of late has been a source of much trouble where the fruit-room is not properly constructed, as there has been much difficulty in expelling the damp. To keep fruit plump as long as possible, the house in which it is stored ought to be kept as cool as possible without actually admitting frost; at the same time if the atmosphere becomes over-charged with moisture, and this cannot be expelled, decay sets in. All fruit-rooms should be ventilated at the apex in such a manner that when the ventilators are open the rain will be excluded and a circulation of air allowed to pass through without materially altering the temperature of the place. On dry days they should be opened for an hour or two, but should be closed again before the outside air gets too cold. Look over all fruit and remove that which may be starting to decay, as such soon spoils any that come into contact with it. Where Apples have been heaped together owing to want of room, these should be spread out thinly that they may be looked over occasionally without handling too much. Should severe frost visit us, be well prepared with material to prevent it from entering the store-room. All windows should be provided with shutters to open inwards, and the outside should be covered with mats in severe weather. It is not well to use fire-heat if it can be avoided, as this extracts too much juice from the fruit, and when applied to any extent causes the late kinds to shrivel long before they ought to. There are many kinds that will keep in good condition for a long time after they are ripe, provided the temperature of the store-room is kept low and at an even degree.



Fruiting branch of Apple Cox's Orange Pippin.

cropped being produced by the majority. All flowered well in spite, too, of bearing freely during the two preceding seasons, but the buds are not sufficiently self-protecting, and the fructifying parts of the flowers suffered from frost accordingly. That is the one weakness of Cox's Orange Pippin, but, luckily, it is not always that the trees are subjected to severe tests in this way. According to my own experience, particularly good pyramids are not easily grown, the habit of the tree being somewhat straggling, and I hold that the most profitable trees are those on the Crab stock and grown either as large bushes or half-standards. Very good trees can quickly be had by simply rotting out the leader of a pyramid as received from a nursery, the side branches being shortened back at each winter pruning till enough shoots are obtained to make a well-furnished tree, after which thinning out and fore-shortening are all the pruning necessary or advisable. In some cases it is useful to stake up some of the principal branches, or otherwise the heavy crops they produce will weigh them down to the ground. The illustration accompanying these notes was from a photograph of part of a branch of a freely grown tree framed out in the manner just described, and the fruit on such branches being well exposed colours beautifully. This plan of

bush trees can be kept in good health and fruitful. In December I had from a nursery some in this form not more than 3 feet high, with a mat of fibrous roots and full of bloom buds. These were planted at once, and no doubt they will bear enough to prove if the variety is true to name. When unpacking these I could not help noticing how much more fruitful some kinds were than others. Seaton House, Domino, and Laue's Prince Albert were literally covered with fruit buds. When such free cropping kinds are chosen there is no difficulty in keeping them to 4 feet high if it is wished, as their continual bearing prevents them growing too strongly. Trees of this size may be planted in many positions where those of larger size would not be suitable. In town or small gardens amateurs would find much pleasure and profit in growing, say, two or three dozen of such trees, and this may be done in many ways. I should prefer planting them in a quarter together 4 feet each way, as then they could be all treated alike and the ground not dug between them. Clumps of Daffodils may be grown between them, as when the leaves were off the trees in autumn the surface can be cleaned, adding a dressing of manure, this helping both the bulbs and trees. The Daffodils would be found most useful to cut from. If space cannot be found in this way, then they

"Farm and Home Year Book."—We are glad to be able to state that the "Farm and Home Year Book" seems to have met a warm felt by our readers. Its reception by the Press generally has been most cordial, and the demand for it has been so great that a third edition has been issued. Our readers should have no difficulty in obtaining it from any local bookseller or newsagent, who will order it if it is not in stock; or they may get it direct from the Publisher, 170 Southampton Street, Strand, by post, for 1s. 3d.

GARDEN PESTS AND FRIENDS.

Growths on Larch (*H. J. M.*).—The excrescences on your Larches are similar to those that are so common on the Beech. They are simply woody nodules, which protrude from the stems of old trees. They are said by Mr. H. Marshall Ward to be caused by the slow growth of the innermost layer of the bark (the cambium) of a dormant bud, the base of which separated at an early date from the wood beneath, the cambium then closed in over the base, and laid on thickening rings all round the axis of the bud, except at the extreme apex. When the separation occurred the cambium of the wood beneath covered over the previous point of junction, and thus the woody bud was pushed out with the bark, and now protrudes covered with a thin layer of bark. These growths are no detriment to the trees in any way.—G. S. S.

Wireworm in soil (*Ignoramus*).—Are you quite sure that the field of your tenant is infested with wireworms? I should imagine from your account of it that it was some other pest that had injured the crops. Could you not send up some specimens? I could then advise you better. However, supposing the pests are true wireworms, beyond good cultivation there is not much to be done as regards destroying this pest. Various insecticides will kill them, but their cost and that of applying them render them useless for field work. A perfectly clean fallow for some months, so that there are no weeds for them to feed on, with a good dressing of gas-lime, is as good a means as any for destroying them. If it should not be advisable to use gas-lime, keep the soil well stirred, so that the birds may have a chance of getting at them. These insects are very fond of Rape-cake, which should be broken up into small pieces (even the dust of the cake is useful) and sown over the land that is bearing an infested crop at the rate of from 5 cwt. to 7 cwt. per acre. The wireworms will be attracted from the crop by the cake. A dressing of nitrate of soda or sulphate of ammonia when the crop is found to flag is very useful in stimulating it into active growth.—G. S. S.

BIRDS.

Canary losing its feathers (*Pericivell Maxwell*).—Loss of feathers often arises from an irritable condition of the skin, caused by the bird being kept in an overheated atmosphere, or from its having been allowed to partake too freely of sweet oaks, sugar, or egg food, which produces a gross condition of the system. It may also proceed from general debility, or through the lack of some of the elements necessary to the nourishment of the plumage. You would find a constant supply of cuttle-bone of great service in keeping the plumage in good condition—a piece placed between the wires of its cage would afford the birds much healthy occupation in nibbling at. Discontinue any sweet food you may have been in the habit of giving it, and diet the bird for a time with Rape-seed of the smaller kind—that of a purple or reddish hue is the best, being of a cooling nature. Give it also some Lettuce-seed; this, acting as a slight purgative, will assist in carrying off any ailment it may have contracted. In cases of this kind, a few drops of Parrish's chemical food in the drinking water are found to be useful, containing, as it does, the material necessary for the elaboration of new feathers.—S. S. G.

POULTRY.

Fowls laying soft-shelled eggs (*Miss Jessie M. Smith*).—You are probably feeding your fowls too liberally. Most poultry ailments are caused by overfeeding or the use of unsuitable food, and you are evidently giving too large a proportion of Maize. The free use of this leads to the formation of interest fat, and, as this accumulates, the hen falls a victim to disease. The only time when Maize may be freely used for poultry is during very cold weather; at other times it should be dealt out with a very sparing hand. Change of diet is one of the main points to be observed in the management of the poultry-yard, as thereby not only is an increased yield of eggs insured, but the stock, both old and young, will thrive

the better for it. As to the quantity of food required by each bird to keep it in good laying condition, this is a question difficult to decide, but a good rule to follow is not to throw down all the food at once at feeding time, but to scatter it slowly and thinly, and to stop the supply directly the fowls begin to hesitate and to select and pick about before swallowing the grain. Well crush the oyster-shells you supply to your birds. You cannot depend upon obtaining fertile eggs much before April, the male bird having been hatched so late last season.—S. S. G.

LAW AND CUSTOM.

What notice is necessary to determine the tenancy?—On September 29th, 1900, I took a cottage on quarterly. There was no written agreement. I have paid all my rent quarterly, and have receipts for same. Can my landlord compel me to leave before Sept. 29th? Am I not a yearly tenant, compelled to give or receive a quarter's notice on June 24th, so that the tenancy shall expire on Sept. 29th, and how much notice must the landlord give me if he wishes to raise my rent?—ONE IN DOUBT.

[You say you took the cottage on quarterly without a written agreement, and this implies that you are a quarterly tenant, but, as you claim to be a yearly tenant, it would seem there is some misapprehension. If you took the cottage at so much a quarter from September 29th, you are a quarterly tenant, and your tenancy may be determined on any quarter day by notice given for that purpose on or before the previous quarter day. If, however, you took the place at so much a year, you are a yearly tenant, even though the rent be actually paid quarterly, and you are entitled to half a year's notice to quit, expiring with a year of tenancy—that is, on September 29th—if you have made no express contract for some other period of notice. Your landlord cannot raise your rent without your permission while your tenancy continues, and so the same notice is necessary if he wishes to raise the rent as if he desired to determine the tenancy and compel you to quit.—K. C. T.]

Notice to quit—right to remove fruit-trees (*Alpha*).—You say you took the house and garden on a yearly tenancy from June, and so the notice served on you in October to quit in April is bad, and you cannot be compelled to quit at that time. In the absence of an express contract to the contrary, a yearly tenancy can only be determined at the same time of the year as it commenced. You should inform your landlord that the notice is bad, and that you will not quit. The payment of the rent quarterly does not make the tenancy quarterly, and the fact that the place was taken at so much a year constitutes the tenancy yearly in the absence of any definite stipulation or contract for some other term. As your landlord gave you permission to plant the fruit-trees and to take them up when you left if your successor would not pay for them, you may take them up when you come to leave; but if your landlord denies his promise and sues you, and the court does not believe your version to be proved, damages may be given against you. You cannot claim compensation for the fruit-trees and fruit-hedges from anyone, but should you leave at Midsummer you would be able to recover compensation for the fruit then growing on the trees and hedges, and also for all other growing crops. You could in no event claim compensation for the flowers you have planted, neither could you remove them. Unless the notice to quit served in October contained the words "or at the expiration of the year of your tenancy, which shall expire next after the end of one half-year from the service of this notice," or some words to the like effect, the notice you have received is altogether bad, and a fresh notice to quit at Midsummer, 1903, will be necessary to determine your tenancy. It is presumed that your tenancy runs from Midsummer, and that you did not enter by arrangement during the currency of a year of tenancy. If this was so, and the tenancy was from April 6th, the position is entirely altered, although even then the notice is bad as being some days too short, unless there is a local custom for such notices to be given on October 11th.—K. C. T.

Squirrels (*J. R. Seymour Trower*).—We have never known these little animals to breed

in captivity, and should think it very improbable that they would ever do so, kept, as they usually are, in a little cramped box or wheel-cage. If provided with a spacious cage, or suffered to go at large in a room furnished with branches or hollow stems of trees, they might possibly be induced to breed. In a natural state, squirrels build high up in trees a nest well fitted together and waterproof, being formed of leaves and Moss on a platform of sticks, and roofed over. The young ones are usually born in June. We are unable to say to what age squirrels will live in a state of confinement; after a few years, however, their claws become long and their teeth turn yellow—signs of old age.—S. S. G.

GARDEN WORK.

Conservatory.—Among fragrant flowers which may be had in blossom during the spring, and which are always appreciated, are Heliotropes, Lilacs, Mignonette, and Musk. Of course, Musk is a very common plant—too common, perhaps, for modern ideas. Nevertheless, I think most people will appreciate a pot or two of Musk. The old-fashioned Musk is the most fragrant, but Harrison's is the largest, both in blossom and foliage. Musk may be grown in baskets. I have seen very effective baskets filled with Musk, and the young shoots pegged round the sides of the baskets completely covering the Moss. This is the time when Musk is usually started; it soon responds to warmth and moisture. It may also be raised from seeds—at least, the common sort may. I have never raised Harrison's variety from seed. Heliotropes struck in autumn and pinched back will now be breaking freely, and will soon be ready to shift into 5-inch pots. Cut-back plants, now in 5-inch pots, will be ready for a shift into 6-inch pots, and will soon develop into good specimens with a little pinching. As regards potting, a good compost for soft-wooded plants may be made as follows: Two thirds best turfy loam, one third equal parts old manure and leaf-mould, with one-eighth part of what may be termed porous materials, such as sand, wood-ashes, or crushed charcoal. The latter broken fine are very useful mixed with the compost, as most plants seem to thrive in it when used in moderation. The above compost may be used for pretty well all greenhouse plants except hard-wooded plants, such as Hebes, Azaleas, Camellias, and new Holland plants generally. Many of the latter will do very well in yellow loam; but loam from a limestone soil will not do. The loam in a limestone or chalk district may do very well for fruits, but is not adapted for flower-growing. Hydrangeas will now be throwing up their flowers in a warm-house, from whence they may be taken to the conservatory when about to expand. Hydrangeas, if wanted early, will stand a good deal of heat. Of course, the growth must be well ripened and rested before forcing begins.

Stove.—It is not difficult to have a few Orchids in flower now in a cool stove where the night temperature ranges from 60 degs. to 65 degs. Cyrtopodiums of the insigne section will do in a lower temperature. Several of the Dendrobiums, including *D. nobile*, are in flower now. *Phaius grandiflorus* is very easy to manage, and makes fine specimens in a comparatively short time. The *Calanthes* also are easily managed. The most important matter in Orchid culture is free drainage. The specialist has special pots abundantly supplied with holes for the escape of the surplus moisture. Then the potting or the basketing material is of the most fibrous character—peat, with all fine matter taken out, Sphagnum Moss, chopped fine, charcoal, broken into various sizes to suit the different-sized pots. Fill the pots half full of broken crocks, charcoal, etc., so as to ensure a dry, porous bed, and on this place the plant and fill in with the prepared materials, and press in as firm as possible. This treatment will grow most of the easily-grown species. Many Orchids are grown in baskets, and others on blocks of wood surrounded with Sphagnum, but we will not refer to these now. The beginner will do better with the terrestrial species, though many of these may be grown in baskets suspended.

Training down Vines.—In many small houses the Vines are trained too near the glass,

and the foliage suffers in consequence. The best distance is from 16 inches to 18 inches; this gives room for the foliage to expand without coming into contact with the glass. In planting down some care is required, as, if a branch splinters off, a blank is left, which is always a reproach to the gardener. It is best and safest to draw the shoots down to the wires gradually. Put a string of matting or Rofia round the shoot and form a link, and bring it down as far as it is safe. In a day or two more pressure may be given, and in the course of a week the shoot will be in position and no harm done. If the Vines are closely planted one generally has to be content with one leaf beyond the bunch, though where there is room I like to have two. A Vine cannot have too much foliage if there is room for full development; but in no case should overcrowding be permitted. The night temperature at this stage should range from 60 degs. to 65 degs. Muscats a few degrees higher. The fertilisation of the blossoms may be greatly assisted by shaking or tapping the pedicels to dislodge the pollen about 11 o'clock in the forenoon or when the pollen is dry. The internal moisture must be regulated by the outside conditions. During bright, sunny weather damping down once or twice a day will be required. Some houses require more attention than others, and the smaller the house usually the more internal moisture required, and more care should be taken with the ventilation. But rather than give much air on cold, bright days, I should increase the internal moisture.

Ferns under glass.—This is the most natural season for repotting, although, of course, repotting where many Ferns are grown is always going on. Some plants may only require to be shifted into larger pots without reducing the ball; others may require more or less of the old soil taken away, and be started again in smaller pots. The best general compost is one-half to two-thirds good loam and the remainder leaf-mould and peat, with a good proportion of sand. Some species do well in pure loam, rather heavy in character, notably *Adiantum Farleyense*. In all cases the potting should be firm. When potted loosely the growth is often lacking in robustness. If possible, after repotting increase the temperature a little. Use moisture in the atmosphere freely, but not much at the roots till they begin to move a little. If any plant is infested with scale throw it out; this is the best remedy.

Window gardening.—At the time of writing the weather is very severe, and the probability is that unless some care is taken the window plants may have suffered. There is no better protection than covering with paper in the warmest place in the room. Plants in the spare room may be moved to the centre of the room and placed on some old carpet on the floor, and then covered with several thicknesses of paper, and left there till the weather changes, and, of course, no water will be required by such things as Geraniums during frosty weather.

Outdoor garden.—In open weather all kinds of planting may be done. Those who buy large trees and shrubs must not only plant carefully but watch them narrowly during spring and early summer. Staking, mulching, and, when necessary, watering must have attention. Damping over the foliage of evergreens in dry weather in the afternoons has great value till the roots become active, and when this is done there is very little risk of loss. This is even better than too much saturation of the soil round the roots. Rockeries may be renovated and top-dressed with good soil. It is advisable at times to pull down and remake where the strong things are overrunning the weakly ones. The choice things should have special sites prepared and the strong growers moved to the background. It is better and more effective to group each family by itself, and then the right treatment can be given. The herbaceous borders may be planted on the same lines to a considerable extent, though, of course, where there are several borders variations may occur with advantage. What I should like to see is more originality, and this can only be obtained by leaving the matter pretty much in the hands of the owners of the garden. There will be a good deal of propagating to do now where bedding exotics are much used. Soft cuttings and sashed will make good and speedy work. Canes should

be divided and plunged in heat, or, at any rate, brought on in a warm house.

Fruit garden.—It is a good plan to plant a few rows of the best kinds of Strawberries now or soon, a yard apart, for the purpose of producing runners. The blossoms will be taken off as they appear, and the runners will be numerous and strong. In dry seasons fruiting plants do not furnish many runners, and they are often late, and for forcing it is important that the runners are taken early. I believe it is more economical to grow a few rows of plants specially for runners. Next year the plants which produce this season's runners will bear a very heavy crop of fruit, and a new bed planted this spring will supply the runners, only, of course, the runners should be planted now, so as to get a good grip of the soil before the hot weather comes. The bud-eating birds must be watched now and circumvented in some way or other. The best course is to prevent them getting a taste of the buds by dusting them with soot and lime, or adopting some other course. I have generally found soot and lime efficient, and it helps the trees in other ways. Those who are planting fruit-trees with a view to selling part of the produce must be very careful in selecting the kinds, and not plant too many sorts. Bismarck Apple has turned out a great favourite in some districts. Victoria Plum, though excellent, is not so much in favour as it was; it comes in a glut, and the sale is spoiled. Monarch is likely to do better.

Vegetable garden.—Sow Onions and Parsnips as soon as the land is in condition. Make the land firm for Onions, and grow the best kinds only. The same remark applies to all vegetables. Thin Early Horse Carrots in frames. As soon as the Asparagus which is forced in frames ceases to be productive, clear it out, put in some loamy soil, and plant with Potatoes or Lettuces. A well-fed Lettuce grown under glass is always of superior quality. When Onions are raised in boxes for transplanting, do not let the plants draw by keeping them in heat too long. The same remark applies to Cauliflowers and Early Peas. The Peas raised in pots should be planted on a mild, still day, after being well hardened in cold-frames. Draw a little earth up near the plants and stake them as soon as planted. If any further shelter is required, stake a few evergreen branches on the windy side. Clear the manure away from the Globe Artichoke and fork up the soil between the plants. The plants require a good deal of nourishment. The plants started under glass should be shifted into larger pots and be well hardened before planting out. Peas should be sown about every ten days, according to demand. There are plenty of good varieties; one can scarcely go wrong in making a selection. Potato planting should be pushed on now, especially early and second early varieties. Late sorts are not generally grown in gardens now. E. HOBDAY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

March 3rd.—Finished sowing main crops of Onions and Parsnips. Sowed a few seeds of Turnip-rooted Beet on warm site for early use. Covered a lot of Rhubarb outside with pots to come after the forced lot. Earthen up late Seakale to blanch. We generally have a heap of burnt earth and leaf-mould for this purpose. Sowed Tomatoes for planting outside. Potatoes are being planted when the weather is suitable. Sowed Autocrat and Duke of Albany Peas.

March 4th.—Put in a lot of cuttings of *Dentzia Lemoini*. The young shoots strike freely in bottom heat. The flowers are larger and more robust than graceful, and the plant forces easily. The work in fruit forcing houses now is incessant. Diebudding, tying down, and stopping in the vines must not be neglected even for a day. Inside borders are closely examined at the beginning of the forcing season and watered from time to time as required. The chill is taken off the water, and usually some stimulant is given in the water.

March 5th.—Pruned Roses on south wall and tied in the shoots. We generally get early blossoms from this wall. The pruning consists in cutting in the old shoots, occasionally taking out an old branch to make room for the vigorous young

shoots, which bear the finest flowers. *Clonetta Jackmani*, against a 5 foot high wall, are pruned back near the ground every season and the strong shoots trained in—they generally reach the top of the wall by the time they begin to flower. *Jackmani superba* is an improvement on the type.

March 6th.—Planted Jerusalem Artichoke. We are growing the improved smooth variety. A small plot of ground has been planted with the Chinese Artichoke (*Stachys lanifera*). This is not likely to become popular—the crop is too light to be profitable. It is easily grown, and may please the seeker after novelties. Sowed a few seeds of Red Cabbage in a box. We generally sow these outside in autumn, but somehow they were overlooked; but only a few are wanted. Potted a further lot of Tuberoses. The first batch are throwing up flower spikes in heat.

March 7th.—Put in more cuttings of *Fuchsia*, *Ivy Geraniums*, etc. The propagating-house is fully occupied now with young stuff forming roots. When rooted, the cuttings are moved on to another house to harden a little, and are then potted off. Sowed seeds of *Grevillea robusta* and *Acacia lophantha*, both useful, easily-raised subjects, either for growing in pots or planted out in the sub-tropical garden. Put in cuttings of the Golden Elder and *Tamarix germanica*. These are useful hardy summer plants for massing when out hard back.

March 8th.—Sowed more *Mignonette* for succession in small pots in heat. Commenced grafting Apple and Pear stocks. Covered Apricots, where the flowers were beginning to expand on south wall, with fishing nets. The nets are firmly secured to poles to keep them steady. Vaporised *Pelargonium-house*. Early plants are forward in bud. Sowed a few seeds of Chinese Primulas for early blooming, and also *Primula obconica*. Moved a lot of *Azaleas* and other plants coming into bloom to conservatory. Good bushes of *Genista fragrans* are showing now.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in *GARDENING* free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of *GARDENING*, 17, Southampton-street, Covent Garden, London. Letters on business should be sent to the Publishers. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as *GARDENING* has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and need only when the above directions are observed.

PLANTS AND FLOWERS.

Plumbeago (Ranunculus).—Plant is infested with thrips and red-spider, and you should apply the remedies mentioned advised for these pests.

Snails (Lilian Brodie).—The eggs you sent are those of one of the snails, probably the common garden snail (*Helix aspersa*). Certainly destroy all you can find.—G. S. S.

Failure of Joss-flower (Geo. O. Blacker).—The method is a very artificial one of growing the plant to which this name is given—for it is only the old Italian *Polyanthus Narcissus*—and if the bulbs are not strong failure is not surprising. Judging from the appearance of this sample sent, we think they want more light than they have been getting.

Ceraeus (W. F. Mears).—The shoots of your *Ceraeus Sieboldi* are not attacked by any fungus. The little openings in the bark are known as "lentils." They are respiratory organs, and the brown powder within them are portions of the cork in which the canals are loose so as to admit air between them. They may be touched upon any young twig, and are in no way a sign of disease.—G. S. S.

Early Chrysanthamums (Five Years Reader).—If your early flowering *Chrysanthomums* are to be planted outdoors to flower, they may be left to make quite natural growth. If to be grown in pots, they may be pinched once early in May, and then allowed to grow naturally. If you would like some to bloom later, then pinch again about the middle of June. It may be well to pinch some twigs to have a longer blooming season.

Cutting back Passion-flower (Hibernia).—If the young, healthy portions of your Passion-flower are cut

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FRUIT.

PREPARATIONS FOR GRAFTING.

WHERE the regrafting of Apple and Pear-trees is contemplated it is high time the preparatory measure of heading back the trees was carried out and before the sap becomes too active. The practice of regrafting is an excellent way of renovating collections of fruit-trees in gardens and orchards, always provided the trees to be operated on are not too old and that they are perfectly healthy. It is a sheer waste of time and labour to regraft very old trees; the heading back serves to paralyse them, and if the scions take and growth is made they never form good heads, and as a natural sequence fail to bear good fruit. Much has been done within the last ten years in the way of orchard renovation, but it must be admitted much more remains to be done before orchards will be restored to anything like their former state of excellence. Thousands of young trees of good market varieties have been planted, and yet there are numbers of old trees still standing that are only fit to be grubbed. Among the healthy ones will be found many that bear indifferent or worthless fruit, and instead of allowing these to bear year after year crops of uneatable fruit, it is far better to head them back and graft them with a well proved variety or one suited to the district. Many of the inferior kinds of cider Apple-trees may with advantage be treated in the way described, or they may be regrafted with some of the better varieties which are known to produce good cider when the fruit is ground up and properly treated. Cider making has come very much to the fore the last year or two, and there is a prospect of a revival of this industry. Turning to garden trees, the same remarks apply with regard to the regrafting of inferior kinds of Apples and Pears, and an opportunity will thus be provided for anyone wishing to put the double grafting of Pear-trees to the test. Second and third-rate varieties of Pears, such as Bourré Clairgean, B. Boce, E. Bachelier, and others, will be excellent mediums on which to operate, as they are strong growers and impart a more vigorous constitution to some of the finer flavoured but slower-growing Pears. Should any of the trees to be operated on be cordons, cut them down to within a few inches of the stock, leaving just sufficient wood above the latter that the scion may be conveniently grafted on and be just clear of the stock.

Pyramids and bushes of both Apples and Pears should have the branches reduced to six or eight. Have these about 6 inches long; they will then quickly make good heads again. Fan and horizontal trained trees may have their branches cut back to within a few inches of the stems, leaving sufficient wood to enable the grafting to be properly performed. Standards may have their heads reduced to the like number of branches recommended for bushes and pyramids, according to size and age. When these details have received attention, a sufficient number of scions must be prepared, and to keep them as dormant as possible keep them

in under a north wall or hedge, or where the sun cannot reach them. When large numbers of scions are required, it is not always possible to obtain a sufficiency of young wood for the purpose, but this does not matter, as the older wood may be used provided there are dormant buds upon it. Many of the old-fashioned grafters in the west of England will only use wood of this character.

With regard to the method of grafting, that called whip grafting generally obtains in gardens. Crown and saddle grafting may also be found necessary in some cases, and for orchard trees whip and cleft grafting are unquestionably the best methods. Success in grafting does not depend so much on the method adopted as on the manner in which it is performed, and the work is always best entrusted to an experienced person, especially when a number of trees is to be grafted. There must be a perfect union of scion and stock, and to this end the scions should be so cut that they fit to a nicety, if not on both sides certainly on the one side, and if this is not done failure will result. The tying or binding on of the scions is also another important matter, as they must be bound on firmly, but not to such an extent that the ligatures will cut into the bark. Broad strands of Cuba bast or raffia are the best materials to employ for this purpose. The final operation is of course the smearing over of the point of union with grafting wax or clay. The former is now generally used, and it saves no end of trouble. Claying, however well it may be done, will, and does, crack, and requires a deal of attention if air is to be excluded. Grafting wax is much more portable than clay, it is more easily applied, and can be bought ready for use, and finally it has the great recommendation of being cheap.

NOTES ON STRAWBERRIES.

WHERE small or indifferently rooted Strawberry plants were pricked out into a nursery bed last autumn with a view to transplanting them in spring, the ground intended for them should be prepared as soon as possible, as Strawberries always do best in a firm root-run; moreover, the ground when dug becomes pulverised and sweetened. Bastard trenching is best, and a liberal quantity of well-rotted cow or pig-manure should be incorporated. March is a good time for planting, which must be done carefully with a trowel, securing as much soil to the roots as possible. Plant firmly, and mulch round each plant with a little leafy refuse or old horse-droppings to keep the roots moist. Established plants in light soil if not already mulched should now be done. Many fail with Strawberries in light soils through neglecting this important operation. I grew varieties of the Queen type, including Ganton Park, successfully for some years in a lightish, not very deep, soil, and I attributed my success to well mulching the plants with pig-manure in November or early in December. The manure, which was of a somewhat strawy nature, was well saturated with the urine, which was washed down to the roots by rain during winter, the strawy nature preventing undue evaporation, and also keeping the fruit clean. In the case of

plants in heavy soil, early mulching is not so important, but it should not be postponed later than March. An additional light mulch of clean stable-litter or Bracken should be given just before the plants flower to keep the fruit clean. I think the new Strawberry Lady Sutherland has a future before it, as it has a hardy constitution, and crops freely even in light soil—added to this, the flavour is delicious and the colour very striking. In many establishments Strawberries that are being forced are now in flower, and will require careful treatment for a week or two. Many a fine lot of bloom is destroyed by insufficient air and too much atmospheric moisture. A temperature of 55 degs. and a fairly dry atmosphere suit the plants best when in flower, the heat being increased to 65 degs. by the time the Strawberries are as large as Hazel Nuts. The plants should be placed on a shelf, close to the ventilators, and when in flower should have plenty of room, to allow of a free circulation of air amongst them. The bloom trusses should be reduced to two or three on each plant as soon as they are formed, this increasing the size and improving the quality of the fruit. Liquid-manure, the colour of pale ale, may be given at every watering, except when the plants are in flower. The flavour of forced Strawberries is often complained of, but it may be much improved by placing the plants in a cooler, drier house for a few days before gathering it. Royal Sovereign and Vicomtesse Hericart de Thury are, in my opinion, the two best varieties for forcing. J. N.

COVERING VINE BORDERS.

OPINIONS differ as to the wisdom or otherwise of covering outside Vine-borders with laves or other protecting material in autumn, some even asserting that borders containing the roots of Vines that are to be forced early do not require it. My experience, however, is that late as well as early vinery borders are immensely benefited by a good covering of some dry, warm material in winter. In a garden where I was employed the early vinery was always started in November, the Grapes—Hamburgh and Buckland's Sweetwater—being in variably ripe in May. The border, which, like many of the old ones, was elevated considerably above the ground level, was annually covered with dry leaves to a depth of about 18 inches, and afterwards well thatched with Reeds. The thatch being very slanting, a good deal of the rain which fell during the winter ran off instead of penetrating the border, thus keeping it in a dry, warm condition and preserving the fibrous roots which lay near the surface. The covering was removed piecemeal in spring, when the Grapes were approaching maturity, the last layer of leaves being taken off in May, and the border was then examined. The surface was found to be literally a mass of fibrous roots, which I am quite certain it would not have been had it been left uncovered all winter. The fact is, the covering, though not communicating any heat to the border, prevented that already in it from escaping, and so preserved the surface-roots intact. The Vines were forced early for twenty-six years in succession, and never once missed a

crop. In the same garden were two other varieties that were not forced, but allowed to come on gradually with sun-heat. The borders were not covered in winter, and it was a difficult matter to find a living root within a foot of the surface. Of course, a covering of wet, sloppy manure which one sometimes sees applied is worse than none at all, but I am confident that if only 9 inches or a foot of even long stable litter or Bracken is laid on the surface it will prevent many of the most valuable roots which always lie near the surface from decaying. I ought to mention that snow was always cleared off the thatch on the early Vine border with a large home-made wooden hoe with a long handle.

J. L. N.

HIGHLY-FLAVOURED GOOSEBERRIES.

THOUGH many new Gooseberries have been introduced during the last half century, a few of the very old varieties still remain popular. Warrington is probably the best flavoured red Gooseberry known, added to which it is a capital grower and bearer, and will hang on the trees longer than any other sort. The finest bushes I ever saw grew behind a north wall, the wall being covered with Morello Cherries. I have known the fruit hang till the middle of September, when it was much appreciated, as most other small fruit was getting past. Both the Cherries and Gooseberries were protected from birds by fish-netting, which was fixed to the top of the wall, and rested on a rough wooden framework. Whitesmith, a handsome smooth-skinned white variety, is unequalled for flavour by any other variety of its colour. It, too, is a vigorous grower and prodigious cropper, and, unfortunately, a special favourite with blackbirds and thrushes. As soon as the fruit approaches ripeness they attack it. Ironmonger, another very old variety, still holds its own as the best of the small fruiting section. It is red and juicy, much resembling Warrington, but is much smaller. It is the heaviest cropping variety I know, and grows so freely that quite small trees make large bushes in a couple of years. It is unrivalled for jam-making, and is an excellent market sort.

NORFOLK.

CARE IN PLANTING FRUIT-TREES.

The planting of fruit-trees goes on from the end of October until April in dry, light soils. As a general rule, they should be planted as soon as possible. In moist, clay soils it is often better to wait till the spring. Where it is necessary to plant late—i.e., in March or April—it is well to procure the trees as went in the autumn and lay them in in light, well-drained soil, after having trimmed off the damaged parts of the roots. In that case we should recommend the following treatment for the roots: Put four or five spadefuls of mould and two or three of thin cow-manure in a tub, adding enough water to make a thin puddle, in which the roots of the trees are to be plunged and turned over and over until quite coated with the mixture. Plant when the roots have dried a little. This way is very favourable to the development of the fibrous roots, and we have always found it give excellent results. In the case of large trees we recommend this as a preparation for autumn planting. The ground having been thoroughly broken up, holes should be dug just large enough to receive all the roots comfortably. It is very important when we have to deal with clayey and moist soils to take account of the depth of the freshly dug soil. Care should be taken that the collar is close upon 4 inches above the edge of the trench or hole, so that the graft shall not be covered when the soil is filled in. If the planting is done in dry weather it is well to water each plant so that the soil may be washed well in among the roots. It is indispensable in the case of Peers grafted on the Quince and Apples on the Paradise and Crab that the union of the stock and chosen variety should be left uncovered for 1½ inches, or the variety will strike out on its own root, which would be a serious drawback, so causing the trees to lose much of their fertility. When planting Apples or Peers grafted on natural stocks, as these are tap-rooted, the roots should be trained in a horizontal direction, on the principle that the nearer the roots are to the surface of the soil

the more fertile will be the trees and the more juicy the fruit.

At the foot of each tree when planted leave a slight hollow in the soil all round, and if the soil is dry it will be necessary to water. To complete the work it is advisable in spring to mulch round the foot of the tree, in order to keep the soil cool and promote the development of the young roots. If the soil continues dry it will be necessary to obtain the requisite moisture by copious waterings every fifteen days. In planting walls the trees should be inclined towards the wall, so that the grafts shall be 4 inches to 5 inches or so distant from it. When planting in this manner in freely dug soil it is very important not to fasten the trees permanently to the wall, as the settlement of the soil would cause it to remain suspended from the wall. The proper way is to fasten the tree loosely at first.

NOTES AND REPLIES.

Pruning Black Currants.—Amateurs often do not prune their Black Currants sufficiently, hence sun and air cannot reach the fruit, and it is consequently small and of poor quality. The fruit being borne on the previous year's wood, this, in order to obtain satisfactory crops, must be strong and well ripened—conditions only obtainable by freely thinning the trees out. The shoots should be clear of each other, and the centres of the trees be kept well open. Another common mistake is digging amongst the roots—by which many of the most fibrous and best roots are destroyed. The surface should be loosened with a fork and a good mulch of cow or pig-manure applied, and, if several good waterings can be given during summer, so much the better, as both the weight and quality of the fruit will thereby be much improved. Black Currants succeed best in a moist situation and deep, rather retentive soil, but will do well in any sunny position and decent soil, provided the roots do not get dry. Cottagers often make a good sum of their Black Currants, and might make a much greater if only they would cultivate them better, as the fruit is in great demand, not only for puddings, pies, and jam, but also for jelly and wine. In my opinion, Lee's Prolific is the best variety, the old Naples being also excellent. Black Champion is very large, but, according to my experience, it does not crop freely. Black Currants are often planted too closely together, and in a few years the trees become crowded. A space of at least 6 feet all ways should be allowed between them.

Pruning Red Currants.—Where pruning has not already been done, this should be taken in hand at once. The object of the pruner should be to have no more fruiting branches than can be exposed to the light, for where these are overcrowded the fruit does not ripen so well, neither does it hang so long afterwards. Bushels of fruit often rot on the trees when the weather has been showery during July and August on account of its not being sufficiently dry for gathering. The nearer a cut is made to a bud the less chances there are of dead sprouts to harbour insect pests. When the trees are pruned they should be dressed with newly-slaked lime and soot, or the latter alone will clear the bushes of soot. If put on when the trees are damp, it will stick freely, but if the weather is dry they should be syringed with water in which a little soft-soap has been dissolved, then dusted afterwards. This will need repeating later on should birds attack them just as the buds are pushing. Where the Currant sawfly is troublesome the above remedy usually keeps it in check. It is well to put in a few cuttings each season to provide plants to replace any which may be destroyed or for making new plantations. The making of these could be taken in hand during bad weather where it has not already received attention. The cuttings ought to be from 15 inches to 18 inches long, and all buds should be removed except three or four at the top. When inserted in the soil there should be a clear stem of from 6 inches to 9 inches above the ground. Trees against walls should be spurred in as close as possible. If the spurs are allowed to stand out some distance the coping does not protect the fruit from the rain, and therefore it does not keep so well or so long as when it is close to the brickwork.

Autumn treatment of fruit-trees under glass.—Many people overlook the

importance of, and the necessity for, closer attention to the requirements of various kinds of fruit-trees and Vines after the crops have been gathered. It is impossible to grow really fine fruit on trees that have been much neglected any time from the fall of the leaf to the time they are blooming again; in other words, more depends upon the size and perfect formation of the bloom-buds than we, as a rule, are aware of. According to my experience, the size and shape of the future fruit is more determined by the autumn treatment of the trees or Vines than by the treatment given when the fruit is swelling off. Large and perfect flowers or bunches of flowers may with ordinary good treatment be grown into large and perfect fruit or bunches of fruit as the case may be, but undersized or malformed blossoms cannot by any treatment be grown into full-sized, handsome fruit. If any proof of this is required, I need only direct attention to the state of Apple, Pear, and Plum blossoms when injured by frost. Where the strongest and best formed flowers escape destruction by frost, there are to be seen good crops of fine, well-shaped fruit, but where these were destroyed, the small, late, and in many cases imperfectly-formed blossoms were followed by correspondingly inferior fruit. A superficial observer might naturally form the opinion that a strong, healthy fruit-tree with only a small quantity of fruit set would swell these to a great size, but no such thing occurs, unless, indeed, such fruit resulted from the best-formed flowers. To a certain extent Dame Nature determines the quantity and quality of our outside fruit crops, but the case is very different under glass, as here we are in a position to be more independent of the climate.

Pruning Gooseberries.—Some of the buds of the early kinds are getting forward, and where the bushes have not already been pruned this should be taken in hand forthwith. In places where birds are very troublesome this is usually left alone as long as possible, for sometimes when pruned early the bushes are so denuded of buds that the crop is a complete failure. Many are the contrivances adopted to scare the birds, but the safest plan in country places where the gardens are surrounded with woods is to cover the quarter where Gooseberries are grown with small meshed wire netting. It is, however, not in every place that this can be provided; hence the necessity for having recourse to other means. Lime will, if applied in time and repeated if washed off, often deter sparrows and other small birds unless the weather be very severe. In pruning see that the centre of the bush is well opened out, that the light and air may get at the fruit and facilitate gathering. There is a considerable difference in the habit and growth of the large kinds and those that produce small fruit, also in the time of their pushing their buds. The former being much earlier suffer far more from the attacks of birds than the latter; the shoots, too, are inclined to grow downwards instead of in an upright direction, so that the fruit on the lower branches, unless these are kept well up from the ground, often gets spoiled by the heavy rains. For this reason when pruning, branches that have this tendency should be removed. Gooseberries do well as cordons, espaliers, or trained against walls; the fruit from such is far finer than it is from bushes, and it may be more readily protected from birds. Some of the best dessert kinds should be selected for planting and growing in this manner, as by so doing a supply of fruit may be had till quite late in the season. When grown against walls a north or north-west aspect should be chosen. When making cuttings of the large kinds endeavour to have them as long as possible. If they stand a foot out of the ground before putting on any branches so much the better, for then there is far less likelihood of the fruit being splashed by the rain.

"Farm and Home Year Book."—We are glad to be able to state that the "Farm and Home Year Book" seems to have met a want felt by our readers. Its reception by the Press generally has been most cordial, and the demand for it has been so great that a third edition has been issued. Our readers should have as difficulty in obtaining it from any local bookseller or newsagent, who will order it. If it is not in stock; or they may get it direct from the Publisher, 37, Southampton-street, Strand, by post, for 1s. 6d.

PLANTS AND FLOWERS.

RHODODENDRON LADY ALICE FITZ-
WILLIAM.

GREENHOUSE Rhododendrons are well worth the attention of all who have any greenhouse accommodation. The variety represented in the illustration succeeds admirably in any ordinary greenhouse temperature, and when in bloom emits a delicious and refreshing perfume. There seems to be a quite prevalent idea that in order to be successful with this class of plants they must be subjected to a sort of starvation treatment. This is an erroneous idea. Of course, any plant which has been starved for any length of time must not have rich soil placed within reach of its roots at once; it must be gradually toned up with manurial stimulants until the roots are in an active, healthy condition, when a richer compost may with advantage be given. Peat is not absolutely essential to the welfare of Indian Rhododendrons. I grow and flower them well in a compost of leaf-mould, turfy loam, well-rotted

drons are being hoit op into apецimens no liquid-manure is required. It is only when the plant or plants have reached the aforementioned pot-limits that liquid-menure is necessary to maintain them in a vigorous state for some years thereafter, until another shift may be necessary to prevent deterioration. The best kind of liquid-manure for pot-grown Rhododendrons I have always found to be that which drains from a manure heap into an arranged receptacle. It must always be diluted with water—tepid in winter—and may be given frequently to pot-bound plants, especially during the growing period, with most beneficial results. A most important cultural point is to keep them at all times abundantly supplied with root end atmospheric moisture, and not to subject them to a high temperature, unless during the period of annual growth, when a higher temperature, although not really necessary, is distinctly beneficial. As soon as growth is completed, the plants should be placed out-of-doors in a sheltered spot for a month or two, this helping to solidify the young wood, thus encouraging the free formation of bloom-buds. Those formed and developed to the bursting

wire frame, but it has not flowered for the last three or four years. Could you tell me what treatment to give it in order to induce it to bloom?—HUYA.

[There is evidently some mistake in the cultivation of the plant, as it usually flowers somewhat freely. It is quite necessary, however, to get the wood well ripened each year, and perhaps your plant is overcrowded. If possible, we think you had best report it, say early in March, and at the same time thin out some of the small shoots. In the potting employ good yellow loam three parts, and one part rough lumpy fibrous peat. To this add a liberal addition of old mortar rubbish and some sand. Give a perfectly free drainage of about 3 inches, and pot rather firmly. After potting place the plant in the warm greenhouse, but do not water for a day or two, preferring to use the syringe till the plant is taking to the fresh soil. During summer grow the plant in as sunny a place as possible. It is highly probable the plant has been too much in the shade.]

Begonia Gloire de Lorraine.—Will you tell me how to manage Gloire de Lorraine Begonia, always a failure here?—YEO VALR.

[If you have old plants of this, you had best cut them down as soon as flowering is over, keeping them rather drier at the root than usual. Some time later cuttings will issue from the base, and these when 2 inches or 3 inches long may be inserted as cuttings, placing one cutting in a pot of 2½ inches across. Plunged under a bell-glass, or in a frame where gentle bottom-heat is at hand, and kept cool moderately moist, the larger number will root in about a month, when more air may be given, and be presently potted into 4-inch pots. From this time daily watching will be necessary, and particularly in watering, never getting the plants too wet. Finally, as the plants fill up the smaller pots with roots they may receive the final shift to 5½-inch or 6-inch pots. The soil should be of loam, peat, leaf-soil, and sharp sand, about equal parts of each. Temperature 50 degs. to 55 degs. for growing, and rather more for the cuttings. Perfect drainage, with constant care in growing, are the chief items, as any neglect cannot be undone. A light position and ample room are necessary from the start.]

Imantophyllum miniatum.—I have several old, well-established plants of the above in 12 inch pots and tubs. I get few flowers. Can you give me suggestions as to culture?—SWALLOW.

[Imantophyllum miniatum will succeed with ordinary greenhouse treatment, or in a light position in the window of a dwelling-house. It should be kept somewhat drier during the winter than at other seasons. When growing freely it may be potted each spring as soon as the flowering season is over; but in the case of large plants once every two years will be sufficient. Good drainage is very essential. It can be propagated by division, and also by seeds. Division is best effected directly after flowering, when, if part of the soil is removed, the suckers, which are often pushed up from the side of the main stem, may be separated with a few roots attached to them, when they must be potted into small pots. To ensure perfect seeds the flowers must be fertilized. The berries, which take months to ripen, should be allowed to remain on the plant till they show signs of dropping. Then sow in penes of sandy soil and cover with about ½ inch of the same compost. In gentle heat the young plants will soon make their appearance. Two-thirds loam, one-third leaf-mould, and a good sprinkling of sand will suit the Imantophyllum.]

Aspidistra falling.—I have for twelve or fourteen years been most successful with variegated Aspidistras, but of late have several times noticed the nice fresh new leaves fall over the side of the pots, and cannot be made to stand erect without support. Is this because they are not planted deep enough?—AMATEUR.

[Judging by the young leaves dropping over in the manner described, it would appear that your Aspidistras have been deprived of sufficient light, while other matters might also have contributed to the state of ill health into which they appear to have fallen. What the cause are are only conjecture on our part—the drainage may have been in a bad state, the soil, perhaps, kept too wet or too dry, while the soil itself may be very unsuitable. Our advice is, during the winter to give sufficient water to keep the soil moderately moist, but take care that there is none allowed to stand in the pans or saucers in which they are potted. Then keep them in a moderately light position



Rhododendron Lady Alice Fitzwilliam. From a photograph sent by Mr. W. A. Leslie, Cormiston Gardens, Biggar, N.B.

animal manure, and sand, with some pieces of charcoal added. The major portion of the compost should be leaf-mould. These materials—excepting the charcoal, which is best added just prior to the potting—should be thoroughly incorporated, and then stacked for some considerable time previous to their use in order to induce mellowness, anything of a rook nature in the way of soil being most hurtful. Young plants ought to be grown on quickly into fair-sized specimens ere they are permitted to become much pot-bound. This is managed by giving a small shift every year until a 10-inch or 12-inch pot is reached. Firm potting is essential on each occasion, and a potting-stick must be used in order to ensure the soil being thoroughly rammed into every crevice around the ball. A little extra warmth after repotting tends to induce quick root-action. Considerable care must be exercised in applying water to the soil for some time after repotting. A superabundance at this time is quite as injurious as an inefficiency. The plants must also be carefully shaded from bright sunshine until established in the new pots.

During these years when young Rhododendrons

stage, care must be taken that the wood-hurds directly underneath are not permitted to coat the flower-buds. Wood growth must be assiduously kept in check until the flowering period is over. There is, however, little or no trouble with premature wood growth in well-ripened plants.

The foregoing remarks apply exclusively to the subject of the illustration and its companions. The jasminiflorum type requires a somewhat higher temperature throughout—such as that of a cool stove—to do them well; otherwise, the requisite cultural conditions are much the same.

WM. A. LESLIE.

NOTES AND REPLIES.

Smilax rotundifolia.—Is Smilax rotundifolia evergreen, and can you or any of your readers tell me what nurseryman would be likely to have a plant of it in stock, and is it as hardy as Smilax laurifolia?—ANXIOUS AMATEUR.

[This, also known as S. quadrangularis, is a high-climbing species with large, thin, and nearly round leaves. The stems are terete and the branches and young shoots often four-angled. The prickles are stout, scattered, and sometimes a little curved. It is a native of N. America.]

Hoya carnosa.—I have got a large specimen of this in a pot. It is trained over a bell-shaped

indoors, and sponge the leaves every week, both on the upper and lower surfaces, with water slightly warmed. This will remove the dust, which in a dwelling-house soon collects on the leaves and chokes up the pores thereof. Then, on the return of spring, your plants had better be repotted, clearing away the major portion of the old soil from the roots. There is a great tendency to overspot many plants, and in carrying out the operation it should be borne in mind that large plants can be kept in good health for years in comparatively small pots, provided their roots are kept in a healthy state. It is probable that the roots of yours are partially decayed, in which case, when repotting, take especial care that all signs of decay are removed. A very suitable potting soil for the *Aspidistra* is two-thirds loam to one-third peat or leaf-mould, and a liberal sprinkling of rough silver-sand. If the loam is of a particularly adhesive nature, equal parts of loam and peat or leaf-mould will be the more suitable.]

Heating a greenhouse (F. E. T.).—The stove, one nearly similar to that advertised by the "Twelve Hours Syndicate," in *GARDENING ILLUSTRATED*, is fixed in a small recess in kitchen outer wall, and the fine-pipe at back, instead of going straight up, has had a bend made from the stove, carried through the wall and up outside the house, being continued by piping as high as the roof to act as a chimney. This has been the only difficulty in connection with the arrangement, as with the wind in one particular direction it sometimes smokes when first lighted. Had space permitted outside the house I should have placed the greenhouse at the back of a small morning room, the chimney of which would have simplified matters, as the stove could have replaced the ordinary grate, and thus warmed the room, greenhouse, and radiator. However, the wells of kitchen being stone and floor cement, no fireplace was necessary, the recess made answering instead. The pipes from boiler are taken through the side of the stove instead of the back, and about a foot from the stove there is a double connection, one going through outside wall end supplying the 4-inch flow and return pipes for greenhouse, the other joined to the 2-inch pipes running along one side of the kitchen (through end wall of kitchen) to supply the radiator, which is at the end of wall nearest the kitchen, the well and kitchen being at right angles to each other. The radiator is one of the usual kind with twelve vertical pipes. The fuel I have used is coke, as I find coal burns too quickly and is apt to smoke; coke is also cheaper.—M. M., *Naira*.

Winter-flowering Zonal Pelargoniums (H. G. Thomson).—Quite a large number of the varieties usually cited under this head are adapted for winter work, and it is rather an item of culture than ought else, though, of course, even so some flower more freely than others when all are grown alike. At this time of year, with plenty of time in advance, the best way would be to purchase cuttings or rooted cuttings of what you require. The culture differs in this respect: That all attempts at flowering during the coming summer are closely discontinued, the spikes of flowers being picked off as soon as formed. This assists the plants to a freer growth, and by occasionally pinching out the point of the shoots induces a more bushy plant to form. Meanwhile, with the growth in progress, two shifts will be needed, the final and largest pot for the season being 6½ inches in diameter. In this size of pot good bushes with half-a-dozen strong growths each should result. Avoid a soil that is very rich, as this engenders a much too gross growth. Be sure the potting is very firmly done, so that the soil is quite firm—indeed, almost hard right through the ball. Nothing promotes the best class of flowering wood more than this, and, with the plants grown in an open, sunny spot with plenty of light, you should, in your favoured district, grow these things perfectly. The following are a good set and are free flowering: Ian McLaren, pink and salmon; Olivier, scarlet, white centre; Mark Twain, rose; Mrs. Williams, corise; Barbara Hope, pink and salmon, with broad margin, very large flower; J. W. Barrie, rose-scarlet; Conan Doyle, salmon self, extra good form; Dryden, scarlet, white suffused centre; Chancer, rose-salmon; Mary Beton, pure white; Mrs. E. Rawson, dark crimson, extra large flowers.

Mr. T. E. Green, pure scarlet, a remarkable colour; Lady Roscoe, pealeat pink, very delicate; Winston Churchill, purplish rose-magenta, with starry white centre; Lady Sarah Wilson, salmon-scarlet, netted with white; Niphotos, pure white. These are among the most approved kinds as at present grown, and cannot fail to satisfy if justice be done to them during the period of preparation.

Exacum affine and Vinca rosea (William).—Particulars of the general culture of the *Exacum* appear on page 679 of our issue of February 22nd. *E. affine* is an annual, and well grown forms a compact plant about 1½ feet high. It is a useful pot plant for warm conservatory, but requires a degree of moisture and warmth somewhat greater to grow the plants well. A moist intermediate temperature in a stove is a good place to grow the young plants, or, at any rate, a temperature of about 60 degs. You may grow the plant without pinching, or you may pinch the points out twice or thrice if you wish to delay its flowering and make it a larger size. The final shift will depend on your action in these matters. If, however, you require it for autumn and winter flowering, the plants may be stopped twice at least. Pot the seedlings into 3-inch pots as soon as ready, and when 3 inches high remove the point of growth. In April or early May the plants will be ready for a shift into 5-inch pots, and in the end of May the shoots may be stopped again. You had best gauge the stopping by the progress of the plants, and in any case the last stopping should be made no later than the middle of July, with the plants at that time in 6-inch pots. The object of all the pinching in the early stages of growth is to build up a bushy plant, and having done this grow the plant on for the production of bloom, after the style of *Bouvardia*. Pot very firmly and drain perfectly. Peat, loam, and leaf-soil, with a free addition of sand and a little bone-meal, will suit quite well. The most recent addition is E. Forbesi, which may be grown from cuttings, as it is perennial. You could also grow this a second year, and by giving it liberal treatment obtain fine bushes. It is a free-flowering and attractive kind. The *Vincas* may be treated to a similar soil, but of a more sandy nature and the addition of some well-decayed manure. The *Vincas* will require attention also in staking, and in other respects the same mode of treatment will suffice.

Dracena falling (Exiled Cockney).—Your plant of which you send leaf is not a "Palm" at all, but a species of *Dracena*. The cause of the leaves becoming disfigured may be over-dryness or the reverse—viz., too much moisture at the root. Either of these, with too low a temperature, or when the plants are grown in a room, will bring the plant into a bad condition, and the browning of the leaves follows as a consequence. You may improve matters—to the eye, at least—if you take a pair of quite sharp scissors and cut away the disfigured portions, leaving the point as near the natural shape as possible. If the soil is wet, allow it to become quite dry—almost dust-dry—as nothing tends to sweeten soil so much in winter time as this. Then, having got the soil quite dry and kept it so for a couple of days at least, stand it in a bucket of water that may be just chilled for ten minutes, allowing the water to cover the pot. If the plant is dry, and the pot responds with a good clear ring when rapped by the knuckles, so that it sounds hollow-like, you had best immerse it as above. You may still greatly benefit such a plant by giving a teaspoonful of any good artificial manure once a week for some time to come. Frequently this class of plant forms a "toe" at the base of the stem within the ball of earth, and this pressing perpendicularly against the bottom of the pot so raises the ball of earth and plant bodily from its place that a cavity is formed, and the water, instead of sustaining the plant, passes around the sides of the pot and escapes. In this way the plant suffers often without knowledge. The presence of the "toe" may be determined by the upheaval of the soil and roots above the margin of the pot.

As many of the most interesting notes and articles in "GARDENING" from the very beginning have come from its readers, we offer each week a copy of the latest edition of either "STOVE and GREENHOUSE PLANTS," or "THE ENGLISH FLOWER GARDEN," to the sender of the most useful or interesting letter or short article published in the current week's issue, which will be marked thus:—

CHRYSANTHEMUMS.

CHRYSANTHEMUMS—RAISING SEEDLINGS.

It is very seldom that the *Chrysanthemum* is raised from seed—in Scotland, at any rate. Raising the *Chrysanthemum* from seed is a very simple matter and most interesting, every new development in the growth of the plant being watched with interest. Most firms can procure the seed, although not offered in their catalogues, and even if dear the finest seed only should be procured, as by buying inferior seed you are only courting failure, and the same time and trouble are required in any case. The seed should be sown in February, or not later than the first week in March. Prepare a seed-pan by well draining it with crocks and filling the pan about a third full. Make up a compost consisting of equal parts fibrous loam and leaf-mould, with a good dash of sharp sand, all being passed through a ½-inch sieve. Place the rougher portions of the soil over the crocks and fill up the pan to within ½-inch of the top with the prepared compost. Scatter the seed thinly and evenly on the surface and cover slightly with fine soil or silver-sand, water immediately through a fine rose, and cover over the pan with a square of glass. Plunge the pan in a gentle hotbed, or place on a warm shelf, when seeds will soon germinate. As soon as the tiny seedlings are fit to handle, prick them off into boxes of good soil, 4 inches apart, and again return to the bed or shelf, as the case may be. After they begin to grow they should be placed on a shelf near the glass. The little plants will gain strength and vigor each day if well attended to, and very soon will touch each other in the boxes. Procure now a quantity of 3-inch pots, which should be clean and dry, and prepare soil similar to that in which the seedlings were raised, only a little bone-meal or guano may be added and the leaf-mould lessened. Pot each plant singly, leaving the soil ½-inch from the top, which will allow room for water, and return to the shelf after giving the plants a light syring. Under such treatment they should be nice sturdy plants by the second week in May, and can now be put close together in a cold-frame, standing the pots on a bed of coal ashes. As soon as the 3-inch pots are full of roots they may receive their final shift, using a pot not larger than 6 inches in diameter. In these they will show their respective merits, whether good or bad. The plants should be allowed to grow naturally from the beginning, it being advisable not to pinch seedlings, as by doing so you not only retard the flowering period, but you fail to see the flower in its true light. One good strong stake in the centre will be sufficient support. When the plants break (naturally) secure three of the strongest shoots, rubbing off all others by catching them between the thumb and forefinger. In September, or earlier, the buds will appear, generally in clusters on the end of each shoot; all the smaller buds should be rubbed off, retaining only the largest one on each shoot. It will be thus seen that each plant carries three blooms, which will be sufficient to show the grower the good points of each individual plant. Each plant should bear a number, written on a tally, from one upwards, so that if the grower should send blooms to be commented on by any of our societies he would simply label them with the number on the pot. Whether the grower be successful or not at first, he should not be disappointed. D. G. McL.

Bridge of Weir, N.B.

NOTES AND REPLIES.

Increasing Chrysanthemums.—I am anxious to get cuttings from nice plants of a very late *Chrysanthemum*—*Mutual Friend*. Two show no signs anywhere of cuttings. One has little shoots appearing on the stem, which flowered this winter. Are they any good, and will you advise me?—*TOURNAI*.

[Some varieties break up very late at times, and this is a case in point. The plants (if alive) will break away presently and give good sturdy cuttings. All you can do now is to place the old plants in a little more warmth to induce growth. The sooner growth from the soil makes the best cuttings, not those from the stem.]

Grafting Chrysanthemums.—Can any of your readers give any information respecting the grafting of *Chrysanthemums*—when and how it should be done?—J. H. D.

[This is usually performed in June, the "stock" having been grown on previously from an early-rooted cutting. Its best use is the

encouragement it affords to weak-growing varieties. The form that finds most favour is side grafting or inarching. This is done by bringing the plants together side by side, and by first cutting away a slice of bark 2 inches long, or nearly so, from the "stock" plant, and then, making a similar cut on the side of the shoot to be grafted, bring the two together, and carefully and closely unite and bind together the parts as prepared. Quicker and surer are the operations when inarching is done, as then no separation of the scion takes place until a union is formed. The plants should be in pots, and so arranged in a cold-frame that water can be applied to the roots. To make a tolerably certain union, the wood of stock and scion should not only be of about equal size, but as near as possible of the same firmness or maturity. Shade from hot sun for a few days, and keep the frame cool by gently sprinkling overhead with water.—E. J.]

when the plants, with their ball of soil attached, can be easily lifted and potted, boxed, or planted in the floor of the house. Plants treated in this manner throw magnificent heads of bloom whether grown in pots or in the open ground. They should be pinched three times, but not later than mid-July in the case of the plants in the open; those in pots may safely be stepped towards the end of that month, and, in either case, all buds formed should be retained.—D. McL.

ROSES.

YELLOW ROSES FOR THE OPEN AIR.

Will you kindly inform me the names of the deepest yellow Roses for outdoor culture?—C. F. S.

[Roses of a rich deep yellow colour that will flourish well outdoors are very few in number. Of course, by deep yellow we mean Maréchal

a climber, in the strict meaning of the term; it would, however, be suitable for a wall 3 feet to 4 feet in height. Its flowers are a deep yellow, the centre petals as rich as the yolk of an egg. Duchesse d'Auerstadt is a splendid rich citron-yellow Rose of exceptionally rampant habit, but rather shy blooming. This may to a certain extent be overcome with patience by spreading out the growths almost horizontally on the wall or fence. I have seen this Rose grown very successfully as a pillar, and it is certainly much hardier than many of the vigorous-growing Teas and Noisettes. A good plan to compel these pillar plants to blossom is to bend the growths serpentine fashion or twine them around three stakes stuck in the ground to form a tripod, taking care not to cut away the long, annual growths save those that are soft. Réve d'Or is a good deep golden-yellow Rose for growing in the same fashion as the last-named, or, if trained on a wire trellis in a sheltered



A border of yellow Roses, Harrisoni, &c., with hardy flowers beneath and background of flowering shrubs. From a photograph by Miss Willmott, Watley Place, Essex.

Niel colour when highly cultivated. Two of the best of recent novelties are Billiard and Barre and Prince Theodore Galitzine. The former is a strong grower, yielding large semi-double flowers of a rich golden-yellow. The latter is a dwarf-growing kind, possessing an excellent constitution, flowers deep orange-yellow. Both these I can thoroughly recommend for outdoor culture. One of the most distinct yellow Roses grown is Souvenir de Mme. Levet. Unfortunately, it is very tender in cold districts, but flourishes freely, I am told, in Ireland and southern counties. Its flowers are not quite so intense in colour as in Wm. Allen Richardson, but neither has it the defects of the latter in producing pale coloured blooms. Every flower of Souv. de Mme. Levet is perfect in colour. The habit of growth is very dwarf and the shoots stout, after the manner of a Hybrid Perpetual. Georges Schwartz is another fine novelty, deep canary-yellow in colour, and growth after the manner of Amazona. It is reputedly a cross between Kaiserin Auguste Victoria and Souvenir de Levet. It appears that this latter Rose will impart its beautiful colour to the offspring, so that by employing good, lusty growers as the seed parents it is hoped raisers will ere long produce some good results. Amazona and Jean Pernet are two very good yellow Roses, but one cannot quite term them deep yellow. Mme. Eugene Verdier is a fine Rose where it can be the protection of a west well. It is not

part of the garden, quantities of blossoms may be gathered from plants after they have become well established. William Allen Richardson comes more under the heading of orange-yellows, but it cannot be omitted from a list of deep yellow Roses. Perhaps, in standard form its beautiful buds are richest in colour. I would also recommend its culture as a bush, pruning it very moderately. (On a south wall the first crop of flowers is often of a very pale, nearly white colour, but there are many exceptions to this. I found a plant last summer growing on a full south wall, every bud and blossom being so rich in colour as one could desire. However, I should select for preference a corner where the plant did not receive the sun until after mid-day. One of the finest specimens I have ever seen was in such a corner. The plant, budded on the seedling Brier, was transplanted four or five years ago to its present position, where the soil is a deep, strong, clayey loam, thorough drainage being provided by the somewhat abrupt slope to the west.

Other good apricot and orange-yellow Roses that succeed well outdoors are Mme. Pierre Cochet, Mme. Faloot, Sunset, Mme. Charles, Françoise Kruger, Mme. Ravary, and Bonquet d'Or.

As early blooming kinds, Persian Yellow and the single yellow Brier (*Rosa lutea*) should find a place in every garden, the latter kind a real gem, and developing into fine bushes if grown in a natural manner, merely just tipping the growths annually and cutting out old and worn-out wood. Mme. Pernet Ducher, a raiser who has given us such good things as Mme. Abel

Chrysanthemum Mons. Willfam Holmes.—In the rush for new varieties nowadays one is apt to forget our old favourites. I think there are few so well adapted and so easily grown as this variety, especially for late October and early November work. The constitution of the plant is everything to be desired, and its height is not a hindrance in any way, seldom reaching over 4½ feet. The colour is best described as a rich dark terra-cotta, which changes to a lighter colour as the blooms age. It lifts well when planted in the open, a good ball of soil adhering to the roots, especially if the ground has previously received a slight shower. A good plan to follow in lifting these plants is one which I have often seen done, and which is to make a cut with a spade all round the plant, the cut being about 8 inches from the stems all round. This operation should be performed a week or ten days previous to lifting.

Chatenay, Caroline Testout, Marquise Litta, has lately produced what he describes as a new race of Roses, naming the race R. Peruetiana and the first variety Soleil d'Or. This race is of much promise, the colour being deep golden-yellow, shaded with Naestertum-red and rose colour. It is claimed for this Rose that it flowers a second time. Pot-grown specimens certainly blossomed twice. The flowers are rather irregular in shape, but it is undoubtedly a variety worth growing, and now that this raiser has produced such a Rose by crossing Persian Yellow with the Hybrid Perpetual Antoine Duchoer there seems a possibility of many useful novelties from the old, well-known Persian Yellow, and also from the single R. Indes. If we could obtain a perpetual-flowering single yellow as beautiful as R. Indes our gardens would be all the richer.—ROSA.]

NOTES AND REPLIES.

The Coronation flower.—I hope you may see your way clear to publish in your next issue the following letter from our President, which appeared in the *Times* of the 15th inst.—**RODWIN MAWLEY, Hon. Sec. National Rose Society.**

"Sir,—I venture to express the hope that the Rose, which is the National Emblem of England and the Queen of Flowers, may be worn in preference, not only at the time of His Majesty's Coronation, but on the anniversaries hereafter. At the date of the ceremony the Rose will be its most abundant beauty in all the gardens of the land.—I am, Sir, your obedient servant, S. REYNOLDS HOLE, President of the National Rose Society, *The Deanery, Rochester, Feb. 13th.*"

Roses for trellis.—I have a Gloire de Dijon growing against a trellis (no wall) and would like to plant three other yellow climbing Roses, out of pots, against the same open trellis. Would you kindly say which are the three hardest amongst the following: *Allister Stella Gray, Celine Forestier, Mme. Moreau, Réve d'Or, Thella, and W. A. Richardson.*—**ROMANIAN.**

[Of the list you submit, *Allister Stella Gray, Celine Forestier, and W. A. Richardson* would be the hardest for your purposes. *Réve d'Or* would be a splendid grower, freer by far than *Allister Stella Gray*, and much superior in blossom, only that it is not quite hardy, and it needs managing to obtain blossom. It is, however, well worth a trial as a trellis Rose. In some parts of the country growers find this good old kind succeed remarkably well trained out horizontally, cutting away all useless and sappy wood. A few Fir-boughs stuck among the branches would protect the wood. We recommend it with every confidence, if you can overcome the somewhat tender nature of the plant by artificial protection. *Thella* is a white Rose. Perhaps you are thinking of *Aglaia*. This is yellow in the bud, opening to pale primrose. It is a variety of much hardiness and vigour, but requires abundant space and absolutely no pruning in order to bloom it successfully.]

Pruning Rambler Roses.—I would be much obliged if you would kindly tell me how to prune the following Roses—*Crimson Rambler, Miss Wilmott, Lucy Hartman, Dundee Rambler, and Carmine Pillar*—that were planted last October in open spaces to grow as they please? How much should they be cut back, and when?—**L. F.**

[The Rambler and Brier Roses which you have planted with a view to treating them as large free-growing shrubs would be all the better for pruning back this season to about half the length of each growth, seeing that they were only planted in the autumn. Next year and afterwards the treatment will be quite different. Then they must be very sparsely pruned in spring—indeed, they will require no pruning then beyond removing dead wood and just shortening tips of shoots. The real pruning is done after flowering. This consists in cutting clean away some of the growths that have blossomed, which will encourage the new wood that by this time will be well developed. Upon the new wood the finest trusses of bloom are produced the following year. Roses of the kinds you name will send out strong arched growths of wonderful vigour. We have had *Crimson Rambler* growing in this way a most lovely object, the immense shoots all aglow with numerous trusses of bloom. You name one variety, *Miss Wilmott*, among your Ramblers. If this is the form of R. Indes known as *Miss Wilmott's* variety, then the treatment would be as above, but if the Hybrid Tea of

same name, prune back to four or five good eyes on each shoot.]

Rosa Woburiana and its hybrids.—Would you kindly afford some information as to the *Woburiana* Roses—new American hybrids? Are they hardy and free bloomers, and suited for north aspect, and what soil do they like best? The advertisement in last week's *GARDENING ILLUSTRATED* is the first notice I have seen of them.—**W. M. N.**

[These Roses have been frequently noticed in the pages of *GARDENING ILLUSTRATED*. They appear to be perfectly hardy, even those kinds hybridised with the Tea Rose withstanding the late severe frosts with impunity. As to being free bloomers, if you mean a profusion of blossom for a short time, then they answer to this, but they are not perpetual. As with the *Ayrshire* and *Evergreen* Roses, also the *Crimson Rambler* and its allied forms, after the first display there is nothing more in the way of blossom until another year. Nevertheless the tribe is a most valuable one for covering tree stumps, banks, rockeries, rustic bridges, and the like, but if employed for creeping over the soil some support should be afforded, such as a few large burrs or stones, the object being to prevent the growths being choked by weeds or Grass. These Roses are also most elegant objects when budded on tall hedge Briers, the long trails of growth reaching the ground in one season, forming perfect creeping Roses. For creeping, the type is by far the best, the exquisite deep grass-green foliage glistening as though varnished, and the growths freely studded with pure white blossoms in large clusters, the mass of golden stamens in the centre adding not a little to their beauty. Perhaps the next best variety is *Jersey Beauty*. This has very beautiful leathery foliage, shining as the type, but larger. The flowers are mainly produced in clusters of from two to four, but some are produced singly. The buds are charming, of a pale yellow colour, opening to single flowers some 3 inches across, and then of a pale lemon-white, with five bunches of golden stamens in the centre. This variety makes a handsome pillar Rose for conservatory decoration. It was produced by cross-fertilising the type with the Tea Rose *Parles des Jardins*. Another distinct and lovely kind is *Ruby Queen*. It is quite a departure from the type, the flowers being large, almost double, and of a most brilliant carmine colour, with the base of petals white. I believe this Rose will become extremely popular when known, the combination of colour being very striking and the growth vigorous, but not exactly prostrate. There are altogether some thirteen kinds, the novelties of this year in addition. The *Wicheriaea* Roses are without doubt a most useful tribe, but unless one has a real love for single Roses they will probably be disappointing. I have planted *Jersey Beauty* out as a single specimen, its main growths supported by strong stakes to a height of 3 feet, these allowed to tumble over on to the lawn, and most elegant was the effect. Even when out of bloom, as a sub-evergreen, it is a plant of much merit. Most of the tribe root freely from cuttings, and where they obtainable a light soil would be preferable, but if budded on the seedling Brier, then a good deep strong loam would be most suitable. Should you be seeking some hardy autumn-flowering climbing Roses for your northern aspect, you would not better the old *Gloire de Dijon* and some of its descendants, such as *Kaleirin Friedrich, Bouquet d'Or*, etc. Other good kinds are *Cheshunt Hybrid, Aimée Vibert, Jeune Desprez, Marie Robert, and Mme. Alfred Carrière*. All of these would grow from 10 feet to 15 feet and more in height. Others of a more lowly growth, say from 5 feet to 8 feet, would be *Mme. Abel Chatenay, Gruss an Teplitz, Grace Darling, Caroline Testout, La France*, and strong-growing Hybrid Perpetuals, such as *Filla Gordon, Ulrich Brunner, and Mrs. John Laing*.—**ROSA.]**

Photographs of Gardens, Plants, or Trees.—We offer each week a copy of the latest edition of the "*English Flower Garden*" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize Half a Guinea.

The Prize Winners this week are: 1, Miss Lowther, *Compass Ash, Wickham Market, Suffolk*, for *Bowling Green at Compass Ash*; 2, Mr. J. Walters, 95, Gold Croft, *Yovil*, for *Cottage Back Garden*.

DWARF YARROWS (ACHILLEA)

HERBACEOUS aed alpine plants numerous through N. Asia, S. Europe, Asia Minor, varying in height from 2 inches to 4 feet; their flowers pale lemon, yellow, aed white, rarely pink or rose. Many of the cultivated kinds are too rampant for creeping with alpine aed rock garden plants; the dwarf kinds, on the other hand, come in groups for rock gardens or the margins of rock borders, and as edging plants. Most of the kinds grow freely and are easy of increase; but some of the higher alpine kinds are not very enduring in our open winters, and often in our gardens get somewhat "stagg" after a few years' growth, requiring occasional division and replanting.

A. ACERATIFOLIA.—A silvery-leaved plant from the mountains of Northern Greece, 4 inches to 7 inches high, with white flowers resembling *Daisy*; early in season. The leaves are narrow, crimped, and covered with white down. A neat and distinct plant, of doubtful hardiness, frequently damping off in winter. *Syn. Anthemis Aizoon.*

A. ALPINA (Golden Yarrow).—One of the showiest dwarf kinds, 8 inches to 12 inches high; leaves finely cut, flowers bright yellow; borne freely on upright stalks. A good plant for the rock garden, or for margins of borders. *Caucasus.*

A. AEGYPTIACA (Egyptian Yarrow).—A silvery plant, with finely cut leaves and pretty heads of yellow flowers. It is not hardy in all soils, but is so on well-drained sunny borders, flowering in summer and early autumn. *Division.*

A. CLAVENSIS (White Alpine Yarrow).—Dwarf and distinct, covered with a short, silvery down, flowers in summer a good white. It likes a light free loamy soil. Alps of Anetris; *division aed seed.*

A. HUTERI (Huter's Yarrow) has bright green foliage and pure white flowers. It likes a sunny part of the rock garden and grows well in common soil. Care should be taken to top dress, as it has a tendency to grow straggling.

A. REPERTUS (Rock Yarrow).—A pretty, white-flowered, and distinct species from Calabria, that begins to flower in May, much earlier than the majority of kinds. The small, green spatulate and entire leaves mark it as one of the most distinct of its race. The plant thrives best in deep, rocky soil. Height 4 inches to 6 inches.

A. TOMENTOSA (Downy Yarrow).—One of the tufted plants that help to form the carpets of silver whereon large *Violets* and *Gentians* display their charm: on the Alps, itself sending up flat corymbs of bright yellow flowers. It is a good plant for the margins of mixed borders, and also for the rock garden. European Alps, thriving in ordinary soil, and increased by division.

A. UMBELLATA.—In the more rocky portions of the rock garden, and for reestablishing quickly on old walls devoted more or less to alpine plants, this Grecian species is perhaps the most valuable of the silver-leaved Yarrows. Of rather woody growth and semi-procumbent habit, the plant soon forms a bush that is very striking when rightly placed. Rooting along its underside face the plant is increased to almost any extent. Height 9 inches. Flowers pure white.

A. NANA and MOSCHATA have like value to the above named for the rock garden, and some of the medium-sized kinds may also be used for bold effects.

The Mimulus.—The *Mimulus* is a bright showy blossom, whether one regards it from an indoor or outdoor standpoint, loving moisture, and blooming abundantly for weeks together. Pots containing old plants should now be taken in hand, and growth encouraged in every possible way; large roots may well be pulled to pieces and repotted, every scrap of roots with an "eye" to it probably making a plant. Those who have an old plants to fall back upon may at once make a start with sowing seed, which will grow in any light compost if simply scattered on the surface, watered, and covered only with a sheet of paper or a little Moss to preserve moisture. Young plants quickly grow, and will flower in June if attended to. For damp borders few things bloom better than do the *Mimulus*, and it is admitted that they are remarkably showy.—**LEAHURST.**

CANADIAN RICE (ZIZANIA AQUATICA).

The genus here cited is a small one, comprising only a couple of species or thereabouts. Usually the plants are regarded as of no horticultural worth, but surely the annual Grass that will attain to the dimensions shown in the accompanying illustration is worthy of consideration, from a waterside point of view, if nothing more. Indeed, we have too few of such bold, effective subjects. The growth of the subject of the illustration is, however, but the result of a few months, so that its rate of progress is somewhat rapid. The drawback to its permanent use as a waterside plant is, perhaps, due to its being of annual duration, though there is no reason why the plant may not appear in succeeding years from self-sown seeds. In any case, those having the management of water areas in private gardens or parks should not grudge the raising of a few seedlings each year, planting them early in their desired positions. This accomplished,

is tubular in outline. It is a distinct and pretty plant, and an interesting companion to the other members of this genus. Though frequently coming through our winters safely, it cannot be considered so reliably hardy as the better-known kind *O. tenuicum*. When planting the above, a well-drained chink where its roots may descend deeply in a free gritty loam in a sunny position, avoiding manure of any description, is the best position. The other species of this genus are

O. ZIBOIDEA, a very charming plant of biennial duration. Its flowers, which on large plants are abundantly produced, are of a rather pale yellow, and in favourable seasons seeds are freely produced. A warm, sunny exposure in the rock garden in deep gritty loam suits it well. In general habit the plant resembles *O. tenuicum*. Native of Southern Europe.

O. SIMPLICISSIMUM is a perennial species from Siberia, with terminal racemes of pale yellow flowers.

O. STELLULATUM is a variable species, having

short-lived in the border and requires care in any position. Shade should always be avoided in its culture, and the plants, if possible, so placed that the tufts of leaves may rest on a sloping ledge of rock, so as to keep fairly dry in winter; a soil of lumpy peat and equally lumpy fibrous loam, with sand very liberally added (quite a fourth part), and charcoal dust to a like amount. This and a raised, well-drained position in the rock garden will do as much as cultural aids can do for one of the best hardy plants. Its propagation is a rather slow business at times and must be done by means of cuttings, stripped off with a heel any time during May or early in June and inserted in very sandy soil (in pots preferred) without further ado. Never use a knife to a cutting of this plant. Given a thorough watering and left to dry for an hour, the frame should be closed and slightly shaded. With careful after-management the cuttings at this season root in about three weeks, and may then be potted off singly in much the same soil as recommended above.



The Canadian Rice (*Zizania aquatica*). From a photograph by G. A. Champion.

the plant will take care of itself. All the attractiveness of the above plant is in the well-marked leaves. The flowers are by no means attractive. It is a native of North America, and is known as "Water Oats," "Canadian Rice," etc. The grain is largely employed as food by the North-west American Indians.

THE GOLDEN DROP (ONOSMA TAURICUM.)

(REPLY TO H. BEECHAM SMITH.)

The best place for the Onosmas is, no doubt, a properly constructed rock garden, thoroughly drained, and in which provision is made for a good depth of soil, so that the plants may root strongly between the blocks of stone. The finest plant of *O. tauricum* we have seen was growing in good sandy loam mixed with broken grit, the plant being placed between large blocks of stone, near which the roots ramify and are kept cool and moist.

ONOSMA ALBO-ROSEUM is as yet a somewhat scarce plant in commerce. It has white or bluish-white flowers, which are drooping and inclined

flowers either white, yellow, or citron in colour. A native of Macedonia, growing about 6 inches high.

O. TAURICUM (Golden Drop).—This, the best known of the genus, is also the most worthy, and in good condition is a striking plant. The plant attains to about 15 inches high when fully grown, though rarely seen more than half that height. In habit it may be regarded as more or less an evergreen perennial, of a spreading, tufted growth, and from which in spring issue the flower stems. These are slightly branched, and furnish during May and June large clusters of drooping yellow and fragrant flowers that are singularly effective. Indeed, it is from the clear, pleasing yellow tone of the corolla that it has received the rather appropriate name of Golden Drop. This is undoubtedly one of the choicest of hardy flowers, better adapted, as a rule, for a well-chosen position in the rock garden than anywhere else. One of the very finest plants we ever saw was a dense, compact tuft fully eighteen inches across, and bearing many spikes of its golden-yellow flowers. Generally speaking, however, it is

A cold-frame or handlight is much the best for its propagation, and few hardy plants are worth more care in planting. Native of Caucasus. These, together with

O. PYRAMIDALE, a modern introduction from the Western Himalayas, constitute the known members of this genus.

ANEMONE VERNALIS (SHAGGY PASQUE-FLOWER).

ONE of the Pasque-flower division of the Anemone family, but very dwarf. The flowers are very large and shaggy, and covered with brownish silky hairs. It is a rare plant, and should be grown in some select spot on the rock-work, giving it good drainage and deep soil. It is a native of Norway, Sweden, and extreme northern countries, and also of very elevated positions on the Alps and Pyrenees, and is rarely seen in good condition in our gardens. It should, as a rule, be grown on a level spot on rockwork in deep, free soil, and be abundantly supplied with water in summer. Its flowers, which appear early in spring, are whitish inside.

NOTES AND REPLIES.

Clematises.—I wish to know the best Clematises to plant on an espalier between Roses, to hide vegetable plot from walk to garden facing south? Good old, established, proved sorts preferred. Must be hardy, to grow in north of Scotland.—O. A. M.

[You cannot improve upon the following: C. Jackmani, C. J. alba, C. G. Villacella alba, C. V. rubra, C. Henryi, C. Fairy Queen. These are quite hardy and abundant bloomers.]

Increasing *Lebelia cardinalis*.—I am anxious to increase my rather low stock of *Lebelia cardinalis*. How can I do so at least expense? If I could now get one or two large plants I could divide and multiply them, so as to be ready to plant out in summer.—M. A. M.

[Carefully break up the plants into single crowns with some roots attached, and pot singly into small pots, standing on a slight bottom-heat, but keeping the tops quite cool. In about a fortnight they will have started into growth, when they may be transferred to a cold-frame, keeping close for a few days. Gradually harden off and plant out when all danger of frost is past.]

Polyanthuses.—It may be that one of the reasons why so few people raise their own Polyanthuses is on account of the long time the seed is in germinating; but that is a feature which one ought not to lose sight of when purchasing the packet of seed. At any rate, one should give plenty of time for the seedlings to put in an appearance, and, with this in view, March is none too soon to sow for plants to bloom another year. I prefer to give them a start in the greenhouse, placing the pane on a shelf near the glass, subsequently pricking the plants into boxes and placing in frames as soon as the letter are available in May, finally planting them out in a partly-shaded border for the summer, where their needs as to watering are not likely to be forgotten.—LEAMURST.

Planting a rock garden.—I do not see any mention made of outdoor Cyclamens among the list of plants given to "Amateur" for the rock garden. I have grown them for some years under such conditions, and the beautiful foliage all the winter months makes them quite a feature. They went combining with other things because of the time when they are quite bare; but this is easily provided for, and nothing looks better with them than the variegated Periwinkle, allowing Creeping Jenny to cover them a little from summer sun. The shades range from white to crimson, and if the stones used are mossy flints, with an occasional hardy Fern, the tint is all the year round are of the most satisfying kind.—H. M. B.

Climbers for porch.—Would you kindly tell me what climber would cover a porch quickly? I want it to look well in time. The aspect is almost north and very sheltered, soil a gravelly loam. I have a blue Passion flower growing outside in a large tub, with a W. A. Richardson Rose (on a wall) I was thinking of putting them at one side. Would *Cobaea scandens* and *Campampelis*, sown now in a hot-bed and planted out in end of April, grow quickly enough? I will be thankful for your answer to these queries. The *Climanthe* and *Eucalyptus* grow splendidly here.—S. M. ALLEN.

[The *Campampelis* and the *Cobaea* are certainly among the quicker growers, but we doubt their being able to do what you require. It would be different if they were in strong plants now, and we are unable to suggest anything that will spring up more quickly. *Clematis montana* (pure white) is a beautiful spring-flowering plant, and quite hardy. The climbing *Nasturtium* are quick to cover, and so, too, the variegated *Lonicera aureo reticulata*. These are all good in their way, though we fear, even in your favoured district, the plants will not accomplish all you wish in the stated time.]

Lilies.—I have the following Lilies to grow for exhibition on June 10th: *Auratum*, *umbellatum erectum*, *umbellatum grandiflorum*, *pyrenaicum*, *speciosum rubrum*, *Thunbergianum atro-aquilinum*, *longiflorum giganteum*. I have potted them up and plunged them outdoors. Will they require forcing, or what is the best position and temperature for them to get them in bloom on June 10th?—P. F. L.

[You will have a difficulty in getting all the kinds named in flower on the 10th of June. To make sure of *L. speciosum rubrum* flowering at that date, it ought now to be in full growth, as its natural flowering period is early October or very late September. Some considerable forcing will therefore be required, and, to tell you plainly, we do not think you will succeed in the end. The varieties that should at once be placed in the greenhouse, if started, are *longiflorum giganteum* and the well-known *auratum*. The latter will require more warmth in a month's time. *L. pyrenaicum* will require to be kept quite cold out-of-doors, and in the

most shady position possible, as its natural flowering time is May. The forms of *umbellatum* and *Thunbergianum* named in your letter had best remain in the open for some time yet, but may require a little assistance later on. You must not in the meantime neglect them as to watering, etc. You had better write us again in a month, giving the progress of each.]

Plantain Lilies.—I have been a grower of these most useful and highly decorative plants now for many years, and can recommend them to the consideration of all who have to do with partially shaded gardens or positions naturally damp; not that they will not grow in sunny places, but in cooler quarters one has the advantage in keeping in good condition the beautiful foliage of *Fuckias*. F. *Sieboldii* I have had under a shady wall for several years, where it has assumed large proportions. It is the largest of the genus, has broad green leaves, through which quite a number of pale lavender flowers push their way. F. *grandiflora* has white flowers, sweetly scented; its best with me on a sunny border, being not quite so hardy as *Sieboldii*. F. *ovata undolata* is white and striped. F. *alba marginata* is bordered with white, and most effective. All are herbaceous, all easy to grow, and will be removed in April.—LEAMURST.

Single Dahlias.—Single Dahlias are now grown in many places where it is not convenient to grow the double varieties, mainly because the blossoms are peculiarly adapted to general decorative work, and perhaps also on account of the little culture they need to bring about a wonderful display of flowers in early autumn. It is not necessary, as is known, to save the tubers, as from seed sown in February one may procure a sufficiency of plants. Such being the case, those who have heated houses, and who do not care to go to the expense of buying plants in spring, should procure seed at once. A sowing is recommended in a shallow pan or box of light compost, covering the seeds thinly, potting each plant off separately when an inch or so high, giving them a little extra attention at this time by keeping them in a fairly warm temperature, potting on as soon as they are ready for a shift, placing them out-of-doors in well-prepared ground by the end of May. It is quite as easy to raise Dahlias from seed as any other half hardy annual, and considerably cheaper.—LEAMURST.

Sweet Peas.—No annual, unquestionably, within the last ten years has been grown more or thought so much of as the Sweet Pea. No one who has once grown it can be surprised at this, as, where quantities of blossoms are wanted two or three times a week in the summer for table decoration or other embellishment, what can compare with them for loveliness? Amateurs with small gardens find in them grace and beauty at little cost, yielding for weeks together flowers that harmonise with the decorations of any room, whether drawing or dining-room. I have just been sending my order for seed, and have been comparing the sorts catalogued now with what were known ten years ago, only five years since. What strides they have made! Some rows I sow with mixed seeds, but the greater part is sown in separate varieties, as, by so doing, one may cut them quicker and easily in their different tints. I believe in digging over the ground in November and incorporating with it a liberal amount of half rotted stable-manure, sowing my first batch of seeds in March, and the second lot a month or six weeks later. These come in fresh when the early ones begin to diminish. One may do a deal towards prolonging the flowering time of Sweet Peas by removing, day by day, blossoms that are spent and preventing seed-pods forming, which, if left, soon exhaust the plants.—DEKREV.

Petunias.—Petunias are as useful for indoor decoration in May as in June or July in the beds and borders, always giving one plenty of blossoms so long as right treatment is accorded them. That consists first in sowing seed in the greenhouse in February in a temperature of about 60 degs. in soil that is light and sufficiently drained. Pans should be prepared accordingly, filling them half full. Leaf-mould and loam, with a dash of rough sand, will meet what is needed, and the seed, being scattered thinly on the surface and watered in, partly

covering the pan with glass, will not be long in germinating in the heat stated. It is well to observe, perhaps, that young Petunias often damp off, and one should exercise care in applying water in the first stages, but when potted off and thoroughly established a liberal supply of moisture may be given. Petunias do not like too much restriction at the roots, and this being so, a removal into larger pots after their first shift cannot be deferred indefinitely without the plants showing by yellowness of foliage and a general breakdown that it is imperative. For pots it is well to encourage a somewhat bushy habit, and this is brought about by pinching out the leader when 4 inches or 5 inches in height, in order that side-shoots may more quickly form. Petunias are very shrew when planted in beds by themselves, or grow in vases on lawns, and where this is desired the next few weeks should see the seed sown. Where old plants have been kept the winter through there will doubtless be numerous shoots from which cuttings may be taken. These will strike readily in heat.—W. F.

Cutting down Clematis Jackmani.—Last spring I planted a Clematis Jackmani as a standard in herbaceous border, and wished my gardener to cut it down to within 6 inches of the ground in November. He also lately refused, saying as it was its first year he would leave it until the spring. Was he right, as I always notice instructions concerning this particular Clematis that it should be cut down in autumn? Mine bloomed well last summer. What is the treatment for a Clematis Flammea, and for a white *Jessamine* planted against south wall last spring and doing well?—T. M. D. II.

[It is doubtful whether the instructions to cut this variety down in autumn are always correct. The plant does not start into growth until early spring, and so long as the pruning is done by the end of February all will be well, so far as the plants are concerned. Flowering as it does on the younger or summer growth, pruning is a sort of necessity, or, at any rate, an assistance to larger flowers. As your plant is a "standard," we should have thought pruning back the head portion to be sufficient, but it will depend upon the plant and other items. In the case of a severe spell of frost, a "young plant" would be safer, we think, unpruned till severe weather was past. Clematis Flammea should be allowed frost-free, only removing the small wood. Hard pruning would for a year or so check its flowering, as the blooms issue from axillary buds of the past season's wood or growth. The white *Jessamine*, by which we imagine you refer to *I. officinale album*, requires very similar treatment to the last, removing plenty of the small wood and encouraging the most worthy rods or growth. This plant is better for some training, so that the sun may reach the shoots in due season. As the plant is doing well it will not be prudent to interfere with the practice that has been up to the present time adopted.]

Plants for shady border (*Pidget*).—There are many things that with advantage may be planted in such a border, which we presume you intend having thoroughly well dug up and manured prior to planting. You do not give its length or the class or depth of soil, items that have a value of their own in such a case. The following plants will, however, grow quite well under ordinary circumstances. Any of the Hepaticas, such as dwarf *Phloxes* as *ambrosia*, *verna*, *ovata*, *divaricata*, *Nelsoni*, and *atropurpurea*, *Campanula carpatia* and *turbinata*, *C. pumila* var., *C. Hendersoni*, *C. rotundifolia alba*, *C. glomerata dahurica*, any of the Peck-leaved *Campanulas*, also *C. Van Houttei*. Christmas and Lenten *Roses*, *Senecio Doronicum*, *Primula cortusoides* in variety, *P. rosea*, *P. denticulata*, *P. caschmeriana*, are all excellent. *Rudbeckia Newmanii*, *R. purpurea*, Day Lilies in variety, single and double *Pyrethrums*, *Gaillardias*, *Garman* or *Flag* Irises that would make a fine show alone, and such other *Iris* as *I. orientalis*, *I. missouriensis*, together with *I. Kämpferi* in variety, would do finely. Such early *Asters* as *Amellus* and the variety *bestrabicus*, *acris*, *lavigatus*, and a few select forms of *Michaelmas Daisy*s, particularly *Novae-Aegliae* var., and such as *densus*, *turbinellus*, and the lovely varieties of *cordifolius*. You may also find room for herbaceous *Phloxes*, for the constant shade would stand these in good stead, and a dozen choice or showy sorts would be welcome in their day of flowering. *Anemone japonica*, *A. j. alba*, *A. j. elegans*, would be all good, and not less so such *Spheeris* as *venusta*,

Arunene, palmate, and filipendula plena. *Monarda didyma* and *Stenactis speciosa* are very free and free flowering.

Early Sweet Peas.—Any scheme that will bring into bloom two or three weeks earlier than one is accustomed to obtain Sweet Peas should be adopted—if only on a small scale—wherever possible, and therefore the sowing of these beautiful annuals in the greenhouse now, and planting them out in May, after they have been duly hardened, is recommended. If neither greenhouse nor frame is at one's disposal, then a warm border, such as a south one with a wall at the back, is a useful place to get early bloom, and many are the bunches that may be gathered before the general flowers are ready. It is a good plan to sow the seeds thinly in pots, each variety separately, so that at planting out one may select the colours accordingly. In the meantime the ground

of soil, on this piece the turves (touching each other) in long lines; down the centre of each turf make a small channel about $\frac{1}{2}$ inch deep; in this sow the Peas and cover all with 1 inch or 2 inches of soil. We put oars in in February or early March, and they are planted out in shallow trenches prepared for them (when danger of frost is over), the earth drawn up well round them. The roots run into the turf, and all can be lifted together, with scarcely any check to the little plants.—L. T. F.

A SUMMER-HOUSE.

As no garden appears to be complete without a summer-house, and also a flagstaff, an endeavour has been made to combine the two, as shown in this illustration. This was put up last spring, and *Clematis*, *Henryi* and *Gladstone* planted to cover the posts, but, alas, the shoots were eaten

does this apply to the large forms of *robustus*, as *nobilis*, *Elwesianus*, a strong root of these being often 3 feet in diameter, like a hedge-stake. Lastly, carefully stake the spikes as they advance, and the wonderful display of flowers will amply reward anyone for his pains. The green-flowered species should be avoided—namely, *caucasicus* and *spectabilis*—as there is nothing beautiful about them. As showing the tenacity of life of the *Eremurus*, once a plant was sent me the crown and roots of which had been cut by a spade right through the centre. By placing the two pieces together, tying and carefully planting, a good firm root was taken out the next year.—M. P.

VEGETABLES.

* * CUCUMBER GROWING.

ANYONE who has a house, and can command 65 degs. to 70 degs. of heat at night, with a correspondingly higher temperature in the daytime, may start Cucumber growing at any time.

RAISING THE PLANTS FROM SEED.—Procure as many $\frac{3}{4}$ -inch pots as may be necessary, and sow one seed in each pot, and cover with about $\frac{1}{2}$ -inch of finely-sifted soil. The best soil to use is a sweet and light fibrous loam. Before sowing the seeds see that the soil is thoroughly warmed through by placing it in the house for a few hours. After sowing, put the pots in a propagating-frame, if there be one, if not, on a board over the hot-water-pipes. It is no use laying down any hard-and-fast rule as to what to do in this respect, because we all have to work according to our conveniences. See that the soil does not get too dry, and cover each pot with a piece of glass till the plants appear. As soon as the plants are well above the soil, give them all the light possible. Grew them on with plenty of heat and moisture till they have filled the pots with roots, and then they may be planted, or, if it is not convenient, they can be moved into 5-inch or 6-inch pots, and then planted out when they have filled those with roots.

PLANTING OUT.—Growers of Cucumbers who only require a few plants will find it much cheaper to buy them ready for planting. All have not Cucumber-houses specially built, so we have to put up with what we have in that respect. Suppose one has a span-roofed house, with a path in the centre, and, of course, the borders on each side, the first thing to do is to put 6 inches or 8 inches (or more, if it can be had) of good stable-manure, well beaten down, and then cover it over with about 2 inches of ordinary soil to arrest any ammonia fumes that may arise from the manure. Do this as quickly as possible after the manure has been put in. This manure will act as a hot-bed, and also drainage. The next thing to do is to get the soil for planting in, and the best for this purpose is a good sweet loam, not too heavy. If there is plenty of plants they may be put in 3 feet apart (at a greater distance apart if plants are scarce) along each side of the house. Put the soil in small mounds—an ordinary bucket full will be ample, to commence with—for one plant, and when it is thoroughly warmed through knock the plants out of the pots and plant without delay.

TRAINING THE PLANTS.—If there be some distance between the plants and the first training wire, put a neat stake to each plant and tie it to the wire. If Cucumbers are wanted quickly the plants may be stopped when they have passed the first wire, and the lateral growths will soon throw out plenty of Cucumbers, but if the plants are intended to bear for the greater part of the summer, the better plan will be to let them grow a considerable distance up the roof before stopping; this will add considerably to the strength of the plants. Pinch all the side-growths out between the base and the wire. All fruiting shoots ought to be pinched at one or two leaves beyond the fruit. Never let long shoots grow unstoppped, for they will be found to show fruit at the first two or three joints from the main stem, and in many cases none further, and therefore if allowed to grow on, a great deal of waste wood will be the result. This training is a very important item in Cucumber growing—it is Cucumbers that are wanted, and not leaves alone. Grow on as



A summer-house in a Surrey garden. From a photograph sent by Mr. W. Berrell, Sutton, Surrey.

should be prepared for an after sowing by well trenching it and digging in some manure, partly decayed. Not a few failures I have seen by manure being applied in too new a state in growing Sweet Peas, but, got on the ground now, any ill effects in this direction are obviated. Purchasers of seed for the first time will do well to obtain separate packets, and not "mixtures," as by sowing each variety separately one can gather the flowers of a particular colour quicker and easier, besides being more effective in the rows. That, however, is a point upon which a difference of opinion exists, but for a long show of bloom get some seed in st. onca.—LEAHURST.

—We are pestered with elegs. My gardener therefore grows our Sweet Peas as follows: Get strips of turf about 18 inches to 2 feet long, 4 inches wide, 2 inches to 2½ inches deep. Make a slight hotbed in frame, say about 5 feet by 4 feet. On the hotbed put 4 inches or 5 inches

off as quickly as they appeared. *Tropaeolum Fireball* was planted in its place, and soon grew and flourished profusely—this appears very suitable for such a purpose, as it leaves the woodwork clean in the winter. The position of the summer-house is in the S.W. angle of the garden, and affords a grateful shade during the heat of the day. W. BERRELL. Sutton, Surrey.

Growing Eremurus.—Transplant every year into good fresh soil. The plants may remain out of the ground, which does them good if covered over with half-dry Cocoa-nut fibre, but they should never be out of the soil after the middle of August. Choose a position free from draughts, and do not let the flower-spikes get frozen when rising from the centre in April and May. Never plant anything or dilute the ground for at least 3 feet on either side of a good root of *Eremurus*. Especially

quickly as possible with plenty of heat and moisture and very little air, and when the roots are seen on the outside of the soil add a top-dressing of 1 inch to 2 inches of rich soil, and continue to do this as the roots work through. When the plants are bearing heavily give them plenty of cow-mannure water and soot-water alternately. Syringe well twice daily.

The best and most suitable variety that I have found, and one which I have grown for the last four or five years, is a true strain of the "Rooford." The fruit is of medium size, good colour, and keeps fresh longer after being out than any I know, which makes it doubly good as a market variety. G BROCKLEHURST.

London House Nursery, Ruthin, N. Wales.

TOMATOES.

BEFORE these notes appear, growers of Tomatoes for market will have their plants well in hand, and, where one has almost unlimited heat and room, no one can question the advisability of an early start. Tomato growers, however, who have houses full of bedding and other plants are differently situated, and for those who cannot conveniently remove them before April or May to frames the present month is early enough to sow seed—in fact, I have had capital crops in July from seed sown in March. Any light, well-drained soil may be used to fill the pans, which should be kept as near to the heat and light as it is practicable, potting the plants off separately as soon as they attain a convenient size into good half-rotted turf and leaf-mould, shifting them again as soon as needed, until their last potting, which may be into any sized pot from 7 inches to 10 inches. The last-named size allows for filling up with manure and more soil as the plants require it in August, but for general use I have always found 8-inch pots large enough. At the last potting, three parts filling the pots with soil is recommended, as it is much better to add a little soil and stimulants as the roots require it than to fill up to the brim at the start; moreover, water and liquid-manure are more easily applied.

From a long experience, I am decidedly of opinion that many err in giving the plants too much root room at the start, swamping the roots, so to speak. I have had excellent crops from plants that were placed at the commencement in not more than 5 inches of soil, but were fed and mulched freely as soon as the first trusses of fruit had set. The system of training which I believe generally finds the most favour, and the one I have adopted, is the long rod, which admits of a sufficiency of light in the houses to other plants that may be growing, a state of things one cannot always report when most of the lateral growths are encouraged. The practice which is sometimes followed by growers who are over-anxious for the early ripening of fruit of outling away foliage in order that the sunlight may better reach the fruit, is one which I am convinced cannot be too often deprecated. Early ripening forsooth! I have seen rows of fine promising plants, with most of their leaves out away near bunches of fruit, when about the size of marbles—fruit that never afterwards made any size, and were certainly no earlier than plants let alone. Side shoots, which grow with surprising rapidity if left, should be removed every week, and the whole energy of the plant concentrated in the main stem, from which trusses of fruit proceed. In watering Tomatoes in the summer when fruit is setting, one should avoid giving cold water—lukewarm water and stimulants should always be applied if one desires the fruit to swell up quickly. Outdoor success in Tomato growing must to a large extent depend upon the season, but where one has a warm wall there one may reasonably anticipate a crop. The best and strongest plants should, however, always be selected in preference to any that show signs of weakness, and this point cannot be emphasised too much. Frequently the plants that are left in the seed-pans are those which are considered good enough for outside growing, but the season is often half over before any signs of fruit are visible. Locality, too, is all important. In the south and west of England much success often follows outside planting, but in the north it is still regarded in the light of an experiment, and this must be taken into consideration in planting. Often it is asked when outside planting must be done

It is a question easier asked than answered, as in the south one may plant several weeks earlier than the grower in the midlands and the north. Not before May, and only then when the weather is such as to admit of plants being transferred to the open; a week or two longer in the house or frame is often the best, but one is bound to observe local traditions. I have said nothing about varieties, as of late years numerous excellent sorts have been sent out, but I have still a good opinion respecting Sutton's Earliest of All, Early Ruby, and Trephry. The first named produces an excellent crop in an average season on outdoor wells.

WOODBASTWICK.

SOWING PEAS.

WITH the advent of March, we may safely sow Peas of the Marrowfat section in quantity without any fear of defective germination, provided the seed is good. To keep up a constant succession sowings every fortnight or three weeks will be necessary, and a good rule to follow when ground is plentiful is to sow occasional rows when those previously sown have come through the soil. All may not, however, be able to spare ground enough for such frequent sowings, and those who are limited in this respect may get a good succession by sowing thinly on well-prepared ground at intervals of three weeks, provided a good selection of varieties has been made. Much has been written during the past few years on the value of this sowing, but the lesson has not yet been well learned by all growers, and there is still a tendency to forget or overlook the fact that the Pea is a naturally branching plant, and the method which obtains of thick sowing is a foolish one, for the plants choke each other from the start, and the crop is very steepling. There is no necessity, however, to rush to the other extreme, and the heaviest crops are produced from seed sown in deep flat drills broad enough to hold three rows of seed placed diagonally at from 2 inches to 3 inches apart, varying the distance slightly according to the natural vigor of the variety that is being sown. On light soil flat deep drills are a necessity almost throughout the season, and these should be thrown out with a spade to some 5 inches below the surrounding level, returning 3 inches of the soil thrown out of the drill after the seed is sown. The old V-shaped drill drawn with the end of a hoe is the worst possible form, for in such a drill the seed rolls in a mess to the bottom, and it is the Peas sown in this way which die off at the bottom in dry weather just before podding. Where the rational method of thin sowing is carried out, every precaution must be taken not to sow bad seed, and time spent in looking over the seed before sowing and throwing aside any that is defective is well spent. There are many good varieties of Peas suitable for present sowing, and each grower will have his special favourites. For good all round quality Dr. Maclean, though an old variety, will still be found hard to beat. Criterion is also specially good, while Gradus will probably be found one of the finest selections ever sent out, and those who are looking for the highest possible quality in a second early Pea can make no mistake in getting this fine variety.

TURNIP-ROOTED CELERY (CELERIAC).

ONE very useful vegetable for the season, when a large variety is needed and not always obtained, is Celeriac; yet how little it appears to be known or grown. I think if those who have to supply a household with as much variety as possible all the year round were once to try this they would soon realize its value, coming into use as it does in the winter months, when a change is needed from the general run of roots and green stuff. Celeriac is a distinct dish from the ordinary Celery when used as a vegetable, or it can be used as a salad, besides the culture is no more difficult than that of Celery. A very good plan is to sow the seeds in a pan and place in a gentle heat early in March, as this vegetable requires a long season of growth. As soon as ready the seedlings can be transplanted 2 inches apart into boxes of sandy soil. Before the plants get too crowded in the boxes, plant them out 6 inches apart into a bed of fine soil out-of-doors in a sheltered place, where a little protection can be given when required. In June select a piece of light rich soil that has

been cultivated, and put the plants out on to this on the level in rows 2 feet apart and 18 inches apart in the rows, selecting those plants with only one crown if possible. Those with side shoots, if used, must have these taken off. From this point the plants will require plenty of water and keeping free from weeds. As soon as the plants get thoroughly established the soil should be removed from round the sides of the plants, the damaged leaves removed from the bottom of the plants, and all side roots must be kept cut away, leaving those that go down straight or nearly so. This seems very important, and the roots do not appear to grow naturally to the desired shape without it, and which, I believe, accounts for this vegetable not being cultivated as much as it should be. In August draw a little firm soil around each plant, bearing in mind to give plenty of water in dry weather. In October lift a few of the roots and store in sand, leaving a few leaves in the centre of the plant, or the roots will soon become worthless. The remainder of the crop can be left in the ground and covered with surrounding soil for use later on. E. W. C.

NOTES AND REPLIES.

Pea Harbinger.—In the issue of GARDENING ILLUSTRATED of Feb. 15 a correspondent recommends the Pea Harbinger, which had an award of merit from the Royal Horticultural Society last year, at the same time saying there is another Pea of the same name. Would he kindly let me know where the first is to be had, and oblige?—SIRIVA DORAS.

[Messrs. Sutton and Sons, of Reading, are the introducers of the Pea bearing above name, which received an award of merit at Chiswick on June 20 of last year. It is said to be a great improvement on American Wonder, and, as our correspondent stated in our issue of February 15, the variety only grows to about 9 inches in height. The previous variety bearing this name was raised by Mr. Laxton, and received a first-class certificate from the Royal Horticultural Society in 1872, but it is now very rarely met with.]

Sowing vegetable seeds (A Beginner).—The Dwarf Erfurt Cauliflower, if it be of the Snowball type, should be ready for cutting early in June. But to have it so the plants should be on a warm border. You do not tell us whether you live south or north. Walcheren Cauliflower is seldom good. Early London is better for succession. That, the Autumn Giant, and Self-protecting should be sown middle of March in a warm place outdoors, and well protected from birds; or else in shallow pans or boxes stood in a frame. Autumn Giant should be ready for cutting early in September, and the Self-protecting will follow it. To have very early Leeks, sow seed at once in a shallow pan or else in two or three pots. Such plants would be fully a month or more earlier than those raised outdoors. If you make up a little dung hot-bed for a frame, allow the first heat to be over before you place the seed-pan into it. Keep the pan near the glass, and give air at the back when growth begins.

Crimson Globe Onion.—Though not so large as Cranston's Excelsior, bulb of the dark red variety being about 1 lb. each, yet this is a very fine Onion for late use, as it keeps an admirably. I had a few bulbs of this capital variety sent me during the winter, and I find them still to be hard as nails. These were grown on deeply-trenched and well-manned soil, having been, as is now common practice with our leading Onion growers, raised from a sowing of seed made under glass in midwinter, the plants later being dibbled out into the open ground. I crossed Ailes Craig with the large Crimson Globe a few years since, and obtained as the product a handsome rose-coloured sample which I named Surrey Rose. Crimson Globe is a great advance on the old Blood Red Onion.—A. D.

Cabbage Defiance.—There are several diverse Cabbages of this name in commerce, so, unfortunately, seedsmen will so freely give to each of their varieties or stocks names differing from what other traders call them. For that reason it is possible to buy six Cabbages from diverse seedsmen under various names, yet find eventually they are all the same. The partitioner Defiance Cabbage I refer to is Cannell's. I grew it last year for the first time, and not only found it to be remarkably true, but of such a perfect medium-sized form

that it got the highest praise from all who saw it. These plants were autumn-sown, but planted out in the spring. It makes an equally superb variety for sowing in March or April for autumn cutting. It also sprouts remarkably freely in the following winter, when it gives a wealth of small heads.—A. D.

Parsnips.—These may now be sown at any time when the ground is fit, though there is no immediate cause for hurry in the matter, and it is far better to wait a few days, or even weeks longer, than to sow on ground in bad order. My practice is to grow Parsnips on ground lately occupied with Celery, adding no manure, and digging to the full depth of a good spade and breaking down all lumps of soil in the process. On very heavy soil it sometimes happens that the necessary degree of looseness requisite for the production of good and shapely roots cannot easily be obtained, and in such a case a good plan to follow is that adopted by those who grow for show—viz. to dibble holes at set intervals, which may be filled with fine soil into which the roots must go straight. This of course increases labour, and is only advised by me for extreme cases, but if done, the soil for filling the holes should not be too light, and it

texture. It is quite equal to that of the best of the tapering-rooted varieties. Seeing that fine bulbs from an early sowing on a warm border can be had so early as the middle to the end of July, it is a great gain to all who like Beets to be able to secure a stock in this easy way. Sow seed in drills 12 inches apart early in April. Give good ground, and thin the plants out early to 6 inches apart. Growth then is rapid, and bulbs form very quickly.—A. D.

Value of lime—Lime, when given in small quantities and at proper intervals, proves of great assistance to most crops. If more lime were used and less manure for a few seasons the purifying properties would soon be realised, and ground that has practically become manure-sick would be brought again into a sweet, fertile condition. Many are shy in using gas-lime, but they have yet to learn the value of this when carefully applied. To guard against any accident resulting from its use, ground should be dressed with it several weeks before plants or seeds are put in, and if left exposed for some time previous to digging it in much of its strength will be exhausted. Several patches were treated in this way a month ago and the lime is still on the surface; but it will be dug in

TREES AND SHRUBS.

THE BLADDER NUT (STAPHYLEA COLCHICA) FOR FORCING.

This is one of the best of shrubs for sorry forcing, being equally free flowering as *Dentzia gracilis*. It comes into bloom early without much fire-heat, and has the advantage of having very ornamental foliage of a bright glossy green. The flowers, which are pearly white, are borne in clusters, and the plant blooms freely when small. It may be had in fine condition in 5-inch pots, the flowers being useful for vases or other decorations indoors, or for making up into bouquets. It makes a good companion for the *Dentzia*, *Prunus*, *Lilac*, and other shrubs that are forced early into bloom, and it will flourish under similar treatment. The main point to aim at is well ripened wood, and the only way is to encourage early growth, which must be ripened off without any covers check. After flowering it should be removed to congenial growing quarters to perfect its growth, and be gradually inured to more air as the sun increases in strength, until it can be plunged in the open air in some sunny position where it can fully perfect its growth, when it will flower abundantly for years, even in small pots, if well supplied with liquid-manure. In the open air it flowers early in the summer, being quite hardy and preferring partial shade. T.

The Pearl-bush (*Exochorda grandiflora*)—This is one of the most lovely of spring-flowering shrubs. It is allied to the *Spiraeas*, in its synonymous with *S. grandiflora*. It is grown on walls, but it may be grown as a bush in the more sheltered parts of the garden, ordinary soil sufficing. It is a native of North China, the large, pure white flowers being produced a few together in racemes, the tender green unfolding leaves making a charming contrast. A good bush of it is a pleasing picture, growing several feet in height and of dense habit.

The Snowdrop-tree (*Halecia tetraptera*).—One of the most beautiful of flowering trees in its season is *Halecia tetraptera*. Introduced so long ago as 1756, it is still by no means so extensively grown as its beauty warrants. It is perfectly hardy, and, given a rich, open soil, and abundant moisture, makes a charming display in April. I have a tree, every year crowded with flowers, which is 15 feet high and more in breadth. The popular name of Snowdrop-tree is a particularly appropriate one, for the pure white pendent flowers, which thickly stud the old wood, have a close resemblance both in shape and pose to those of our native Snowdrop. They are borne in clusters of three or four on short stalks. The specific name refers to the four-winged fruits. The tree is deciduous, the leaves just pushing after the flowers have expanded. The species is a native of South Carolina, etc., and likes more especially the banks of streams and other moist situations.—F.

DR. CHARLES STUART.

We regret to have to announce the death of Dr. Stuart, who has done so much for our gardens in giving us many of the beautiful forms of rayless Tufted Pansies that we now have. One of his favourite flowers for hybridising was the Pansy, which since 1854 he has been trying to improve. In 1874 he crossed the old *Viola cornuta* with the Pansy, and thus raised many beautiful forms, a dark blue one named Georgia being one of the best at that time. We grew six of these seedlings in the R.H.S. Gardens, Chiswick, where a trial of *Viola* was then being made, and to each of the six a first-class certificate was awarded. Dr. Stuart set to work to raise rayless kinds, and the result was the beautiful *Violetta*, the first of the series of rayless Tufted Pansies. Characteristics of these rayless forms are their sweet scent and perennial habit. Since that



The Bladder Nut (*Staphylea colchica*) as forced. From a photograph by G. A. Champion.

should be made fairly firm before the seed is sown, or it will settle too much later on; if of too light a nature the young plants will suffer in dry weather. Only a few seeds should be sown at each station, and the plants must be thinned to one as early as possible. For general purposes and ordinary soils Parsnips may be sown thinly in drills about 14 inches apart, thinning the young plants to 10 inches apart in the rows, and this will give ample room for the development of roots of a useful size. If big roots are wanted more room must be given, but these are wasteful and their growth should not be encouraged. I prefer the hollow-crowned Parsnip (of which there are excellent selections in the market) to any other, though the Maltese is also a variety of excellent quality.—T.

Crimson Globe Beet.—Those who like Turnip or round-rooted Beets, and all who have gardens should grow some, and will find in a good stock of the variety known as Crimson Globe, a sample a long way superior to that of the old Egyptian Turnip-rooted, as originally introduced. The improved variety tells in its own way of the great advances that have been made through constant selection, and how much we owe to seedsmen for their great care in seeking to obtain the very best. This Crimson Globe Beet has flesh of the darkest and of refined

et the first opportunity, and as the ground will not be required until well into March there is little fear of any harm resulting to the next crop, which will be Onions. Two small cart-loads were spread over a piece of ground which measures 20 yards by 40 yards.

Brussels Sprouts.—Much is written yearly about the various types of this much-esteemed vegetable. It is questionable, however, if there are more than two types. All appear to belong to one or the other. The extra large-buttressed sorts may suit the market man, because they fill the bushel more quickly. For home use the small firm sprouts obtained from plants raised from imported seed are preferable. All must admit that for flavour and tenderness the small sprouts are much the better. The greatest mistake people make in growing Brussels Sprouts of any kind is sowing the seed too late. The first week in March is late enough for even the latest batch. The middle of February is chosen for the earlier batch. Well dug land in an open position and allowing the plants plenty of space to develop their leaves strongly are the secrets of success. An early and matured growth is absolutely necessary to obtain a full crop of close firm buttons. It is not to be expected good results if the sprouts are not formed before the end of September.

time he has raised many other charming forms. To him we also owe the beautiful *Aquilegia Stuarti*, the result of a cross between *A. Witmani* and *A. glandulosa*. He also devoted some attention to the Globe Flowers, crossing the European and the American sorts with encouraging results.

GARDEN WORK.

Conservatory.—All plants require sufficient pruning to put them into proper shape. This is generally done after flowering in the case of hard-wooded plants. Soft-wooded things are pinched during growth to obtain the necessary balance of the various parts to secure perfect specimens. *Fuchsias* are pruned at this season or earlier to improve the shape, and the strong shoots are pinched when they break away and get in advance of the general growth. This work should be done in a conservative spirit. A well-grown *Fuchsia* is a beautiful object in the conservatory, either in a pot or planted out in the border. In a large house *Fuchsias* may be planted out, and by a little pinching made to assume a pyramidal outline, 10 feet or more in height. The best compost for *Fuchsias* is equal parts of good loam and leaf-mould, or old manure made sufficiently porous with sand and charcoal dust. The charcoal gives brightness to the flowers and deepens the green of the foliage, at the same time hardening the growth. If *Luoulia grisea* is grown as a bush in the border it should be pruned rather hard back after flowering. *Thrips* are partial to the foliage, and if there are any in the house some will be found on this plant and should be destroyed, either by vapouring or sponging. The repotting of greenhouse plants, especially those which flower in winter, generally takes place now or during next month. *Pelargoniums* are, in some early varieties, in forward bud. We generally have some in blossom by Easter. The aim of most gardeners is to get things early, and there is usually a brisk demand for flowers, especially white flowers, at Easter. The most useful plants to grow for that season are *Arum Lilies*, *Trumpet Lilies*—especially *longiflorum*, which is more reliable than *Harrisii*. *Dentzia gracilis* and *D. Lemoinei* are very useful; the latter named makes a neat bush somewhat larger in all its parts than *gracilis* and flowers freely. Both may easily be propagated by cuttings of the young shoots in the hot-bed. When well hardened off, plant out for a couple of years to get strong. White *Azaleas* and white *Rhododendrons* are indispensable at Easter. Other indispensable flowers are white *Tulips*, *Lily of the Valley*, and *Pheasant-eye Narcissus*, positions ornate. The double-flowered variety will not force. All plants which require support should have stakes given early, so that they may be more naturally placed—i. e., the plant and the stakes have grown to each other, and not look so stiff as when placed late.

Stove.—All fine-foliaged plants, especially those which grow best in very fibrous materials, should be repotted now or shortly. Unless very carefully drained there is a tendency to blocking in the drainage, and all plants are the better for being overhauled and put right for the season. The fibre, too, in the soil decays and closes up the pores of the soil, and when this state of things is noticed it is time to repot even if the pots are large enough for the plants. *Euphorbia splendens* is a curious though not a handsome plant generally, but when in bloom it is very interesting, and the flowers are useful for working up, especially for ladies' sprays and coat flowers. To make the plant flower freely the growth must be well-ripened by cooling down and exposure in summer. Then, when brought back to the stove the flowers burst out all over the spiny branches. *Plumbago rosea* is a rather interesting plant when in flower in winter. *Pentas* roses and its white variety are even more valuable for cutting. *Gloxinias* are easily raised from seeds sown now in light sandy soil and covered with a square of glass. The majority sow these fine seeds too thickly, and they are weakened in a small state before they are large enough to do anything with. When they are too much crowded it is better to move them in small patches to other pans, and separate them later when they are larger. Never throw away the small plants, they may

have the best flowers. Night temperature now 65 degs. to 68 degs. Ventilate a little when 80 degs. is reached.

Rose-house.—This house will be most interesting now. The growth alone of the *Teas* and *Noisettes* in its freshness is attractive. If *Roses* are planted in beds and borders under glass it is important the beds be well drained and the soil be of the best loam and some old manure, but the two should be so blended that the manure does not predominate anywhere. Manure is necessary, hot if too near the roots in any quantity its effect is not good. For *Roses* in pots, or in the borders under glass the manure and loam should be mixed thoroughly some time before using. When the roots are well-nourished and comfortable mildew is less pronounced and insects give less trouble. *Roses* like fresh air, but it must not come with a rush to create cold currents. The syringe also must be used, but the water should be soft and pure, and of the temperature of the house.

Ventilating fruit-houses.—The time is at hand when the man in charge of fruit forcing-houses must increase his activity and observation. It will not do to put on a lot of air to over time in looking round again. Short cuts will not do. The outside conditions of the weather must be closely studied, both as regards fires at night and ventilation during the day. Air should be put on in small quantities to meet the rising thermometer. It is bad to permit a house of *Grapes* or *Peaches* to get very hot and then let in a rush of cold air to reduce the temperature. Meet it as it rises and then the young growth will not suffer from the fluctuations. Close early enough in afternoon for temperature to rise to 85 degs. at 90 degs. with a stratified atmosphere—that is the time to do a little extra forcing, when the sun will do the work without the drying influence of the fire. Fires should be managed with care and judgment. A good stoker in a large establishment is a treasure, and is worth good wages, for the saving in fuel will be considerable, and the damage done by overheated pipes reduced. Red spider in a viney or Peach-house is often caused by careless firing. Always keep a close watch upon the dampers in the chimney.

Window gardening.—Cuttings of *Campulus* for hanging baskets will strike now, or old plants may be divided, and should be potted in a mixture of loam, leaf-mould, and sand. *Meeubryanthemums* are pretty plants in a sunny window. They associate well with *Cactuses*, and will do well with the same treatment, neither involving much trouble in winter beyond keeping dry and safe from frost.

Outdoor garden.—February is an excellent month for transplanting all kinds of hardy flowers. Trees and shrubs also can be moved with safety when the weather is open and the soil in good condition. Land that was trenched up in autumn and exposed to the weather will now be in good condition for planting. There are a few hardy flowers which seem to resent disturbance. Among these are *Madonna Lilies*, *Alstromerias*, and *Paeonies*, but these form the exception to the general rule. Many things may be left on the same spot till they quite change their character. This is especially true of *Phloxes* and *Pyrethrums* which should be transplanted and divided often if fine flowers are wanted. One wants to be always working among one's flowers to be able to treat them in the best manner. We generally leave a part of our *Carnations* on the ground two years, because the old plants throw so many flowers which are good enough for cutting. But for really good blooms young plants are best. The late frosts must have lifted little plants partially out of the ground, especially where recently planted. This will be the case with *Violas* and *Pansies*, and in the drying winds such plants soon perish if not seen to and pressed into the earth again carefully. A few seeds of the hardiest annuals may be sown now for early bloom. The *Virginian Stocks* are very bright and will grow anywhere, even in the hard gravel path. Put in cuttings of *Delias*.

Fruit garden.—Those who have any grafting to do should secure scions of the right kinds and lay them in a shady position where the earth is damp. It is of no use trying to put new heads on old, worn-out trees, but where there are vigour and health in connection with

an inferior kind, regrafting will be the right course to follow. Most of us are growing far too many kinds of *Apples* and *Pears*, especially of *Autumn Pears*, which come in about the same time, but more attention might be given to very late kinds. One of the best *Christmas Pears* is undoubtedly *Glen Moresan*, but it wants to be planted in good well-drained land, or if the subsoil is not good, plant on stations and keep the roots out of the bad stuff—in fact, the same course should be adopted with all late *Pears*. *Winter Nalis* and *Bergamote d'Espereen*, though small, are good and reliable, and both do well on the Quince. The mistake often made with trees on the Quince and other dwarfing stocks is in not giving sufficient nourishment. The Quince loves moisture and must be well supported, and there must be no digging about the roots. There is no better late *Plum* than *Coe's Golden Drop* for dessert, and it generally bears well in all forms, though it is worthy of a wall. Still we have had some wonderful crops on pyramids and standards in the open. *Nuts* and *Filberts* should be pruned now.

Vegetable garden.—As soon as the frost is out of the soil and the surface has become dry and mellow, seed sowing and planting may begin. Of the former, *Paranips* and *Onions* should be got in without delay. Plenty of *Peas* and *Beans* should be planted to meet all demands likely to arise, and there is never any glut of *Peas* early in the season. Early *Peas* sown now will not be much behind those started under glass, which, if well hardened, may be planted out, ridges of soil being drawn near them, and the sticks placed thereto at the same time will afford shelter. The early borders will now be under crop with such things as the following:—*Potatoes*, *Peas*, *Logpod Beans*, *Horn Carrots*, *Radishes*, *Lettuces*, and a few early *Cabbages* for the first crop. The last-named will probably be a small early kind, and may be planted much thicker than is usual with main crops. We generally plant *Ellis's Early* as one of our first earlies about 10 inches apart, and as soon as they begin to grow freely a string of *Raffia* is passed round them drawing the leaves up loosely to hasten the hearting. When the hearts have formed they are cut and the stems pulled up, and the ground prepared for dwarf *French Beans*, or some other crop. Plant *Seakale* cuttings and sow *Asparagus*. Sow *Mustard* and *Cress* indoors at present. E. HOBDAV.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

March 10th.—Re-arranged Herh-beds, dividing the herbaceous kinds, and put in cuttings of *Sage*, *Lavender*, *Rosemary*, etc. Removed exhausted green crops, manured and treched land. Took up more *Rhubarb* and *Seakale* for forcing. This is the last we shall move. Later supplies are coming forward in the ground. Divided and replanted a lot of *Rhubarb* to increase stock. Swept and rolled lawns.

March 11th.—Repaired Box edgings. Turned over gravel walks and added a little fresh gravel where necessary, and rolled down firmly. Some little extra work has been done in the shrubberies in reducing the sizes and otherwise improving the contour of some common things. Planted *Anemones* and *Ranunculuses*. All bulbs for conservatory after flowering are hardened off in cold-pit and then planted out.

March 12th.—Potted the last batch of *Lilium longiflorum*, and *auratum* will come on cool. The earliest *Lilium longiflorum* is now in bud, and is wanted at Easter. *Spiraeas* of the herbaceous kinds are better than usual with us this year, and are flowering well. One of the best single *Narcissis* for forcing is *Horsfieldi*, and the price is not excessive. Put in more *Lobel* cuttings in boxes to save space. *Azaleas* are abundantly in bloom now. Large *Lilac*-bushes also are charming.

March 13th.—Moved the early-stocked *Chrysanthemums* to cold pit; will be grown cool and freely ventilated. We are still putting in a few cuttings of certain kinds, and shall do so from time to time. Our best cuttings have been obtained from plants which were planted out specially for cuttings, and not permitted to flower. Pruned a lot of *China Roses*. We want more stock, and most of the cuttings have

been planted firmly in a shady border. We want more of these for grouping.

March 14th.—Carrotion borders and beds have had a sprinkling of soot and a turn over with the fork, and the plants will be set out at the first favourable opportunity. Sowed Spinach, Chervil, and more Lettuces. Tied up Lettuces in frames following Asparagus. Some of the best and heaviest Lettuces we ever had were grown on a mild hot-bed after Asparagus. Placed sticks to early Peas.

March 15th.—Replanted Globe Artichokes that were potted up in the autumn. The plants will be sheltered for a time till established. Potted off Tomatoes intended for outside planting. Put in more cuttings of Tree-Carnations in a small hot bed frame. Planted more Potatoes of several kinds. The sap is rising freely now, and we are doing a little grafting, more especially Apples. Pricked off tender seedlings of various kinds.

LAW AND CUSTOM.

Overhanging branches of trees.—I am living in a terrace house and my tenants' My neighbour has an Elm-tree in his garden, and the branches overhang my garden, keeping out the sun. The tree was there before my tenancy commenced. Have I a right to cut off those branches overhanging my ground? My neighbour objects to this being done.—J. M.

[You may, if you choose, cut off any portion of the branches that overhang your land. The fact that you are only a tenant of the garden you occupy does not affect the question, but you must, of course, remember that if your garden and your neighbour's garden are held by you and him of a common landlord, and the landlord takes sides with your neighbour or prevents the severing of the branches of the trees, he may possibly give you notice to determine your tenancy. But your legal right to sever such branches is unquestionable.—K. C. T.]

Death of tenant—future of tenancy.—The tenant of my cottage, who was a widow, died just before Christmas, and her son came out to the funeral, and afterwards locked up the place and went away without saying anything about the tenancy. I wrote to him, telling him that his mother's things could remain until February 11th at so much a week for demurrage, but reserving the right of the garden from Christmas for the incoming tenant. I have received no reply from him. Can he hold the cottage until Lady Day, when the year ends? I was to repair the house after the 11th of February. Can I claim the key? The son has partitioned off the kitchen, leaving either one or two doors. Can he take the partition down again?—MARRIE GARDNER.

[You do not describe the nature of the tenancy, although as you say the year ends at Lady Day, it may be presumed it is a yearly tenancy. Whatever its nature may be, it devolved upon the son on the death of his mother, and, in the absence of any express contract to the contrary, he can continue to hold the cottage until his tenancy is determined by a proper notice, but, of course, he will be responsible for the rent in the meantime. This means that neither you nor your incoming tenant have any right to the garden, and that you cannot charge for demurrage, although you are entitled to rent. You cannot demand the key on February 11th, as if the son intends to keep on the tenancy until it is determined, you cannot enter without his consent. If the partition erected can be taken down without injury to the rest of the premises, the son may take it down before quitting.—K. C. T.]

Enclosing waste places at side of road.—I have some tree-hold land, separated from a parish road by a hedge. Between the hedge and the road there are some vacant places, one in particular where my entrance gate formerly stood. Can I straighten my hedge over these vacant places, or, rather, replace the hedge by a wall, as the hedge is overshadowed by trees on my land and so grows badly? If not, to whom do these vacant places belong, and how many feet from the road can the parish claim? The surveyor of the district council has ordered me to lop a large tree that grows on one of these vacant spaces, and only 2 feet or 3 feet from the road.—ELM.

[This "parish road" is evidently a highway, and the highway extends the whole width between the fences, unless a part of it lies on a high bank or in such a position that the public have not and could not acquire the right of passage over that part. With this exception, the whole width between the fences of an enclosed highway forms part of the highway. Apparently the hedge is crooked, but that gives you no right to straighten it by taking in ground over which the public have acquired the right of passage. If you want to straighten the line you must proceed the other way by

cutting back the hedge or wall so that it stands wholly upon your own land. The soil of the vacant places may belong to you, and, in the absence of any evidence to the contrary, the soil of the road up to the middle of the way will belong to you, but you can only see it subject to the right of the public to pass and repass. This reduces your ownership to a point that is almost nominal, but it preserves to you the property in the tree in question and in any minerals under the road.—K. C. T.]

A sub-tenant's notice (Bob)—For seven years you have been the sub-tenant of a Grass field under a farmer, paying rent yearly. In the end of January last you paid him the yearly rent, and he told you he wanted the field and you must give it up at once. You refused to do so, no notice to quit having been given. On February 15th he turned your cattle out of the field. You have manured it, and you ask if you can claim for the manure. He could not legally turn your cattle out of the field, and he committed a trespass in so doing, as you are entitled to keep the field until the expiration of a proper notice to quit. Your remedy is by action for trespass and breach of covenant for quiet enjoyment. A solicitor will quickly get you ample compensation for the trespass, and you can keep on the field also.—K. C. T.

BIRDS.

Death of Bullfinch (Hildport).—The internal organs of this bird were in good, healthy condition, showing that the feeding was not at fault, although it is not usual to give Bullfinches Millet seed. The sample of Rape seed sent is the right kind for these birds, being what is known as summer Rape. Where the large black Rape is used, it is well to scald it to remove its acidity. The immediate cause of death was rupture of the heart, in the region of which was a large clot of blood. Possibly the heat of the room overcame the bird. Bullfinches are very susceptible to a high temperature, which affects them injuriously.—S. S. G.

Canary eating its feathers (T. P.)—Your bird appears to be very late in moulting, but there is, however, a great difference in the way in which Canaries go through their moult, for while some ched their feathers very quickly and without trouble, others have great difficulty in getting their new plumage. It is no unusual thing for a bird to cease singing at the moulting season. It is very difficult to deal with a bird that has got into the bad habit of picking out and eating its feathers, but if your Canary merely nibbles at the feathers that it has already cast in the process of moulting you should provide it with something to peck at, such as a piece of outle-fish-bone, to afford it healthful amusement, avoiding sugar and sweets of all kinds. There should not be any festers at the bottom of the cage at this season of the year; you are probably keeping your bird too warm. A tonic in the drinking water, such as a rusty nail, or a small piece of sulphate of iron, the size of a small Pea, will impart strength to the system and get the moulting over quickly. The diet should consist of Canary seed, German Rape, and Linseed, while a pinch of Maw-seed should be given once a week.—S. S. G.

Tomtits in garden.—Your correspondent, "S. S. G.," is not quite accurate about the Tit family. Five of them build in holes—viz., the Crested, Great, Blue or Tom, Cole, and Marsh Tits. Those who have to do with are the Great, Blue, Cole, and Marsh. The Great and Blue build in holes of trees, boles in walls or buildings, pumps, letter-boxes, or boxes put in trees for them to nest in. Of this latter kind I have several which are occupied every year by Blue Tits. I never knew them nest before the middle or end of April—the same date about as the Great Tit. Both kinds as frequently lay ten or even twelve eggs as seven or eight. The Cole Tits build generally near the ground, in a wall, or mouse-hole, or dead stump, or Sand-Martin's hole, and have generally ten to twelve eggs by the middle or end of April. The Marsh Tit always makes the hole for itself, like the Woodpecker, choosing a rotten railing or pollard Willow; in fact, any tree with wood rotten or soft enough to bore into. The nest, of a very meagre kind, is at the bottom of the hole.

perhaps some 6 inches or so down. The eggs are generally eight; I never found more in a nest. The 1st of May is about the time the Marsh Tit begins to lay.—H. G. TOMLINS, *Burton-on-Trent.*

CORRESPONDENCE.

Questions.—Queries and answers are inserted in *GARDENING* free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of *GARDENING*, 87, Southampt-on-street, Covent Garden, London. Letters on business should be sent to the Postmaster. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as *GARDENING* has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits is, in many cases, so trifling that it is necessary that several specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Cyclamen (Torquay).—The plants have received a severe check at the time of the forming of the buds, by being over dry at the root, probably, or other cause. This cannot now be remedied. Few plants require more constant care and not a little skill to cultivate with success than do Cyclamens. Some weak stimulants as the buds form is very helpful, and any labour is repaid by the fine show of flowers in winter time.

Cuphea ignea (J. J. S.).—This is the name of your plant, so far as can be determined by the wretched fragment sent. It is not possible to be sure of the identity of any plant from so microscopic a bit, which is rendered worse by being packed in dry paper and crushed to nothingness in the post. The plant is a greenhouse shrub of a foot or rather more high, and as easily grown as a Fuchsia. Indeed, you cannot do better than treat it in the same way. The plant is a native of Mexico.

Common Moas (Rovin).—You may obtain what you desire by placing an order with some of the leading seedsmen, though we doubt very much their being able to supply it direct. We think the better plan would be to introduce a quantity of the Moas now in a quite fresh state, and endeavour to establish it by these means. We are not quite clear as to what kind you refer to by "common Moas," as so many varying forms are common enough each to its own most favoured locality.

Treatment of Cyclamens (Town Gardens).—After Cyclamens have done flowering they should be watered as carefully as before, but as the leaves turn yellow the supply must be lessened, till when all the leaves are off they may be stood in a frame, or even in a sheltered spot out-of-doors, giving but very little water. Then, about midsummer, shake clear of the old soil, and repot, using the soil in a frame in order to ward off heavy rains, as they will not couch water to the roots, and the plants will moist. After this, as the leaves develop, more water will, of course, be necessary, but avoid over-watering Cyclamens in any stages of growth.

Raising Saxifraga Borreriana from seed (H. Becham Smith).—By sowing the seeds as soon as ripe in very sandy loam in a well-drained pot or pan. The seeds germinate very indifferently. If you possess plants that will now flower, your best plan will be to try and secure your own seed, as it is hardly purchasable. Cover the seed very thinly, place the seed pot in a saucer of water to keep the soil moist, with only a minimum supply of water above. Cover the pot with a sheet of glass. Careful division of the plants is a more sure and certainly a much quicker way of raising stock.

Planting climbers to arch (M. N. L.).—As your proposed wire arch is to be but 6 inches wide, it is useless to plant two Roses or other climbers on each side, as one would only crowd and starve the other. Nine inches is narrow for anything. In any case plant but one Rose on one side and Clematis Jackman on the other. By far the best place for Jasminum nudiflorum is on a south wall or house side, where in open weather it will bloom all the winter and cover a large space in due course. A good white hardy climbing Rose is Climbing Devonshire, so also is Climbing Niphetos. Roses and other climbers may be purchased in pots, and can be planted at any time up to the end of April. Still, best plant so soon as possible.

Climbing Roses for wires on south aspect (Querrin).—Of the list you submit the four best kinds as permanent would be Gloire de Dijon, Climbing Bella Siebrecht, Climbing Kaiserin Augusta Victoria, and W. A. Richardson. The next four, to be afterwards cut away if necessary, we would recommend Marechal Niel, Climbing Niphetos, Climbing Cramoisie Superieur, and Climbing Malmaison. Climbing Niphetos and Marechal Niel are very tender, and would need careful protection in winter. If you could bring down the growths near to the ground, so as to cover with soil and litter, you should be able to succeed with these kinds, but the four first named would certainly furnish the best good and full south aspect are Cheestnut Hybrid, Gloire de Dijon, Alceas Vibart, Flora, Aglaia, Follie's Parquet, Charles Lawson, Mme. Isaac Perle, Monsieur Desir, and Kaiserin Friedrich.

Planting Gladioli, etc. (Myrrh).—If you plant Gladioli in Britain you should at once they should bloom at the time you name, while the later planting at end of April should also bloom in September. If you plant the gladi-

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VEGETABLES.

SOWING PEAS.

So abundant are good wrinkled Marrow Peas now that no one need sow any of the inferior hard round varieties. But it is seldom that justice is done to these Marrow Peas, as most of them need more room than round herd-seeded Peas do. If these wrinkled Peas are seen after they have been sown for a week or so, it will be found that they have doubled in size, because the moisture of the ground has caused them to swell up large, thus showing that they will produce strong plants needing ample room. Now the customary rule in sowing is to draw drills with a hoe 3 inches deep, and so formed that the base of the drill is quite narrow, thus causing all the Peas to run together quite thickly when sown. That is bad practice. There are two better ways. One is to make the bottom of the drill as broad as is the top with the face of the hoe, thus enabling the Peas to be more widely distributed, or else to draw ordinary formed drills side by side, placing the Peas along each drill, from 2 inches to 3 inches apart, the tallest Peas being those most widely placed. In the single broad row the same distance should be observed. The result is an immense saving of seed, for one half the usual quantity sown more than suffices, the plants are stronger, they branch freely, are remarkably productive, and suffer far less from drought or trips than do plants that stand thick in the rows.

We habitually, for rows of 3-foot Peas that are to crop lying on the ground, make a pint to sow 100 feet length, and if to be staked, 120 feet. Many persons very wrongly sow a pint in 40 feet of drill and are proud of the dense, solid appearance of the rows when the plants are a few inches in height. But when in bloom they find so many flowers go blind that many pods are deformed, and that the pod crop is after all, as compared with the promise of the plants, a very poor one. If sowings be made at once on warm borders of such dwarf varieties as Chelsea Gem, English Wonder, The Daisy, or American Wonder, those may be sown rather more thickly, as there is more risk of harm, by birds, and the plants will not have to endure such dry hot weather as later sown Peas will.

Varieties that are to crop in July and August should always have the soil for them deeply worked, plenty of manure buried down to encourage roots to go down out of the hot surface soil, and when staked have a thick mulch of animal manure placed along on each side of the rows. Should mildew appear, a gentle spraying with Bordeaux-mixture will help to save the plants from its ill effects. A. D.

NOTES AND REPLIES.

Planting grown-out Onions.—"W. S." does well to point out the advantage of using them as he has done in a recent issue. I have done this for many years, and have found them keep me going for two months when old ones were over and autumn-sown ones had been killed by frost.—J. CROSS.

Herbs—In every garden, large or small, some herbs should be grown, for they are needed in every household, and often during the

course of a year. Thyme, Sage, and Mint, if not always to be had in a green estate, are useful when dried; the same remarks hold good about Parsley. Tarragon and Fennel have each their special use. Planting may be done during this month, and where arrangements can be made, a bed should be set apart for the special growing of herbs, so that those whose particular business it is to see to the wants of the kitchen may always know where to find the herbs that are wanted.—WOODBRISTOCK.

Carrots.—Where a hot-bed has not been made up for these, a sowing may now be risked on a sheltered border with a southern aspect. As this sowing will only be wanted to give a few weeks' supply in small bed or plot will suffice, and if sowing in drills be preferred to sowing broadcast, these need be no more than 8 inches apart. Drills must be drawn very shallow, as Carrot-seed fails to germinate when buried deeply, and seedsmen are often blamed for the grower's error in this way. Small early varieties should be selected for this first outdoor sowing, and, to give an immediate succession to these, Market Favourite is a good variety.

Cold pits, value of.—It is surprising how useful cold pits are during the winter months. I have been cutting Veitch's Self-protecting Broccoli from October 6th to February 22nd. I usually sow once, the middle of March, and as the plants get large enough to draw, keep planting out, and thus get a succession. I plant 2 feet apart, and keep the plants growing all the summer. At the approach of frost they must be looked over, digging up any you think the frost are likely to spoil, and placing in a cold pit. These can be used as required, and in November, or at the sign of a sharp frost, dig them all up and treat the same as the others, putting a little soil in among the roots. Do not let any remain out in the open because the hearts are small, as they will grow larger in the frame and come in when vegetables are scarce. Give plenty of air when favourable and mat up the frames in sharp weather. I may mention that I cut a nice heart of Adam's Early White Broccoli to-day (February 26th), so with me the two have made a good succession.—K. R., *Rajingstoke, Hants.*

Best kinds of Broccoli and Cauliflower.—Will Mr. Hobday kindly tell us as soon as may be in his note on the current week's work in gardens what are the varieties of Broccoli and Cauliflowers which we ought to sow so as to get a long succession as possible of these vegetables? I do not ask for the names of novelties, which may be all that is claimed for them, but of approved sorts which a modest gardener, not in search of experiments, would do well to grow. His list will, I hope, include Veitch's Autumn Giant and Veitch's Self-protecting, which for some years have done well with me.—W. F. MERRIS.

[The kinds of Cauliflowers I grow are Veitch's Forcing, just a few for early work, Early Erfurt, Walcheren, and Veitch's Autumn Giant, and I have often thought during a dry, hot summer that the last was the most useful. I sow Autumn Giant in the autumn for use in August, and again in spring for late use. As regards Broccoli, I grew Veitch's Self-protecting Autumn Broccoli the first season it came out, now many years ago, and have grown it since, and consider it one of the most valuable vegetables grown. By making two sowings, one

in April and the other in May, a supply can be had till long after Christmas if the plants are lifted before injured by frost and planted in a deep pit, or, better still, in a cool-house. The difficulty with Broccoli is to get the plants true. If one buys Broccoli seed in the ordinary way it is no uncommon thing to get two or three sorts out of one packet of seed. The only remedy is to get the seeds from the most reliable source. The following half-dozen kinds will give a good succession: Snow's Winter White, this is sometimes difficult to get true, but is very useful when true; Early Peanaroo; Perkin's Leamington, to my mind one of the best Broccoli grown when true; King of the Broccoli (Daniels); Veitch's Model, and Sutton's Perfection. If I might add another kind or two as alternative sorts I should name Cooling's Matchless and Knight's Protecting; the last is an old kind, but splendid when true.—E. H.]

Growing Cucumbers and Tomatoes.—I should be much obliged if you would tell me if I can raise Cucumbers from seed, and grow them in a lean-to greenhouse without artificial heat, but which gets great sun-bat, even now, as it is against a south wall, and the whole garden slopes to the south? I have no hot-bed as yet. (Could I raise the seed in pots? If so, what is the proper compost? I have never grown Cucumbers before, but have seen them doing well in a greenhouse like mine in pots or boxes, the plants trained up near the glass. I should be grateful for any hints as to these or Tomatoes in the same way.—E. A. M. W.

[You can raise Cucumber plants and grow them very well in an unheated greenhouse if you will wait a little longer, until the season is more advanced and the temperature more settled. At present, even in the warmest positions, if we get some days quite warm, we get some cold ones and nights. To raise Cucumbers you need general good sun warmth. For that purpose better wait until the middle of April. Then sow nine seeds at equal distances apart in 5-inch pots. These should have in them an inch of drainings, then be filled with a compost of turfy loam, leaf-soil, old well-decayed manure, and sand well mixed, not necessarily fine. Bury each seed half-an-inch in the soil, water the pots, then stand them in a box 2 inches deeper than the pots. Place the pots into it, and cover up close with a large piece of glass. Shade with thin paper if the sun is very strong. The plants, if the seed be good, should be up in about a week. Sow Tomato-seed and treat it in exactly the same way, but put eighteen seeds into a pot and only just bury them. When your plants of Cucumbers are well up and showing the third leaf turn them out of the pots and shift them singly into pots half the size, and grow them on near the glass roof to make them sturdy. Then get pots 10 inches broad at the top, or boxes 12 inches by 16 inches, fill with good soil in which turfy loam is two thirds, the rest being well-decayed manure. Put one plant into each pot, or two into each box, and stand those near the glass roof so that the plants are 18 inches apart. You must fix, 10 inches from the roof, wire or wood strips to tie the plants to. Make the soil pretty firm. As growth follows pinch out shoots without fruits and preserve those which have fruits. Treat Tomatoes just the same, but they can be 14 inches apart only, and must have every side shoot hard pinched out, but preserving the leaves. See article on Cucumber growing in coming issue.]

PLANTS AND FLOWERS.

MOSCHOSMA RIPARIUM.

THIS, which comes from South Africa, resembles when out of bloom a green-leaved *Salvia*. The flowers are small, pinkish-white, with purple anthers, and borne, as may be seen in our illustration, in terminal panicles. It has been shown frequently of late at the Mill Hall, its flowering period beginning in December and lasting till well into the new year. It is best to increase it by cuttings every year. The plants should be cut down immediately after flowering and given warm, moist treatment to cause them to break into growth. When the cuttings are about 3 inches long they may be at once put in. It will thrive under the same conditions as *Salvia splendens*, and will be found a very useful plant in the dull season for the conservatory and greenhouse.

NOTES AND REPLIES.

Old corms of Cyclamen.—Mr. Frank Rich may be interested to learn that many growers retain their *Cyclamen* corms for several years before finally discarding them, I being among the number. There seems to be an impression that they will not flower so strongly or so freely as young corms do; but this is quite erroneous, as I have some at the present time carrying over one hundred blooms each, and for quality are not surpassed by those produced by young corms. There comes a time when the corms do become exhausted and worn out, but until that stage is reached my advice is, by all means keep them, and by generous treatment, in addition to adopting proper cultural methods, such will each year reward their owners with a nice floral display.—A. W.

Wiring Camellias.—Will you please let me know how Camellia buds are cut and wired for sale? I find it very difficult to cut off the bud without destroying the small leaf close to it which forms the bud for the next year, and there may be two buds and a leaf all close together. If the stem of the branch with bud is cut off, then the bud for next year is lost, so it seems to me best to cut only the bud and preserve next year's growth.—CAMELLIA.

[The blossoms are not cut off usually in the gathering, but taken in the fingers, slightly gathering up the petals, and twisted off. To do this successfully, take hold rather firmly and towards the base of the petals, and a fair twist will do the rest. The wiring is quite a simple matter. Take a bloom in the left hand, gather the petals rather closely up, and with a rather fine stem-wire pierce the petals through, passing the one end out on the other side. The point of piercing should be $\frac{3}{4}$ inch or so from the base, perhaps rather more. A second wire will be required, and should be passed through on the opposite side to the first one. This will give you four wire ends to bend down for stem. Prior to drawing down the wires thus, take a piece of cotton-wool, well moistened, and place up close to the base of the bloom. This assists in keeping the flower fresh, and the wires retain it in position. With the wires drawn down, a little binding wire will keep the stems together. A little practice will put you in the right way, and doubtless a bloom or two will be spoilt in the learning, or you will be fortunate.]

Pefarguniums for winter flowering.—I am anxious to have my conservatory (which is heated with hot-water-pipes) bright with *Geraniums* throughout the winter and spring. Will you tell me in what months I ought to take cuttings so that one lot of plants may commence to flower in November and the second lot in February? My plants have been flowering well all the winter up to February, but have now stopped, and are growing very tall.—SPRING.

[For producing plants for winter blooming, the best way is to take stout cuttings in February. When rooted, grow them on as hardy as possible, shifting into $4\frac{1}{2}$ -inch pots before they become pot-bound, keeping them close to the glass and giving a abundance of air. At the beginning of June stand them in a sheltered position in the open air on a bed of ashes, pinching the growths when of sufficient length, and assisting the roots with liquid-mauure as soon as the 6-inch pots, which will be large enough for the plants to flower in, are becoming pretty well filled with roots. A good fibrous loam and some coarse sand suit them well. Keep all summer trusses of bloom picked off, and remove into a temperature of 50 degs. early in October. Their somewhat root-bound

condition will induce flowering better than larger pots at this season. Even during the winter a gentle current of fresh air must be given in open weather to prevent the plants becoming drawn.]

Cyclamens not flowering.—Would you kindly let me know why my *Cyclamens*, sown in the summer of 1899, will not flower? I send you a specimen. The corms are healthy; the foliage of the sample is certainly weak, but they are not all like this, though some indeed have only thrown up four and six leaves. Is it solely a bad strain, and would you advise me throwing out the lot, as room is an important item with me? Are they likely to bloom next year?—F. P. O.

[The young plant of *Cyclamen* that you have sent is perfectly healthy, and the reason of your

of direct sunshine and cold currents of air; indeed, what would be regarded as a snug little house is the best place for them. A little fire-heat will soon be needed, and under such treatment the young plants will quickly make their appearance. When large enough to handle pot them singly into $2\frac{1}{2}$ -inch pots, using a mixture of loam, leaf-mould, and sand. The month of February is a good time for potting them off, and if the temperature of the house is kept from 50 degs. to 65 degs. they will grow away freely. A gentle bedewing with the syringe in bright weather is very beneficial. By May or June they should be ready to shift into 5-inch pots, in which they are to flower. The pots



Moschosma riparium. From a photograph by G. A. Champion.

plants not flowering; is that they have been grown too slowly. It is true that many cultivators obtain good flowering plants in about 18 months from seed, but this is where they are grown in quantity, and not associated with other things, as is necessary in many places where a miscellaneous collection of plants is cultivated. In giving briefly the routine of successful *Cyclamen* culture you will be able to see if you have fulfilled all the requirements. The month of August is a very suitable time for sowing the seed, which is best done in shallow pans, as there is sufficient room to avoid overcrowding, which at any stage is very injurious. At that time the temperature of a greenhouse is sufficient, but they should be placed where clear

should be well drained, and a suitable potting compost is two parts good fibrous loam to one part of leaf-mould, with a liberal sprinkling of silver-sand. When potted, stand the plants on a good bed of ashes in a cold-frame, situated, if possible, where the midday sun does not shine direct on it. The plants will need to be shaded, and a light eyringing three or four times a day is very beneficial. Watering must be carefully done, as an excess of moisture at the roots is very injurious. As the plants develop, a little weak guano-water about once a fortnight will be of great assistance. By September the plants should be ready to take into the greenhouse, and some of them will soon commence to flower. We should certainly advise you not to

throw your plants away, but to treat them as above detailed for young unflowered plants, and trust that next autumn you will have nothing to complain of regarding their condition.]

ROSES.

ROSE GLOIRE LYONNAISE.

I REMEMBER when this Rose was introduced by M. Guillot in 1884 it was described as a yellow

yellow, it is true, but the expanded flowers change to almost pure white. During very intense heat, such as we experienced last summer, an exquisite tinge of delicate pink pervades the petals, adding much to the charm of the very large blossom. I am afraid there is no prospect of obtaining seedlings from this Rose, as it yields no pollen grains, neither will it produce seed. It is a splendid late-flowering garden kind that should be very sparsely pruned in order to obtain the best results. Its long growths, quite devoid of prickles, should

at back from 1 foot to 2 feet, and even more. Like all the Hybrid Teas it succeeds admirably on standard Briers, but objects to the Manetti. If wanted for the garden, the seedling or cutting Brier is the best stock for it, unless obtainable on own roots, which is better still. As it roots readily from cuttings, it should not be difficult to procure in that form. It is a first-rate kind for pots—not forced, but grown cool—and would also make a fine pillar Rose for greenhouse supports. ROSA.

NOTES AND REPLIES.

Rose Papillon.—What kind of a Rose is Papillon? I have only seen it in one Rose list, and there its qualities are described as very good.—H. F. MATTHEWS.

[This is a very pretty Rose, having curious twisted petals, which doubtless suggested its name. The colour is carmine-rose, shading to deeper salmon, a very beautiful tint and rather uncommon. It is one of Nabonnand's many beautiful seedlings, this raiser having introduced the variety over twenty years ago.]

Pruning Rambler Roses.—On receiving vigorous Roses of the Rambler type from the nurseryman, which have three or four very long shoots about 4 feet or 5 feet, how much should these be pruned the first season after planting in February or March in my newly-made Rose-bed?—H. F. M.

[Climbing Roses of the Rambler type are best cut back to about half their length the first year. This will encourage the basal eyes to break, so that good growths are secured which the following year, if left intact, will give a fine display of blossom.]

Rose Marechal Niel.—I venture to send you a little of the surface soil of a deep bed for a Marechal Niel Rose in our small conservatory. It is infested, with insects, and the plant is evidently suffering, the new leaves withering when only just opened. I shall be grateful, indeed, to know by what means I can destroy the pest? I have been in the habit of piling Tea leaves round the stem. Could that possibly help to breed this vermin?—H. MATHIE.

[The only thing you can do is to clear out the soil in which your Rose is growing, adding, in its place, some good loam and a little manure, and taking care that the drainage is good. No Rose could do well in such poor rubbish as you send.]

Pruning Banksian Rose.—I have a fine specimen of a yellow Banksian Rose. East aspect, trained on house; it flowers sparingly. In February it is trimmed back. Is this right?—SWALLOW.

[It is not surprising that your fine specimen blooms but sparingly, seeing that you prune it in the month of February, and by so doing cut away all the flowering wood. The best time to prune is directly after flowering, merely removing old and worn-out wood. The spray or small twiggy wood should be preserved, as this usually produces the most blossom. Where plants are of a good age and have been neglected, a considerable reduction of the number of growths should take place, so that light and air can penetrate and thus harden the new wood; but above all things retain the young growths in their entirety, excepting of course any that are produced late in the year, and are thus soft and pithy. These should be cut clean out.]

Hardy dwarf Roses.—In my garden are steps leading from the lawn to the path on the terrace. At each side of the steps are walls about 3 feet high, and I should like to plant something along the sides of the walls to hide them a little—something not to exceed 2 feet high, fairly sturdy. Aspect, full south; soil light, sub-soil stiff loam; position exposed. Should like Roses, but am doubtful as to their suitability for the position. Would China Roses be suitable, and, if so, what are the best compact-growing, hardiest varieties? If not suitable, what would you suggest for such a position? Hybrid Perpetuals succeed fairly well here.—YORK.

[You do not mention the width of the border, but we presume it will be a foot wide at least. If so, and the soil is deeply dug, you should be able to grow some very good Roses upon such walls. As there will doubtless be a slope, you must take care that the plants are watered during dry weather, and a mulching of short manure would be of considerable assistance, commencing in May and allowing the mulch to remain till autumn. Plants from cuttings would be by far the best for your purpose on the wall. If cut back hard each year they would not exceed the limit of height, although we do not suppose there would be any objection to the Roses rising above the top of the wall; in fact, when viewed from the terrace, they would have a very nice effect. In preparing the soil, break up the subsoil and put in a layer, 3 inches or 4 inches thick, of cow-manure. This should be about 18 inches from the surface. Some nice loamy soil should be afforded to each plant when



Rose Gloire Lyonnaise. From a photograph by Miss Willmott.

Hybrid Perpetual. That was before the Hybrid Teas had become famous as a separate class. There is no doubt it is a true Hybrid Tea by the stiff growths and Tea-like blossom, but, unfortunately, there is no fragrance. It has not quite the ever-blooming character of the true Tea. It is said M. Guillot obtained this Rose as the result of three consecutive crosses, and judging from some recent introductions it would appear that this method of procedure has much to recommend it. One cannot say Gloire Lyonnaise is a yellow Rose. The buds, so suitable for buttonholes, are a clear, soft lemon-

be retained fully 2 feet long, and you longer if desired; indeed, I can advise its use as a pillar Rose, and against a 5-foot or 6-foot wall or fence it is quite bappy. The illustration faithfully portrays the beauty and effectiveness of this Rose as a garden variety, and the mode of pruning adopted in order to obtain a towering mass of blossom is also most commendable, especially when the plants are given a suitable background.

When Roses as Gloire Lyonnaise may be made more effective by pruning some of the front growths, say to 7 inches or 8 inches, and those

planting. The following would be an excellent selection to choose from: Chinas: Armoza, Common Pink, Mme. Laurette Messimy, Mrs. Bosanquet, Fahvier, White Pet. Polyanthas: Perle d'Or, Oloire des Polyantha, Mme. E. A. Nolte, Eugenie Lamesch. Hybrid Teas: La France, Grace Darling, Camcena, Viscountess Folkestone. Teas: Marie d'Orleans, Marie Von Houtte, Medes, Mme. Lambert, Papa Gontier, Maman Cochet (both white and crimson.)

GARDEN PESTS AND FRIENDS.

Insects in Cucumber-bed.—I am sending in a small bottle some ants or small insects which congregate on the Cucumber-beds in the hot-house in millions. I will fast obliging if the editor would kindly suggest some means of killing them?—PLAS IBA.

[The small insects you find on the Cucumber-beds are mites. You do not say if they have injured your Cucumber plants. If they do not I should not trouble about them; if they do, you might spray the beds with paraffin emulsion, or some similar compound, such as "Abel," or you might scrape or skim off the surface of the soil and burn it. Boiling water, as you have found, is very efficacious in killing the mites.—G. S. S.]

Muscel scale on Apple-trees.—Will you kindly inform me what this is on the enclosed Apple twigs, and can you give me a recipe to get clear of same, as I have several young trees badly infested with it?—A. H.

[The twigs from your Apple-trees are attacked by the muscel scale (*Mytilaspis pomorum*), one of our commonest scale insects. The shoots you sent are so badly infested that I should advise you to cut off and burn any that are in a similar condition, and dress the others with paraffin emulsion. If the shoots can be reached it is best applied with a stiff brush, and it should be well rubbed in. If on account of the size of the tree they cannot be treated in this way, they should be sprayed with the same mixture, taking care that every infested part of the tree is reached by the insecticide. The emulsion may be made as follows: Boil $\frac{1}{2}$ lb. of soft-soap in $\frac{1}{2}$ gallon of water, and when it is quite dissolved stir in (but not over the fire) 1 gallon of water. Work it through a syringe until it becomes of a creamy consistency, then add nine times its bulk of soft water. Mix it thoroughly with the syringe, and it is fit for use.—G. S. S.]

Black ants destroying Cyclamans.—Would you kindly inform me about these Cyclamen bulbs in the next issue of your paper? They have been riddled by black ants, which have attacked two or three other Cyclamen bulbs in the same house. As far as I know, there was no defect in them at all before the ants attacked them. Is it not a very unusual proceeding on the part of these insects? What can I do to prevent them damaging the other bulbs other than dusting them with Tobacco-powder? The ants are not in any great number as far as I can find, and entirely confine themselves to the small part of the house where the Cyclamens are.—GEOFFREY HARRALL (REV.)

[I have never heard of ants attacking Cyclamens in this way before. The best remedy is to find the nest and destroy it. This is easily done if the nest can be reached by opening it and pouring in boiling water. This is best done when all the ants are in for the night. If the nest is in such a position that this is impossible, means should be tried to pour paraffin-oil or dilute carbolic-acid into it. Sometimes the nests are made under the floor of a greenhouse, and the ants find their way between the stones or bricks of the floor. When this is the case, a piece of well-kneaded clay or putty, well worked down on to the stones or bricks, should be formed into a kind of cup round the hole by which the ants enter—this should be filled with paraffin-oil, which will gradually trickle down into the nest and kill the ants. If this be not practicable, trap the ants in saucers of beer and sugar, or treacle, or with pieces of sponge soaked in treacle with a string tied to them, so that when covered with ants they may be dipped into boiling water. Bases not thoroughly cleaned may be used in the same way. If each pot be set on a small saucer inverted into a larger one partly filled with water, the ants will be prevented from reaching the plants.—G. S. S.]

As many of the most interesting notes and articles in "GARDENING" from the very beginning have come from the readers, we offer each week a copy of the latest edition of either "STOVES and GREENHOUSES PLANTS," or "THE ENGLISH FLOWER GARDEN," to the reader of the most useful or interesting letter to the Editor published in the current week's issue, which will be treated thus.

GARDENING UNDER DIFFICULTIES.

A VICARAGE just below the church, standing on a gravel bank, exposed to every wind that blows, facing rows of cottages, with a background of furnaces, and, beyond, the unseen along-bound Solway shore. If the wind were set enough to check the enthusiasm of an amateur gardener, he might well be forgiven for yielding to the heightening influence of smoke and dreary landscape! It was, however, these very conditions that seemed to make flowers a necessity of cheerful life, as surely as it is the possession of flowers that leads me to contribute some experiences for the encouragement of other equally unfavoured amateurs. The weekly perusal of GARDENING from cover to cover makes a man long for a sunny clime and a congenial soil, but it does not always encourage gardening under difficulties. Some years' experience of stum life, never without a flower and its influence, has taught me that, with patience, the selection of suitable plants, and perhaps contentment with a less luxuriant growth, no one need despair of surrounding home with Nature's choicest gems.

At the outset, the obvious difficulties to meet were wind and drought, due to the exposed position and gravel subsoil, and, in a less degree, the absence of shade. Open trellis-work and edgings of fine wire netting gave more shelter than any form of wall or close paling. Hedges of Privet, Beech, and Buckthorn have taken more kindly than anything else to the south-western from the sea, with the exception, perhaps, of common varieties of Salix. These, in turn, win some shelter from plantings of common and Golden Elder. Trees and shrubs, however, as yet make little headway. The flower-beds are more grateful, and, though they may lack the setting of beautiful surroundings and leafy backgrounds, they are instinct with memories of Surrey, Westmoreland, and Lancashire more favoured gardeners. I sometimes wonder what plants from far Fochabers or from the heights of Rochet du Naze think of their new surroundings, where furnaces outnumber trees and selfishly exclude the distant glimpses of Criffell's sunset radiance or Skidaw's heights. Well, whatever their thoughts may be, they coolly fulfil their mission, and strive to live an elevating influence just where they are told.

First comes *Scilla sibirica*, with its blue flowers, never so appreciated as under the smoke-stained sky; then Aconite, Crocus, and Lent Lily, some thrusting their way through masses of *Antennaria tomentosa*, with its close silver foliage, and *Aubrietia purpurea* and other alpine which find a home and shelter on the rockeries. Snowdrops do not come up a second year, Narcissi also fail. The Turban Lily (*poniponium*), from a Surrey garden, flourishes and blooms soon after Easter. *Lilium tigrinum* and candidum in sheltered corners resist the wind and smoke amazingly.

After the spring hulas have gone to rest the Polyanthus and Primrose struggle to make a show, but summer drought and sun are too much for them. Wallflowers and the common Columbine, the former with masses of *Myosotis* near them, make a display of which no garden need be ashamed, and help to give us a taste of luxurious growth so delightful under summer climes. Various Arabis, alpina and alhida, do well. *Cerastium tomentosum*, *Saxifraga cordifolia*, *logifolia*, *Sedum album*, *targidum*, *atropurpureum*, *Soldanella*, and the common hitting Stonecrop all make a useful show; the last, picked up in quantities on the shore, is frequently remarked on, as also are the varieties of the common Sea Pink, with their refreshing clumps of all the year round green foliage. The common Biedderwort, with its close silver growth and white flowers, also upholds the claim, often overlooked, of local wild flowers to a place beside their rarer fellows. Other alpine dwarf-growing plants might be mentioned which thrive under conditions into which many would hesitate to introduce them; but the herbaceous borders are after all the mine of wealth, since they contribute to the brightness of church, home, and sick-room, as well as make the garden gay.

In a border under a north wall the annual Hop (*Humulus japonica*), *Tropaeolum canariense*, and other Nasturtiums help the Woodbine, Ampelopsis, and Ivy to adorn what flowers

cannot be prevailed upon to cover. The common Woodruff enjoys the shade at their feet, and makes, with the perennial *Myosotis*, a close carpet background. Clumps of *Iris virginica*, *florentina*, and other commoner kinds, annual *Snailflowers* (*Stella* for choice), Lupins, the only Rose that seems to flourish (*Rosa alba*), tall White Lilies, masses of *Michaelmas Daisies*, *Pyrranthum uliginosum*, all fill in the middle distance, and if the foreground is not thick with Pansies or Violas, patches of White Harebell, and the crimson-leaved Clover, it is filled up with useful annuals, like the *Saponaria calabrica*, *Asperula*, *Nemophila*, and *Phacelia campanularia*. But of hardy annuals there is no end. A search for the less popular kinds is well rewarded. *Dalphiniums*, perennial *Sunflowers*—*Miss Mellish*, for instance—*Veronica*, *Lychita chalcidensis*, *Catherbury Bella*, and *Gypsophila*, with Foxgloves and Mulleins, all have their place. Hollyhocks are tied in against the fence or trellis shelter. *Campanula carpatica* and *pumila*, too, make lovely masses of bloom on bank or pathway border. The *Eryngium* make sturdy growth in quite exposed positions. *Dianthus deltoideus* loves a sunny and dry bank. The Spanish *Iris* contributes generously to the cut-flower basket, while nothing exceeds the brilliance of *Poppies*—*orientalis*, *nudicaulis*, and many another. It is astonishing what an effect may be obtained with masses of dwarf *Nasturtium*, and for a bedding cut plant *Antirrhinum Queen of the North* is a special favourite. Dahlias, I find, make a fair display pegged down on the beds to save them from the wind. Compensation for the failure to grow Roses is to be found in an abundance of Carnations. Soil and climate have no terrors for Ruby Castle, Duchess of Fife, the Old Glove, Mrs. Sinkins, and Her Majesty—they seem on the contrary to give an added depth of colour. I have not mentioned half the forty varieties I picked one day last summer, but enough to prove my point—a garden may, like all else, rise superior to its surroundings, and make the most cheerless prospect more kind and cheerful by furnishing a flower foreground. A spade and rake, a friendly feeling for flowers, with a natural sympathy for their needs, not to mention the possession of a few friends with old-established gardens, will suffice to turn many a wilderness into a place of flowers and happy memories. It certainly may be said of gardens—"folk never know what they can do till they try."

SEMPERFLORES.

RENOVATING CARNATION BEDS.

A CORRESPONDENT recently sought advice on this matter in the columns of this journal, and as I happen to be engaged in carrying out work of a similar description at the present time, I am assuming that a short note in addition to the Editor's advice may perhaps prove acceptable. Before proceeding further I should state that there is this difference in the two cases. "E. H." is apparently obliged to make use of the old plants again, while I am enabled to dispense with them through having a good supply of young stock on hand which was layered last autumn. These were potted up as soon as rooted, and have been wintered in a cold-frame, the sashes of which have been merely used as a protection against rain, frost, and snow, and the result is the plants are hardy, vigorous, and abundantly rooted. This method I would strongly advise "E. H." to adopt next autumn, and if he cannot afford them a cold-frame or pit, then allow the layers to remain attached to the mother plants until the spring before separating them, and then to plant them wherever he may desire. In some localities layers as soon as rooted may be taken off and planted at once in their permanent quarters with success, but such cases are not general, for what with damp and frost alternating during the winter months, the losses are often very severe, and I have before now witnessed the destruction of quite one half of the plants from those causes.

In my own case, I am removing some of the stumps from the borders, as it is, from having had constant applications of manure year after year, little better than a mass of humus, and am replacing it with parings from the edges of walks and drives which have become thoroughly rotted down. When incorporated with the remainder of the soil in the borders the result

will be an ideal compost for Carnations, and one I am looking forward to giving excellent results. With regard to planting, my plan is to set out the plants in "threes," and in triangular fashion, each group of plants standing 2 feet apart, and the same distance between the rows. If care be taken to make the groups of plants angle with those immediately in front or behind them, as the case may be, the beds or borders at once look well furnished, and the floral display is also considerably enhanced later on by the use of the additional number of plants. Seedlings, of which I like to raise a few annually, I generally plant in lines in the kitchen garden for cutting from, and should anything extra good appear among them they are propagated by layering as soon as the plants have ceased flowering. A. W.

WATER GARDENS.

For many years our ponds, streamlets, and lakes were left very much to themselves, no thought being bestowed on the plants useful for

DRY FLOWER BORDERS.

A FLOWER border, where the soil is not merely shallow, but poor, is not the place one would choose for many of our favorite garden flowers. In too great a number of instances, however, the selection of a garden is not left with the individual, as more frequently than not it is one of the things that has to be "taken to" with all its attractions or failures. Borders that are naturally dry from the position they occupy, where perhaps the subsoil is gravel, and thus moisture quickly drains away, have at times to be taken into account. When can one improve such a border, and in what manner, are questions that suggest themselves to one's mind, and perhaps at no other time of the year are they so convenient to deal with. At this time, when plant life is moving, when borders are, as a rule, practically bare, one can take in hand the re-invigorating of one's flower borders, so to speak, and make such arrangements as will tend to the prolongation of many of the blossoms that follow in later days. Let a start be made then

As within the next few weeks much planting has to be done, and seed sowing to be gone through, a list of subjects suitable for dry borders will interest some readers similarly situated in regard to their gardens. One of the earliest lessons I had to learn was this—that it was almost futile to plant to any extent hardy herbaceous things on a hot, sunny border as late as March, and expect them to do well the first season. It is a temptation that comes to many as they go into a flower-market in March and April, when Phloxes and Campanulas, Pyrarthura, Dicentra, etc., are offered for sale, to buy just a few varieties that we most want. I must plead guilty to buying so late myself, but when thus late it is well to remember that a hot, dry border, with the bright spells of April sunshine and the hotter days of May, tries very much all newly-planted stuff that has not had time to get sufficiently established. If they are to be purchased at that time of the year, give them the benefit of a north border, as undoubtedly the best period for the planting of all hardy subjects is between October and



Marillac's white hybrid Water-Lily (*Nymphaea Marilliae albida*), planted six years and never protected, showing effect in open water. From a photograph by G. A. Champin.

beautifying their surface or margin. Gradually, however, water plants are coming to the front, and an impetus has resulted from the introduction of the many charming new hybrid *Nymphaeas*, which are now largely grown in some of our best known gardens. As yet many of the best hybrids are scarce, and care will be needed and possibly protection required on the larger pieces of ornamental water where water-fowl are encouraged. In planting the choicer kinds some care is necessary when sinking them into their places. Planting is best carried out at the end of April or early in May, a simple way being to put the plants with some soil into shallow baskets, and sink them to the bottom of the lake or pond when you intend them to grow. Before the basket has decayed the plant will have anchored itself to the bottom by fresh roots. A natural mud bottom is best for Water Lilies, but they can be grown in tanks the bottoms of which are covered with a layer of heavy loamy soil about 1 foot in depth, allowing about 2 feet of water over this.

Among the hybrid kinds that have been introduced we find that the earlier raised ones are the best, the flowers being larger and the plants altogether stronger in growth.

with the soil, and, if it is to be had, procure as much new material as is possible, that from a field or pasture land in preference to any other, removing the Grass and digging out the under spit. Whether it is worth while to cart away some of the existing soil in the borders is a question for each one to decide, but, in a general way, when years have elapsed since they were made, it often occurs that the soil has sunk to such an extent as to require much filling up. Some partly-rotted dung is of much assistance where borders have a deal of sun to contend with, and if at the time of digging plenty of manure is used the advantage will be seen months later. I have had to do with borders that, under ordinary circumstances, were soon dried up, and when one could scarcely discern within a couple of hours after rain that there had been any, where plants quickly came into bloom and as quickly failed, and all because of an insufficiency of soil and a substratum of gravel. After dealing with them in the manner indicated I found that, together with a mulch of old manure in June, over which soil was sprinkled for mere tidiness, I had solved the difficulty of the early decay of many of the choicer flowers.

February, weather permitting. To return to the flowers suitable for a dry border, may I propose to those who have hitherto failed with bedding plants to try instead *Tagetes signata* *pumila* and *Moring Star Chrysanthemum*? *Jacobinas* are very showy, wonderfully profuse, and may be raised from seed in a cold frame. Where I have failed with the perennial *Larkspur* I can generally succeed with the annual forms, and these are most attractive in a border. Then one must not forget how all through a long, dry season the *Gaillardias* bloomed when other plants drooped. *Portulacas* and single *Petnias* are both pretty and bloom well grown under circumstances not adverse to many plants. The common yellow *Chrysanthemum* often to be found in the field—viz., *C. segetum grandiflorum*—is worth the attention of those who are on the look-out for a cheap annual to produce an abundance of blossom for cutting, and another blossom, of orange, and yellow, and brown, equally impervious to drought, is to be found in the *Coreopsis*, a charming hardy annual. How useful too is that old-time plant, the *Antirrhinum*. It is a capital plant for sunny spots that are somewhat dry, but blooms well notwithstanding. *Zinnias* are

long-lasting and brilliant, and a sunny border is the place of all others in the garden where they should be cultivated. For the first batch, sow in heat at the end of March, and plant out the first week in June. To ensure a continuance of blossoms throughout the summer sow some more seed in the open air towards the end of May.

W. F.

NOTES AND REPLIES.

Bulbs for border.—What sort of bulbs or plants could I put in a border, 16 feet by 2 feet, under sitting-room window? Aspect south-east; the soil is good, and has been turned over and manured with cow-manure last month. It has not been planted last year. I want it to look well from May to September.—Lao.

[You may plant now such things as Tigridias, Ixias in very charming variety, Gladiolus in many sections, Hyacinthus candicans, Anemone fulgens, A. coronaria var., Ranunculus, and all such things, with every hope of flowering. Of other plants, Carnations, single Pyrethroms, Gaillardia, Scabiosa caucasica, Helenium pumilum, Stenosie speciosa, Montbretias; and such easily-raised things from seed as Sweet Sultan, Asters, Zinnias, Stocks, Phacelia Parryi, Marguerite Carnations, Sweet Peas, Lupinus, Marigolds, Rocket Larkspur, Gypsophila elegans roses, Shirley and other Poppies.]

Plants for shady, sandy bank.—I have an ugly, bare piece of bank, not steep, under trees, but not densely shaded, almost pure sand, or, at least, sandy soil. Could you tell me what has a chance of struggling along there? I propose digging holes and putting in good soil and manure to start with. Being shade, I presume Tamisk would not do? I had an idea of coarse, common Feros in holes of leaf mould, but, fear it would be too dry. The spot is a great eyesore, so shall feel most grateful for advice.—Kest.

[There is not the least reason for this bank to be an eyesore any longer—indeed, it may prove to be a veritable home for not a few things that will not be grown in the ordinary way. It is in such places as these that Wood Anemones often grow freely, and common Snowdrops and Lencojum vernum form established clusters, and the lovely blue of Muscari conicum makes its most effective blaze of colour. Unfortunately, you cannot now so well plant such things as you may have done in October last, yet this is the time to follow, and none more capable of pleasurable results. What you may do now is to plant the common London Pride, dibbling single crowns over the whole area at 6 inches apart—just as a carpet for the season. Grhy making the holes you speak of, such plants as Megasea cordifolia purpurea, Petriwinkle, Euphorbia Lathyris, Linum perenne, Arabia, Aubrietia, Coronilla varia, and Alyssum saxatile may be dealt with at once, planting rather small pieces over a good-sized area. With such plants as these forming a permanent covering the hole may be dibbled in in due season, and quite a variety of season of flower result.]

Flowers for small garden.—As I should like to have a good and continuous supply of flowers in my small garden during the coming summer and autumn, I should be much obliged if you will tell me—1. The names of a few hardy annuals, and when to sow them? 2. The names of a few hardy perennials, and when to plant them? Both annuals and perennials required to be effective, fragrant, and useful for cutting.—M. F.

[The following are good of the first-named, and seeds may be sown at once: Nemophila insignis, Dianthus Heddewegii, Mignonette Golden Queen and Salmon Queen, Nusturtinum Tom Thumb, Helianthus Stella (3 feet), H. oenomerifolius (3 feet), Calliopsis, Gaillardia picta (mixed), Gypsophila elegans rosea, Marguerite Carnations, Chrysanthemum tricolor, Sweet Sultan, Coroflower, Helichrysum, Linum grandiflorum rubrum, Shirley and other Poppies, Sweet Peas. Of the perennials you may plant at once: Oeum coccineum pl., Candytuft, Doronicum in variety, Columbieus (hybrid vars.), Gaillardias, Hemerocallis flava, H. Thunbergii, Rudbeckia Newmanii, Ater Amellus, A. levisgatus, A. acris, Monstretias, Crown Anemone, single Pyrethroms, Iris germanica, Polemonium Richardsonii, Achillea mougalica, Helenium pumilum, H. autumnale, Heuchera sanguinea, Galega officinalis, and G. o. alba.]

Propagating Violets.—"C." in a recent issue, advocates quite a new departure as to increasing the stock of these valuable winter and early spring flowers, a method, I fear, not likely to be followed by many who grow their plants during summer expressly for producing flowers from September to the month of May. It may be all right for the trade, whose sole aim is to propagate rooted plants for sale; but to the

gardener who grows for a constant supply of flowers only the matter has quite a different bearing, for to encourage the production of runners from each plant during the month of August as advised (or any other month while in the open, come to that), is robbing the crowns of that energy for the production of flowers which gardeners endeavor to build up from the time the young plants are put out in early April until lifted in the month of October. Surely "C." does not wish to imply that plants treated as he advocates froish such blooms in quality or quantity as do the plants that have every runner persistently pinched off throughout the summer, as soon as the same can be laid hold of by the finger and thumb! As planting time will soon be with us I purpose to give my method of treatment in a future issue of your valuable paper, and, in the meantime, perhaps "C." would enlighten your readers as to whether his plants that have applied runners for the following year bloom as freely during winter as do those cultivated in the way I have named above. To follow "C.'s" advice, it would be far best to scorfiss, say, a hundred plants solely for the production of runners, and probably this is what he means.—J. M. B.

Violet culture.—Would you give me instructions for the successful culture of Violets, in open and in frames? The time to take young suckers? When to plant out? Whether old plants should be kept for more than one year—if for second year whether they should be thinned out? When to manure, and what manure is best?—G. J. Nov.

[The season for planting out the runners for the next season's use is in April. Usually then there are suckers which are very helpful, and the runners then are, or should be, provided with new roots preparatory to planting. Violets are best replanted every year, whether these be for outdoor beds or in frames. The situation of the bed may be open or partially shaded by trees, according to the nature of the soil. In light land, which invariably suffers more or less in dry weather, a little shade is beneficial. On more holding soils Violets are just as well, if not better, planted in the open. This applies to double or single Violets intended for frames or for outdoor culture only. Ground for Violets must be of good quality, well prepared by trenching or deep digging, and should also receive a fairly liberal addition of decayed manure and, if possible, some leaf mould. Stable-manure, or that which has been employed for Mushroom-beds, is the best for heavy soil—decayed cow-manure suits light land. It is, however, best to manure and dig up the beds in winter so that frost pulverizes it prior to the planting of Violets. Similar treatment is required for the double us for single varieties, except that the latter need more space because of their coarser growth. Single varieties of the modern kinds, such as Princess of Wales, flower freely on the runners which issue from the parent plant, and for this reason can be left. The double varieties require the runners removed frequently in summer, so as to concentrate their strength on the crown which gives the finest blooms. In frames the plants should be so arranged that their leaves come within a few inches of the glass lights, over the whole extent of the bed. Unless they are kept well up to the light they sometimes give a deal of trouble from damping of the leaves. Ventilation is an important item in Violet culture. This should be given freely on every favourable occasion, and the lights are best removed daily in mild weather. Good lumpy soil should, if possible, be provided for planting in pits, adding a little wood-ashes and leaf-mould but no manure. A little fresh soil is given as a top-dressing early in March the runners become stronger and better rooted for planting out-of-doors early in April. Besides being kept moist at the roots by occasional watering, their growth is much benefited by an overhead sprinkling in the evening during the summer when the surrounding soil is hot and dry. While this promotes a healthy growth it tends also to keep down red-spider.]

Plants for pergola.—I am making a pergola across path running from north to south. The pergola is to be 73 feet long and 11 feet wide, and will have thirteen upright poles a side at 6 feet apart, 3 feet high, and about 5 inches in diameter each pole. I want to plant it with different Rambler Roses and any other quick-growing sorts you would kindly suggest. Should I only plant one climber to each upright, or, as they are a good size in diameter, could I plant two—one on the outside, and one on the inside towards path? I want to plant the different Ramblers alternately with other good, hardy climbing

Roses so as to keep up a longer period of blooming. I should be most obliged if you would give me the names of some Roses other than the Ramblers, of the same type and class as the Gloire de Dijon, Blairi No. 2, etc. I have Bardou Job a quite hardy and quick climber? As my uprights are 6 feet apart I should like to plant between each (at 3 feet) either a Climatis or some other flowering climber, but do not quite see how I am to train them up unless I make a complete lattice-work of wood between the uprights, which I did not want to do. I should be most grateful for any suggestions on this point. I want to plant a row of the China Monthly Roses all along the bed between the uprights to make in time a close, low hedge. If you think this suitable, kindly tell me how near I can plant them, and if it is best at once to train them as a hedge on wire, or can they be left their first season as bushes.—T. M. D. H.

[It will be better, we think, to plant each side of the uprights, as by this means seed employing various kinds only will you be enabled to secure an extended flowering season. Your difficulty of planting something between the uprights, while not completely latticing in the sides, may be overcome by your employing Larch poles that have not been too closely spurred back, or something akin to this in point of ruggedness, etc. But having the uprights so near as 6 feet apart, we doubt the advisability of planting between such spaces, unless it be for temporary effect. When the overhead climbers become established there should be enough of drapery to hang down the sides if the plants are carefully trained. Planting a pergola with the rightful subjects is a question of time and not less of preparation. In the latter connection, for example, it is a good plan to plant a few tall Briers for stocks, so that these may be worked at 8 feet high. This would more quickly give you the top covering than by waiting for all the plants to climb simultaneously. You will find in the following list some of the best of the Rambler and free-growing sorts: Aglaia (Yellow Rambler), Euphroayne (Pink Rambler), Thalia (White Rambler), Alice Gray, White Macartney or alba simplex, Bardou Job, Blairi No. 2, Dundee Rambler, Félicité-Perpetue, Queen of the Belgians (creamy-white), The Garland (mauve and pink), Vivid (bright scarlet), Mma Alf. Carriere (white and yellow), Rampant (pale white), Paul's Carmine Pillar, Polyantha grandiflora, Rosa macrantha, and R. setigera, the last a large flowered and late-blooming species. This is the "Prairie Rose." The yellow and Austrian Copper Briers would be very beautiful on the uprights. Other excellent climbers are: Alioter Stella Grey, Almé Vibert, Abbe Thomaseon (very fine), L'Idéal, Mma. Barard (a perfectly hardy and free type of the Gloire de Dijon stamp), Acidalia (white), Fulgens, Mma Plantier (pure white), and the climbing Souv. de la Malmison, form the cream of the most vigorous climbers. Not a few of the latter are late flowering. The China Monthly Roses intended to form a hedge would be best allowed as bush plants for perhaps the two first seasons, and, assuming quite a low hedge is required of these, you will do well to obtain only the smaller plants for the original planting. By foregoing any special preparation in the planting a smaller growth calculated to make the best and densest hedge will be formed of such things.]

Sweet Peas—raising plants under glass (Uncertain).—We assume, from the brief manner in which you have expressed yourself, that you desire to have a continuous display of these beautiful annual blossoms from the early summer onwards. You must observe the greatest care with the first batch of plants, or they will quickly become drawn and weakly. As you are keeping the glass structure comfortably warm, there is a danger that with more genial weather the increased heat, owing to the sun's influence, may be far too much. See that the earliest batch of plants is placed on shelves near to the glass roof of your greenhouse, and also ventilate freely. Watering must be regularly attended to, as the soil in the 5-inch pots quickly dries up. It is a mistake to keep the soil in the pots in which the Sweet Peas are growing too moist at this early period, therefore, when going over the plants each morning, water only those which appear to be rather drier than is desirable, giving such plants a thorough soaking. As a rule, this will suffice for some days. In the meantime the second batch of plants will be pushing through the soil, and that they may not become drawn see that the pots are placed on shelves near the glass roof, as was observed with the earlier lot of plants.

Never allow the growths to become longer than an inch before placing them on the shelves, as previously described. Sturdiness in the early stages of the seedling plants is an essential to success. Cold-frames have their advantages at this season, and are valuable as the season advances. The earliest batch of plants should, therefore, be placed in the cold-frame as soon as they have become fairly sturdy, and somewhat hardened off in consequence. Give each pot ample room. The young plants will need the support of spriggy little stakes when their height exceeds some 6 inches or more. When arranging the plants see that the spriggy stakes in one pot do not touch the stakes of those in the adjoining ones, otherwise the shoots will quickly become interlaced. Air may be given freely at all times, except in frosty weather and during the prevalence of cutting easterly and north-

anes, they continue in flower over a long season. The double flowers, we think, lack the elegance of the single blooms, but they last well when out, and also make a bright show in the open. The so-called St. Brigid Anemones, like those of Caen and Nice, are simply selections from the Poppy Anemone, depending for their value on care in selection, and also on good culture in the warm limestone-soil the plants so well enjoy. —Ed.]

COTTAGERS' GARDENS.

A VISIT I paid some time ago to a number of gardens managed by cottagers that were entered for competition "for the best kept and most tastefully arranged garden" in connection with the show held in the village, corroborated the opinion I had previously formed, that some flowering plants, common enough in most

subjects in them, but they were of a high standard, and, like those depicted in the illustration, were planted so as to bring about a most excellent display. In fact, the best gardens were those where the fewest sorts were grown, strange as it may seem. The main idea with the grower evidently was to cultivate well the few in preference to the many. In the garden, for example, that was subsequently awarded first prize particular attention had been paid to the growing of Campanulas, Pyrethrums, Lilies, and Fuchsias; in another, Begonias, Zonals, Stocks, and Asters rivetted one's attention, and in a third Zinnias, Verbenas, Gladioli, Marigolds, and Carnations had been well grown. The large number of flowers of a particular variety and often of one colour seemed to bring about a very nice effect; especially was this so with Asters, Stocks, and Zinnias. Horticultural societies do not, as a general rule, set aside much money for prizes for the best cultivated gardens, their object being rather to encourage the exhibiting of flowers, fruit, and vegetables to be brought within the show tent and attract the people, and so augment the funds of the society, but where arrangements can be made to offer facilities to cottagers in the manner described, it not infrequently follows that keen competition is evinced by them in other classes of the show—at least, my observation has led me to such a conclusion. Some plants seem to be better grown by cottagers than do others, and besides those already referred to one may mention Delphiniums and Phloxes, some of the finest spikes at many of our exhibitions coming from cottage gardens. Pentstemons, annual Larkspurs, Canterbury Bells, and Gaillardias are flowers in which cottagers take the greatest interest. Fancies, too, are special favourites with many, and not a few first prizes are awarded in the cottagers' classes. One cannot be surprised at this, considering what time they devote to their gardens, often, in the summer, finding pleasure in them in the early morning before the day's work commences, and then again at night till darkness sets in. In this self-same hamlet to which reference has been made other cottagers' gardens, superior to those I had before seen, attracted my attention. There were several semi-detached houses, along the front of which a verandah had been erected, covered then with Roses, Clematis, Honeyuckles, Jasmines, etc. The houses were all tenanted by old people, with some of whom I had a chat, and who told me that the houses had been built years before as "almshouses." It must have been a kindly thought which prompted the donor to establish such residences for the old folk in the first place, for they bore no sign of the "poor-house," save that under one of the porches over the lintel of the door, partly covered with creepers, I read the inscription:—

"At evening time it shall be light."

But for this no one would have imagined them to be other than well-built cottages for private individuals, and the small lawns at the front of the houses, containing gaily filled beds, and about which there were seats placed, all testified for a consideration on behalf of the inmates. Borders too on either side of the paths exhibited much beauty—Dielytras and Rock-roses, Foxgloves and Pyrethrums were there, and as one went away one could not help contrasting the lot of these old people whose closing years had been lightened with that of others who had to toil hard to the end of the chapter, under conditions so adverse and disheartening, and just as the day was sinking one could not help recalling other lines:—

"When the brooding twilight
Unfolds her starry wings;
And worn hearts beam with tenderness
The peace that evetide brings."

LEAHURST.

EAST LOTHIAN STOCKS.

THESE beautiful and fragrant flowers are indispensable in every garden, and invaluable for cutting. Moreover, if the plants are mulched and assisted with liquid-manure, they will continue flowering for several months. Some raise a batch of plants in autumn and keep them in small pots all winter, shifting them into larger ones in January, and treated thus they make grand specimens for the embellishment of the conservatory or for cutting from in April and



A Somersetshire cottage garden. From a photograph sent by Mr. J. Walters, Yeovil.

easterly winds. Plants treated in this way may be planted out in mid-April or even earlier with little risk of failure. The second batch and others succeeding it should be treated in like manner, and if your cold-frame accommodation is somewhat limited, each batch should succeed in its occupation as they are in turn planted.

Poppy Anemones from Ireland.—We are sending you a few of our strain of Poppy Anemones. We can now gather flowers in over thirty distinct colours, and have close upon four acres of this glorious plant, which blooms from nine to ten months out of the twelve, and is, without doubt, the best winter and spring-blooming hardy plant in cultivation.—REAMS, NORRIS & Co., Alderborough Nursery, Geashill, King's Co., Ireland.

[A very beautiful gathering, the flowers varied in colour, and of good substance. There is now a wonderful range of colour in the various Poppy Anemones, and, what is of even more import-

gardens, were specialised, as it were, and cultivated by them with such enthusiasm and thoroughness as to bring about a really fine display—indeed, to such an extent as to draw people to the gate for a glimpse of borders that had become the envy of the villagers, and, as some of them justly remarked, "were the finest they had ever seen." Where these cottages are situated matters little now; suffice it to say that during a holiday ramble once I found myself one evening in one of the prettiest villages it has been my fortune to set foot, where much interest is taken by the landlord proprietor in the gardens on his estate. In most of the places into which I sauntered one noticed that great pride was taken in the flower borders, and one of the things which surprised me most of all was this, that although many of the borders were undoubtedly showy, it was not due to the great variety of plants one saw, for in three or four of the gardens, which were exceptionally bright, and to a casual observer were among the prize-winners, there were very few

May. The seed may be sown at any time in February in gentle heat. Some advise sowing in January, but as there is then little sun the plants are generally weak. The less artificial heat employed the finer will the plants be. Sow in fine loamy soil, with a small quantity of old Mushroom-bed manure added, also a little coarse sand or grit to keep it open. Sow thinly, as if the seedlings are crowded the surplus ones cannot be thinned out without the rest being loosened, which is an evil. Keep the soil moist, and as soon as the plants are up place them close to the roof glass, and if possible near the ventilators, as they require plenty of air and light. Syringe them lightly occasionally, and as soon as they can be beniled prick them out. A frame in which early Radishes have been grown suits them best, as they are near the glass and the gentle bottom-heat induces a sturdy growth. Moreover, they entail less labour in watering than when in boxes or pans. A little of an approved fertiliser should be mixed with the soil in the frame, which should be made firm. The soil in the boxes should be of a loamy nature, and should contain a fifth part well-decomposed manure and sand. Stocks enjoy a good larler, and the soil should be rich from the first. Keep them in a little heat till established, then remove them to a sunny greenhouse or pit, and a fortnight later to a frame facing south to harden off, finally planting them out in April. The bed or border intended for them must be well enriched with good manure; cow-manure is best, and if Stocks were grown in them the previous season a little of the soil should be removed and replaced with fresh from the compost yard. If a small percentage of roadside parings, chopped fine, are added, so much the better. Plant firmly, allowing a distance of 1 foot to 15 inches between each plant, and mulch with light manure or leaf-mould. Mulching is important, as Stocks like a moist root run. When growing freely assist them frequently with weak liquid-manure, or mix a small quantity of artificial with the mulching occasionally, and water it in. Pick off all exhausted flowers, as if left on the plants they soon impoverish them. Amateurs who do not possess a heated structure may grow excellent Stocks by sowing the seed in a frame in March, and treating the plants as above described. Be sure and obtain the seed from a reliable firm. SUFFOLK.

ALSTROEMERIAS.

I READ with interest in a recent issue "S. W. F." experiences of *Alstroemeria chilensis*, and would like to give you my own. My late garden was light loam. *Alstroemeria chilensis* grown from seed gave no trouble and produced fine blooms. On coming here, in March, 1900, I sowed three new beds. The soil is heavy. Two beds were dug in the ordinary way, with a little manure added; the first year a few wretched plants came up very patchy, and the second year, though they were given a good top-dressing, the result was so poor that I have had them dug up. The third bed was sown on deeply-trenched clay, with plenty of good farm-yard manure at the bottom, and with leaf-mould and manure top spit. From September to November the heads were in full bloom; seeds were cut off as soon as formed, and in the summer of 1901 the results were as good as I could wish. "S. W. F." says that some people have difficulty in growing this lovely perennial. I have given seeds to friends, some of whom say they get one or two miserable plants, while others have lovely beds. I find the colour can be much improved by judiciously selecting the seeds. What can be more beautiful and more lasting than a vase of these Lilies, cut with long stems and arranged with the larger and branching varieties of the wild, roadside Grasses?

Lincoln.

G. M. S.

Photographs of Gardens, Plants, or Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents indoors or outdoors, sent to us in any one week. Second prize Half a Guinea.

The Prize Winners this week are: 1, Mr. W. A. Leslie, Corniston Towers, Biggar, N.B., for Rhododendron Lady Alice Fitzwilliam; 2, Mr. W. Burrell, Stanley House, Milgraves Road, Sutton, Surrey, for Summer house.

ROOM AND WINDOW.

GREENHOUSE CULTURE OF POLYANTHUS NARCISSUS.

THE bulbs are of first-rate quality, and from a good man. The flowers are produced, but the heads are poor and stalks short. When should they be potted, and when taken into the house? Night temperature of house about 45 degs. lowest.—See below.

[All the varieties of *Narcissus* *Tazetta*, bunch, or *Polyanthus* *Narcissus* produce bulbs of large size, or, rather, of exceptional size. To be successful in flowering these kinds several items over which those flowering them have little control are essential. Firstly, the bulbs must be of first quality according to their kind, and,

moisture, both being kept up till the flowers begin to open. A large bulb of one of these will send out a flower-stem 2 feet long and a dozen flowers at its crown. By your description of short stalks and poor heads, we imagine you have potted them far too late, and in a poor condition they are poor indeed.]

CHRYSANTHEMUMS.

SIX EARLY-FLOWERING POMPONS FOR BORDER CULTURE.

(REPLY TO "J. H.")

We congratulate you on winning second prize



Polyanthus *Narcissus* in pot. From a photograph by G. A. Champion.

duly harvested, should be potted up in a good rich soil in September, if possible, but certainly in the following month. Only in this way can the root-fibres perform their functions. Bulbs potted late, particularly in December and later, cannot flower well, albeit the bulbs may be fully as large as earlier-treated roots. Potted at the time stated, given a soaking of water, and plunged 6 inches deep in ashes, roots will be made apace, and upon these the good flowering chiefly depends. Such early-potted bulbs may be taken into the greenhouse in mid-December, and, watered abundantly, progress will be brisk as the days lengthen. A temperature of 45 degs. at the start, to be raised in two sections of 5 degs. in a month, will suffice. Great quantities of water are necessary, and almost of equal weight is atmospheric

last season for beautifying your cottage garden with early-flowering *Chrysanthemums*. You limit the selection of sorts, as you say the gardens have to be judged somewhat early in September. Now, there are several very pretty sorts of ideal habit which we can recommend, but had the period of flowering been extended into the early days of October the selection of sorts would have been a much better one.

MR. ED. LEFORT.—One of the finest flowering *Pompons*, bearing large, well-shaped blossoms of an old gold colour, shaded with red, and prettily frimbriated. The plant attains a height of about 2 feet, and comes into flower from the beginning to the middle of September.

MR. SELLY.—A distinct and pleasing *Pompon* of pretty peach-pink colour. The blossoms are of medium size, freely produced, and each

flower may be gathered on a useful length of footstalk. Height about 18 inches, habit bushy. This variety is in flower from late August and also during the whole of September.

Mrs. E. STACEY.—This is a charming sport from Mr. Selby, and partakes of all the excellent characteristics of the parent plant. In this case the colour is a pleasing spricot.

ANASTASIA.—This is an old sort, but it has many good points. The plant does not exceed 20 inches in height, is wonderfully branching and sturdy in its style of growth, and bears a profuse display of dainty rose-purple blossoms tipped with gold. The period of flowering commences in late August and is continued throughout September.

LITTLE BOB.—In this the colour is a rich chestnut, which passes to a deller shade with age. The blossoms are somewhat small, but they are so freely produced that the effect is very striking. Height about 2 feet; blossoms continuously from mid-August till severe frosts ensue.

Mrs. JOLLIVANT.—A very free-flowering plant with a bushy habit of growth. The blossoms are white shaded with pink. Height about 18 inches. It is in flower during September.

STOPPING AND TIMING.

(REPLY TO "W. W.")

JAPANESE.

Earl of Arran	mid. March	2nd crown
Guy Hamilton	mid. March	2nd crown
Mrs. G. Mileham	mid. March	2nd crown
Kimberley	10th April	2nd crown
Gen. Baller	late March	2nd crown
W. R. Church	mid. April	2nd crown
Ella Curtis	3rd week March	2nd crown
Edwin Smith	mid. April	2nd crown
H. Weeks	1st April	2nd crown
Lord Ladlow	late March	2nd crown
Le Grand Dragon	late March	2nd crown
Miss M. Douglas	1st March	2nd crown
Nellie Perkins	mid. March	2nd crown
Ossana	early April	1st crown
R. H. Pearson	late March	2nd crown
Chas. Langley	mid. March	2nd crown
Miss L. Montford	mid. March	2nd crown
Necota	mid. March	2nd crown
Orion	3rd week March	2nd crown
Mrs. Barkley	3rd week March	2nd crown
Phobus	mid. March	2nd crown
Mrs. Gab. Dobrie	late March	2nd crown
Nellie Pockett	late March	2nd crown
G. J. Warren	late March	2nd crown
M. Gus. Henry	1st week March	2nd crown
J. R. Upton	mid. March	2nd crown
Mr. T. Carrington	mid. March	2nd crown
Mrs. Carnot	late March	2nd crown
Mrs. Mease	late March	2nd crown
Simplicity	mid. March	2nd crown
Vivian Morel	mid. March	2nd crown
Mrs. C. H. Payne	mid. March	2nd crown
Marie Calvat	mid. March	2nd crown
Australian Gold	3rd week March	2nd crown
Lady Hanham	mid. March	2nd crown
Ed. Molyneux	mid. March	2nd crown
Mrs. E. Trafford	mid. March	2nd crown
Chas. Davis	mid. March	2nd crown

INCUBED.

Miss F. Southam	mid. April	1st crown
Nellie Southam	3rd May	1st crown
Baron Hirsch	2nd week April	1st crown
C. H. Curtis	mid. March	1st crown
Lady Isabel	3rd week March	2nd crown
Mrs. R. Kingston	1st week April	1st crown
Mrs. W. C. Egan	1st week April	2nd crown
Mrs. N. Molyneux	2nd April	2nd crown
C. B. Whitall	1st week April	1st crown
Mrs. L. Faure	10th March	2nd crown
Leonard Byne	1st April	2nd crown
Duchess of Fife	mid. March	2nd crown
Mrs. W. Higgs	1st April	2nd crown
Timothy Eaton	early April	1st crown
Bonnie Dendee	early March	2nd crown
Mrs. W. Wood	3rd week March	2nd crown
Jeanne d'Arc	1st week April	2nd crown
Topaze orientale	1st April	2nd crown
Pearl Danthonese	1st April	2nd crown
Brookleigh Gem	1st week April	2nd crown
Mrs. Forlat	mid. March	2nd crown
Mrs. Darrier	3rd week March	2nd crown
Emily Nunnin	1st April	2nd crown
J. Lambert	mid. April	2nd crown

These times may be made rather earlier or

later, according to progress of plants, time of rooting, and so forth. This applies to both sections.

TREES AND SHRUBS.

THE MYRTLE.

Though the true home of the Myrtle is in the sunny south, such a fragrant shrub is cherished by all who love their gardens. We can grow with care luxuriant hedges of every sort of the common Myrtle against a sunny wall, and if a severe winter takes them from us we must replace them. In Cornwall and Devon the Myrtle is seen as a bush in company with the Fuchsia in a tree-like way, but inland we must be content with it as a wall covering, and a most beautiful covering it makes. The common broad-leaved kind as seen in most old gardens has been with us since the culture of foreign shrubs began in England, and therefore a peculiar interest attaches to it. But there are many other kinds which one sees commonly grown in Italy and the south that excel the typical kind in beauty of flower and foliage while retaining the belmy fragrance. The dwarf sorts are the Roman, Box-leaved,



A spray of Myrtle.

Nutmeg, Portuguese, Italian, and the Dutch, all different and having characters that recommend them, but, unfortunately, they are difficult to obtain. One of the best and one that is procurable in nurseries is the Rosemary-leaved Myrtle (*M. communis macronata*), also called *minima* or *angustifolia*. It has much smaller leaves than the common kind and produces a sheet of white feathery bloom against a warm wall. Besides these more or less botanically distinct varieties there are several with variegated foliage, such as the gold-striped, silver-striped of the various forms mentioned above, but they are not so desirable as the simple green-leaved varieties, and are mostly grown in pots for cutting from. In any but the mildest localities or near the sea the place for Myrtles is a wall where they can get plenty of sun, and if there is an overhanging ledge, such as a window-sill, so much the better.

"Farm and Home Year Book."—We are glad to be able to state that the "Farm and Home Year Book" seems to have met with our readers. Its reception by the Press generally has been most cordial, and the demand for it has been so great that a third edition has been issued. Our readers should have no difficulty in obtaining it from any local bookseller or newsagent, who will order it if it is not in stock; or they may get it direct from the Publisher, 37, Southampton-street, Strand, by post, 6s. 3d.

FRUIT.

DISBUDDING PEACHES.

Will you kindly explain what disbudding Peaches is and how it is done? I have just planted five trees in the Peach-house, and want to know how to proceed so as to have good trees and crops? Is the object of pruning Peach-trees to have fruit on the side growths? I have a lot of bloom showing on the side growths of an Apricot-tree. Is there any good work on the cultivation of Peach-trees?—W. F.

[It is difficult in the space of a brief reply to give sufficient detail to clearly describe the work of disbudding in Peaches. There is a deal of necessary study and application to carry on the growth of trained Peach-trees successfully. They are so profuse of growth that disbudding must be continued over a lengthened period. It is a bad plan to remove all superfluous shoots in one day. It is better to extend this over a week or even two, to avoid the check to the future growth. Nor must fruit be considered the first year of planting. It is better, in fact, to remove any flowers there may be in a bad state now. In the course of disbudding Peaches and Nectarines always choose a well-placed shoot as near the base as possible of every existing principal one, allowing as a leader the bud growth at the extremity of the same. If the matured branch should be of a fairly good length, then allow an additional shoot between these two. In the case of a young tree not yet fully furnished this course would be easy. The object of the choice of the basal growth is to provide for the fruiting growth of the following year. Often the growth allowed from the extremity is pruned back, though not in every case, to the fruiting shoot behind it. Much of this depends on the tree itself and the fulness of its furnishing. Crowding is confusing, causing unnecessary labour, and is not good for the trees, thus disbudding should be carried out so that this after trouble is avoided. Always choose permanent shoots on the upper, not the under, sides of existing fruiting wood. These that occur on the under sides are the first that can be removed. In many instances there will be at least ten shoots where two only are required, thus it is advisable to retain those best placed for the formation of the future tree. Manipulation of the green shoots of Peach-trees becomes in itself almost a fine art, which cannot possibly be dealt with in a fearless manner by the amateur grower. A little professional assistance is of great value in giving a proper insight into the initial courses of tree manipulation. Except in the case of a very strong shoot, no stepping of Peach growths is necessary, and the lateral branches formed this year are those which produce fruit next season. Apricots differ in their habit from Peaches and Nectarines in that once the trees are well shaped the future crops are produced on short spurs, formed by pruning in summer and winter. Peaches fruit on spurs, but it is not a natural course of production. Tying or nailing, whichever course is taken, of the growing shoots must be undertaken periodically, so that they are early trained into their proper shape, and make sure they are kept free or in front of the wires, and are not too tightly bound. Always allow room for the expansion of the shoots of any tree, so that their progress is not hindered throughout the growing season.]

NOTES AND REPLIES.

Gordon Apples.—I have just been reading the interesting articles in last week's issue on Gordon Pears and Cox's Orange, and should be much obliged if you would give me some information. I have two south walls. Would it be profitable to plant cordons, with a view to selling the fruit? Would a Pear, such as Doyenne du Comice, or Apple Cox's Orange, be likely to pay best? If I purchase maiden trees is it advisable to cut them down to within a few inches of the union if I only want single cordons?—P. W.

[Before we can advise you as to planting cordon fruit trees against your south walls, we should like to learn something as to their height. Except to grow on maidens into cordon form for a year or two, 4-foot walls are too low, 5 feet are better, and still better are walls reaching from 6 feet to 9 feet in height. In training cordons, let the wall be low or high; additional length for the trees is obtained if trained slant-

ingly, although at but a moderate angle. That also seems to conduce to fruitfulness. You can plant either Peas or Apples 14 inches to 15 inches apart. If you get maidens and plant them, shorten back the shoots one half their length to cause the back buds to break. Also carry on the top shoot as a new leader. In the summer the side shoots must be cut back to about four leaf-buds at the end of July, the spurs being still further cut in to two buds in the winter. Continue that treatment each season. Doyenné du Comice Pear is of superb quality, but is not a great bearer. Probably Maria Louise, Louise Bonne, or Pitmaison Duchess would pay better. You should have both Cox's Orange Apple and a Pear.]

Twelve dessert Apples.—Would you kindly give me in your paper a list, as a reader of GARDENING, of about a dozen good eating Apples, suitable for planting as espalier trees—omit Blenheim Oranges and Ribston Pippin? Is the present season too late to plant?—O. J. Nox.

[The planting season may be said to be almost brought to a close at the end of February, but if you can get your trees from a local nursery, and their transfer can be effected without the trees being long exposed, there is no reason why you should not succeed. You can do much to help them to become established by a mulching of short manure and applying water copiously in dry weather. Partial pruning, too, will tend somewhat to relieve the strain on the roots. The season, retarded by the recent spell of severe frost, will be all in favour of late planting, and will, in fact, be resorted to to a good extent by nurserymen simply because the ground has been held frost-bound for so long, causing delay in the execution of orders. The following will be a good selection, as affording a supply from August until April or later: Beauty of Bath, Red Astrachan, Worcester Pearmain, Banmann's Red Reinette, King of Pippins, Cox's Orange Pippin, Claygate Pearmain, Scarlet Nonpareil, Court Pendu Plat, Mannington's Pearmain, Strmer Pippin, and Allington Pippin. A good, though not a showy, Apple for midwinter and until March is advanced is the old Cackle Pippin, and a useful and very bright little Apple for the autumn is the Duchess of Gloster. Gravenstein, too, is a highly aromatic, finely coloured, and good Apple that may be included in a select list. This is an Apple that birds and wasps are very partial to in autumn—a good criterion of quality.]

GARDEN WORK.

Conservatory.—The New Holland plants are lovely now. Acacias, Eutexias, Ericotomons, Bononias, Pimeleas, Chorozemas, etc., when well done are especially interesting. But most of these are relegated now to Kew and other botanic gardens, and in this respect our national gardens are doing good work. The demand for long-stemmed flowers for cutting has had more to do with the neglect of these beautiful, handsome plants than anything else. I was looking round a large garden some time ago that was at one time celebrated for its collection of plants, and which is now almost entirely given up to growing flowers for cutting and plants for table decoration and general furnishing. Palms are graceful, and the number raised in this country and imported from the Continent is astonishing, especially in the case of Kentias, which I consider the most useful family. It is astonishing in these days of keen competition how well the Kentias keep up their value. This is due to the very large demand. In every village and in almost every cottage residence Palms are now seen. This is the season for repotting any Palms which may require more pot room. The continental growers use a lighter compost than we use for Palms, with the view probably of hurrying on the growth. They also grow their plants in strong heat, and unless well hardened they are not so lasting in the drier atmosphere of the dwelling house as the cooler grown plants. Palms are easily raised from seeds, but they move very slowly in a low temperature, and the specialist with convenience for their rapid growth in the shape of heat and moisture can do the work better and cheaper. Palms will not stand strong sunshine, especially under glass, and if a leaf gets scorched the plant is ruined for a considerable time. If the plants have to be grown in pots of a limited size, good loam, rather heavy, should form the staple. The drainage should be small,

and when the roots have pretty well filled the pots liquid-manure should be used. Very weak and clear soot-water will be useful in giving the plants a dark green colour. Only soft water should be used for syringing, as lime in the water will spoil the appearance of the foliage. The regulation of the growth of the climbers must receive prompt attention now, and when the climbing growth is judiciously spread under the roof a grateful shade will be afforded when the sun gains power by-and-by. Only moderate fires will be required now.

Stove.—With increasing daylight more moisture will be required both at the roots and also in the atmosphere, but newly potted plants must be carefully treated till their roots become active. Many a valuable plant has been ruined by over-watering immediately after repotting. For a time the syringe will pretty well suffice. Such bulbous plants as Gloxinias, Achimenes, Oenotheras, etc., will be waking up now, and should be brought up to the light and encouraged to grow. Repot Caladiums when they start into growth. If more stock is required the corms can be divided. Repot Allamandas and other climbing plants which are grown in pots. An effort should be made to clean Stephanotis floribunda from mealy-bug before the plants come into flower. The Torenia are pretty basket plants and may be raised from seeds sown in a brisk heat. Rivinia humilis is a pretty berry-bearing plant. Nice little plants may be had in 5 inch pots. Seeds grow freely. With us the seeds drop about and grow freely. A good stock of winter-flowering Begonias should be rooted now. The variegated-leaved Begonias seem to be coming up again. Most of the Begonias may be propagated from leaves. Night temperature now 60 degs. to 65 degs. Ventilates freely on warm, mild days. Plants in bloom will soon require a thin shade when the sun is bright in the middle of the day, but it is as well to do without shade till plants appear distressed.

Pines.—Successions will require shifting into larger pots this month, and the bottom-hat beds trodded over and renewed where necessary, but with hot-water pipes beneath the beds the question of renewing pinning materials is not so important, but the stuff should not be left in till reduced to mould. When I grew Pines largely I used loaves for plunging, and changed them annually. Pines do very well planted out, but after some progress has been made in pots, and after the first frosts have been formed, two of the best suckers are left for the next crop. We have often left three suckers on Queens, and had three good fruits to each stool. I cannot quite see the force of giving up Pines growing in private gardens; all other fruits have come down in price as much, in proportion, as Pines. Of course they want a rather high temperature, but pot-Vines, French Beans, and other things, have been grown with them to help to pay for fuel.

Melons.—This is a good time to plant in hotbeds when the necessary heat can be commanded, but in these days of cheap glass Melons for the early crops, at any rate, are worth a warm, rather low-span roofed house, not of too steep a pitch. In a house with a steep-pitched roof it is very difficult to keep down red-spider. Put out strong plants in good sound loam made pretty firm. Have a comfortable bottom heat and a night temperature of 65 degs. Give enough ventilation to have firm, hard foliage, and do not shade. Let the plants get within 15 inches of the ridge before stopping, and pinch the side-shoots one or two leaves beyond the fruit, as far as possible together, on each plant. The number of fruits on each plant must be determined by the variety and strength of plant, but from four to six fruits to a plant are a reasonable crop where the fruit must be grown fit for table.

Window gardening.—There is plenty of bulbs of all kinds now. If potted early, Hyacinths, Freesias, Narcissus of all kinds, will be in flower now under quite cool treatment. Cinerarias, Primulas, double and single, Dentizas, and Lily of the Valley, are plentiful now. Cyclamen also are charming. Double Primulas and Cyclamen will not require so much water as the other things. Cutting of the hanging Campanula will strike now. The growth of Mosaic is moving now, and the pots should be overhauled.

Outdoor garden.—Hardy annuals may be sown outside at any time during March or April when the weather is suitable. The earlier they are sown under favourable conditions the sooner the plants will flower. Certain things, such as Sweet Peas, will be sown several times for successive blooming. Most people either sow in autumn or raise a few plants in pots under glass for the earliest lot; then a second sowing can be made in March and again in April. Mignonette should be sown freely. The Night-scented Stock should be sown near the house for its fragrance in the evening. Cornflower is useful for cutting. These are usually sown in autumn and again in spring. They will transplant well, and must not be crowded. We generally plant a foot apart to obtain fine flowers. Other useful cutting flowers are the various kinds of annuals: Chrysanthemums, Coreopsis, Gaillardia Lorenziana, Indian Pink, Sweet Sultan, branching Larkspur. The Lepotosiphous are pretty edging plants, and may be had in separate colours of white, yellow, and red. Phacelia campanularia is a pretty dwarf flowering plant. Nemophilas, Nasturtiums, both dwarf and climbing, are useful and cheap. The Convolvulus family is also bright and effective. The tall kinds of Lupinus are useful to sow round the shrubbery in new places. Sunflowers also, especially the newer forms, can generally be utilised in new places. Carnations may be planted as soon as the beds are ready. A sprinkling of soot will be useful if there are wire-worms in the garden. Scatter it over the surface and fork it in. Keep off the ground when the surface is damp. Trifolium Pinnatis go in well now.

Fruit garden.—As soon as the sap flows freely grafting may be done. There are far too many kinds of Apples, and it would be a great advantage if the inferior kinds were regrafted with better sorts; especially is this desirable where it is intended to market any of the fruit. Another important matter is the storage of late-keeping kinds. What is wanted is a cool structure that is absolutely frost proof without using artificial heat, and this can best be obtained by building hollow walls, the roof being thatched and lined inside with matchboarding. Ventilators or windows must, of course, be protected with shutters. A structure of this kind need not be very expensive, and would pay for construction if fruit is grown on a sufficiently large scale. For a good many years we have secured a crop of Peaches and Apricots by protecting with fishing net alone, and there have generally been trees on the walls which have no protection at all beyond a rather wide coping, and there have been seasons when the crops have been so good on the unprotected trees that one has been tempted to say that in some sheltered spots no protection was necessary. Any person having nets at his disposal and who does not use them is running a risk which no sensible man would care to do, and so the coverings are brought out when the blossoms show colour.

Vegetable garden.—Cauliflowers may be planted under handglasses or in trenches in warm situations. In large gardens there are often positions in front of forcing-houses where the warmth from the house is reflected on the border, and a higher temperature secured. Here early Peas, Cauliflowers, Horn Carrots, Lettuces, and other things, are brought on long before they can be obtained elsewhere. We always sow the Autumn Giant Cauliflower now under glass in heat, and harden off and plant out during April and May, in various aspects, to form a succession during summer and the early autumn. Another sowing is made outside in April for late cutting. In the hot weather, when the early kinds of Cauliflowers are open and useless, the Autumn Giant from the early-reised plants is clean and white. It is quite true the Cauliflower often comes too large for a fastidious taste on rich land, but we get over that difficulty by planting closer in the rows, leaving the same distance between the rows, so that the air can circulate freely between the plants. To do the best with Brussels Sprouts and Leeks the seeds must be sown early. I have often wondered, considering what a wholesome vegetable the Leek is, that it is not better grown, so as to have it of large size. The same remark applies to Celery, especially the Turnip-rooted Celery, which is so good for stewing. More should be done with

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FRUIT.

GRAFTING WITH RUBBER STRIP.

Now that the time for grafting is coming on, I think a few notes on the use of rubber strip for grafting might be useful. The material that I use is the pure rubber strip which is used for insulating joints on electric wires, and can be obtained from electrical contractors or dealers in electric wires, in the form of a roll of tape $\frac{1}{4}$ inch or $\frac{3}{8}$ inch wide. I have generally used $\frac{1}{4}$ inch wide, but this year I have some $\frac{3}{8}$ inch, but I think $\frac{1}{4}$ inch is better for very small stocks, and equally good for larger ones. I first tried it in 1896, and, after experimenting with it for a year or two, I found it so successful that I always use it now for grafting on small stocks, but it is not so suitable for crown grafting on large stocks. The graft may be cut to fit the stock in any of the usual ways, but accurate fitting is not so important as with other covering materials, as the rubber strip can be wound on tighter than any non-elastic material, forcing the scion and stock into close contact with a uniform firm pressure without cutting into the bark. The rubber strip must be well stretched before putting on, then wound round the joint tightly, so as to cover it from end to end with two or three layers of strip; it then forms an air-tight covering and holds the graft very firmly, so that no other support is required, and yet it will give as the union of the scion and stock swells. The end of the strip may be tied, but the best way is to moisten the end with rubber solution and stick it down. If very little solution is used it will stick at once if pressed down firmly; if too much solution is used it takes a little longer to set. Sometimes the rubber strip perishes quickly if exposed to hot sun, and I have lost some grafts from the rubber coming off before the graft had united properly. Last year I covered the rubber with a layer of raffia, put on loosely, as a protection from sun, and found it quite satisfactory. I have found the same material superior to anything else for budding fruit-trees, but Rose-stocks are often not strong enough to stand the strain of winding it on tightly. About 4 inches or 5 inches, measured before stretching, is enough for most grafts on young stocks, and rather less will do for very small stocks. Strip $\frac{1}{4}$ inch wide weighs about 100 grains to the yard, so that 1 oz. is enough for about forty grafts.

Heworth, Launceston. R. B. ROGERS.

FRUIT-TREE STOCKS.

In the course of a very practical lecture, delivered the other day in my hearing, on the subject of "Fruit-tree Stocks," the lecturer did not refer to a practice adopted by that excellent gardener, Mr. W. Crump, of Madresfield Court, who, having charge of a large nursery on Lord Beauchamp's estate, established specially to supply tenants with various fruit-trees, raises his own stocks almost exclusively, and in relation to all seedling ones, whether of Apple, Pear, Plum, or Cherry, corrects the natural tendency on the part of all these stocks to send down stray vertical roots to the soil. His practice is to, early in the stage of root development and when the

seedlings are planted out whilst young, and are plastic, to bend forward or horizontally the inevitable tap-roots, and thus literally set the trees upon them. The result, Mr. Crump states, is that not only are downward roots thus checked, but they become surface roots, thus enabling the trees to make good growth without producing sappy wood, and also enabling all roots to be preserved rather than bent away. To a request for reasons why not rather cut away these tap-roots, Mr. Crump replied that if such a course be taken it is pretty certain that from just above the severance new and strong vertical roots will break down, and thus in a few years the condition of the trees will be no better than would be the case had the original tap-roots been left uncut.

Trees that have been worked on stocks raised from seed, and have had their roots bent or deflected on the Madresfield lines, are, when lifted for sending out from the nursery, found to have so set a base that they will stand on the ground without support. This is strong proof of the value of the plan as applied to all free or seed raised stocks for fruit-trees. But the Madresfield trees are raised chiefly for orchard culture. Still, the plan of bending the roots answers admirably for trees to be grown in gardens, although to produce Apple, bush, and Pear pyramids, without doubt, it is best to work on Paradise and Quince-stocks. In relation to the latter stocks the lecturer approved of the practice of

DOUBLE WORKING in the case of varieties of Pears that were not strong growers. It seems strange that the introduction of but a few inches of stem of a strong growing variety between the stock and the ultimate graft should have on the latter so marked an effect as usually found to result. There is, perhaps, no better variety of Pear for first working as a strong grower than is Baurré d'Amanlis. That usually produces the first year from the bud tall shoots. These, the following August, can be budded 6 inches above the first budding joint, and when the variety is a habitually weak grower on the Quince, the result is material strengthening and much greater robustness. Marie Louise so double worked does remarkably well as a cordon on the Quince, and other moderate growing varieties respond in the same way. Of course it may be said, why not work these varieties on these seedling Pear-stocks at once? That is a fair query to put, but there is, I think, that no matter what the variety worked, the free Pear-stock will all the same tend to develop strong vertical roots, and to secure good high flavoured fruit that course should be avoided. Hence the value of double working the Quince-stock to produce trees better for garden culture.

In relation to Plum and Cherry-stocks, the lecturer preferred those raised from seed to any obtained in the form of suckers. The latter seldom produced satisfactory roots or trees. Whilst the Mussel Plum was that most widely used, the Myrobalan stock was sometimes useful for comparatively weak growers. But this stock is a coarse rooter and a late grower, hence it is less fitted for garden work than is the Mussel. What the Paradise and Quince

stocks are to the Apple and Pear, the Mahaleb stock is pretty much to the Cherry. It is well suited to produce bush-trees for the garden or cordons for walls, whilst for ordinary standards in orchards none are better than are seedlings of the common wild Gean, as these possess good enduring properties. Where standard Cherries do well they not only attain to great size, but also to great age.

A. D.

DISBUDDING VINES.

Will you kindly explain what dibudding of Vines is and how it is done? The buds entirely removed are so that no growth can again come? The Vines I am putting in my house are two-year-old canes, 3 feet to 10 feet long, and thicker than one's finger, having buds at from 3 inches to 7 inches apart. Should each of these buds be actually rubbed off, so as to allow the remaining buds to be about 18 inches apart? From the edge of the plate or brickwork to the earth bed I suppose all the buds must be removed? Should about 3 feet of the Vine be allowed upwards from the plate and above that cut off? I should be much obliged for this or any other information you may kindly give.—W. F.

[Dibudding is the removal of superfluous shoots of the Vine. From the joints of young Vine-rods there will often issue two or three buds. It will be at once obvious that only one of these will be necessary, therefore select the best of these and retain for the purpose of the summer, and remove the others. As your joints are so closely situated, it may be necessary to wholly remove the buds at a point bare and there to prevent crowding, but it need be remembered that the shoots are trained alternately on the right and left of the rod, which in some measure opens out the spaces as they appear on a young Vine-rod. It will thus be apparent that a rule making 18 inches the limit between the shoots would be too severe. Do not attempt to dibud the Vine below the roof trellis, but rather retain the shoots, keeping these in subjection by periodical pinchings. These favour the swelling of the stem from the ground upwards, which is such an advantage to the future Vine. Do not, on any account, use a knife at this late period, or such severe bleeding will be set up that you will be unable to check it—rather remove the swelling buds later on by hand from the extremity back to the point where you would in the natural course of events have pruned, and there will be no loss of sap to the detriment of the Vines. Some prone to the first wire of the roof-trellis; it is better to err on the side of severity than otherwise in dealing with newly-planted Vines. After they are well into leaf you can cut the nude rod back to any point desired without injury, because then the sap is absorbed by the foliage. As your Vines are strong they should, if your border is composed of suitable materials, make a correspondingly vigorous main shoot. This will be better stopped once or twice during its progress, which will have the effect of thickening out the shoot from behind the position where it is stopped. The advantage of this will be more apparent the following season. Do not attempt to fruit the young Vines this year, as this tends to cripple their future progress. Stop the lateral or side-shoots at the length of about 1 foot, and in stopping later allow an extra leaf each time, especially if they are vigorous.]

SOME GOOD CODLIN APPLES.

The term Codlin as applied to a particular section of Apples is a very old one, and is supposed by some to be derived from the word coddle—i.e., to parboil, in reference, no doubt, to their suitability for "coddling," a peculiar form of cooking necessary when preparing Apples for certain dishes. Codlins and oreem was a dish well known to and much appreciated by our forefathers, and the particular variety laid under cultivation to form the principal ingredient of this time-honoured dish was the old English Codlin. Codlins, to use the term generally, are as popular now as ever they were with cooks and housewives on account of their splendid cooking qualities, and housekeepers in large establishments prefer them to all others for the purpose of making Apple-jelly, their soft flesh and brisk, acid flavour rendering them eminently suitable for this. Other recommendations are: they are very heavy croppers, of which fact the accompanying illustration affords abundant testimony; they are also consistent bearers, as it is seldom that healthy trees fail to yield good crops yearly. Commercial fruit-growers do not regard them with such

sized tree as ones established. The fruit of this variety is large and conical, the width of the base exceeding the height in the case of well-developed specimens taken from young trees; skin, yellow, covered with reddish-brown markings on the sunny side, and sometimes heavily flushed with red. It has firm flesh, which is juicy and pleasantly acid. It is a splendid cooking Apple, and is in season from September to the end of October. Taking

LORD SUFFIELD next, this may be described as the king of the group, so noble is it in appearance. This originated near Manchester, and was named after Lord Suffield, who was at that time Lord of the Manor of Middleton, and near to which place it was raised by a handloom weaver. If this variety is grown in standard form, the trees should be planted so that they are protected from the force of high winds; otherwise, there is a risk of the crop becoming considerably damaged. The only drawback is the fact of the tree being so liable to canker on some soil, and when this assumes very serious proportions the better plan is to plant Lord Grosvenor, which is proof against this evil. When well grown the fruits attain a very large size, and average

grower such high returns when marketed, it is, nevertheless, a good market Apple. This variety originated near Ulverstone a great many years ago, and it was sent out by Mr. J. Sander, of Keswick, under the name it now bears. It is particularly hardy in constitution, and amenable to any form of training, and is a prodigious cropper. The fruits are somewhat similar in outline to Lord Suffield, but are smaller, and have the addition of several distinct lines or angles, which run from the base to the crown, this peculiarity being more intensified in some examples than others. It is in season from August and lasts to the end of October if stored.

LORD GROSVENOR, as has already been mentioned, is a good substitute for Lord Suffield, under certain conditions, and is also known and grown under the name of Jolly Beggar. It is, however, not so handsome an Apple as Lord Suffield, although equalling it in size, as it partakes of the character of Keswick Codlin in being ribbed, or having several angles on its sides, and is often much pockered round the eye. It is a clean, healthy doer, and has a distinct habit of growth, the young wood having a polished appearance and spotted with small grey dots, while the leaves are broad and of a leathery texture. Like Lord Suffield it is a remarkable cropper, and is a good Apple for market supply or for private consumption. If gathered and despatched to market in the same condition as recommended for Lord Suffield, the returns are then very satisfactory.

MANCK'S CODLIN, which, like Keswick, has been an inhabitant of kitchen gardens and orchards for a great number of years, is a thoroughly good Apple, if somewhat small, and an excellent cooker. It has a brighter appearance than any of the preceding, and in a hot summer often becomes beautifully coloured. It is seldom more than medium-sized, conical, and marked more or less with angles or lines, and the flesh, which is white, is agreeably flavoured for a cooking Apple. It comes into use in August, and, owing to the firm texture of the flesh, will, if required, keep till near the end of the year. This self-same Apple is also known under the names of Irish Pitcher and Irish Codlin, but Manck's is that most frequently used. It is a very close-growing variety, and trees of it, no matter in what form they may be trained, never attain to large proportions.

TRANSPARENT is much like Lord Suffield in appearance, but it has a more clear or transparent-looking skin, the same peculiarity being also imparted to the flesh. It is a handsome-looking Apple, particularly when its clear, yellow skin becomes flushed with crimson in a hot summer, and has been strongly recommended by some growers as being an excellent variety to grow for market. This succeeds well as a pyramid or bush, and is a first-rate early-maturing garden Apple.

DUTCH CODLIN is somewhat similar to Manck's in appearance, but grows considerably larger than it. This Apple used to be highly esteemed at one time, but it seems to be passing out of cultivation.

The above do not by any means exhaust the list of Codlin Apples, as there are the French, Royal, Nelson, and several others; but as the best, most popular, and valuable have already been enumerated, no good purpose will be served by taking up space in particularising these.

A. W.

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A good crop of Codlin Apples. From a photograph by Mr. F. Mason Good, Winchfield.

favour as they do other varieties which ripen about the same period, as Codlins are rather bad travellers; yet, in spite of this, there is no gainsaying the fact that no other Apple can surpass them for cooking, baking, jam or jelly making at the time they are in season. Again, the varieties are all so hardy and accommodating that they can be cultivated in any form of tree. For private gardens the bush is perhaps the best form of tree to plant, and the same may be said of modern plantations or orchards. In old orchards they are generally found in the form of tall standards, and some few growers plant them in this form at the present day.

The group comprises some fifteen varieties, of which several have been in cultivation for a great number of years. The oldest is the English Codlin, previously alluded to, but the best known of all are Lord Suffield, Lord Grosvenor, Manck's, Keswick, and, in a less degree, Transparent. The old

ENGLISH CODLIN has long been grown, but is fast dying out. At one time no garden or orchard was considered complete if it was not represented, so greatly was it esteemed. This is one of the easiest of all Apples to propagate from cuttings, and if a whole branch is sawn off and planted it will soon emit roots, and a fully

from 2½ inches to 3 inches in height, and about 2½ inches wide at the base. They have a smooth pale yellow skin, which becomes slightly flushed when fully exposed to the sun on orchard standards; flesh white, tender and juicy, with a plebeian acid flavour. It is in use from August to October, and is a first-rate Apple for cooking. Owing to the skin being delicate and tender, and therefore liable to show any mark and bruise easily, Lord Suffield is not planted so largely now as formerly for market work. Nevertheless it is a very remunerative Apple if gathered just before the fruit becomes ripe, and properly packed and forwarded to a good market for disposal. We have known fruits which have had this care realise prices averaging from £18 to £20 per ton, while in other cases some who lacked enterprise, both in seeking a good market and who would not gather until the produce was fully mature, did not realise more than one half of these figures. As a variety for private consumption it takes front rank, and it is a heavy, continuous cropper, no matter whether grown in the orchard or garden.

KESWICK CODLIN has long been in cultivation, and if not so large as the preceding, yet ranks with it as regards its cropping power and general usefulness. Although not yielding the

PLANTS AND FLOWERS.

AN OLD-FASHIONED BORDER.

The illustration shows a piece of an old-fashioned border. As the soil is rich, most hardy plants grow luxuriantly and form natural and picturesque groups, like that shown in the illustration of Summer Snowflake and Siberian Saxifrage, with some dark foliage behind them, and a bright mass of blue Forget-me-not, which had sown itself, further on.

Dunboyne, Ireland.

MABEL GAISFORD.

HARDY PLANTS FOR SPRING BORDERS.

SPRING may be roughly taken as comprising the three months of March, April, and May,

which contrasts so effectively with the deep yellow of the Daffodils. The best edging for the mixed border is, without doubt, one composed of rough, irregularly-shaped stones, through the interstices of and over which trailing plants may be grown. Of these there is a long list of charming spring-flowering subjects, such as the golden *Alyssum saxatile*, its lighter-tinted form *A. s. citrinum*, and the Sweet Alyssum (*Kryniga maritima*), with its honey-like perfume, a perennial in warm borders; *Arabis albidia*, which as early as February drapes retaining walls with a veil of white in the south-west; *Aubrietas*, in their many hues from lavender-grey to crimson and deep purple; the dead white *Cardamine trifolis*, *Iberis cornifolia*, *I. semperflorens*, and others

naturalising in open woods. The scarlet Star Anemone (*A. fulgens*) is particularly glowing in its hue, but in some gardens rapidly deteriorates, while in others it retains its vigour and free-flowering qualities for ten years or more. The well-known Poppy Anemone (*A. coronaria*), an old garden favourite, has been greatly improved of late years, the St. Brigid strain being very large and of pleasing colour. The Pasque-flower (*A. Pulsatilla*), a native of our chalky downs, with its purple-golden-stamoned blooms, is very lovely, but requires lime in the soil to do well. A ranunculoides, which bears bright yellow Buttercup-like flowers, is a little gem, and the silver-blue *A. Robinsoniana*, a variety of the common Wool Anemone, is perhaps the loveliest of all the Windflowers, but, like *A. hepatica* and its sister *A. H. angulosa*, requires porous soil and a partially shaded site to display its fullest beauty. In April the tall white Snowdrop Anemone (*A. sylvestris*) bears its white blossoms. *Chionodoxa* and *Scillas* make pretty patches of blue in the border, and the fine *Doronicum plantagineum* excels in Harpur-Croze often opens its great yellow stars as early as March, at which time in warm, sheltered gardens the stately Crown Imperial (*Fritillaria imperialis*) perfects its drooping bells of clear yellow and orange-red. In April the Prophet-flower (*Arnebia echinoides*), a pretty perennial, commences to expand its yellow blooms with purple spots on the interior of the petals, which disappear in a few days, and the Lyre-flower (*Dicentra spectabilis*) throws up its arching shoots strung with pendant pink blossoms. This plant should be placed behind a later-growing subject, which will hide it when it becomes unsightly, as it will towards the middle of the summer. The little Daisy-like *Erigeron mucronatus* generally begins to flower in April, and continues until stopped by the frost, and the more showy *E. speciosus* (also known as *Stenactis speciosa*) and its variety *superbus* carry their meads, yellow-centred flowers for almost as long a period. *Heuchera sanguinea* is attractive when bearing its coral-red spires of bloom, and in a somewhat shady and moist spot *Mertensia virginica* makes a pretty picture when holding on curved stems its soft blue flowers, but of blues there is none more beautiful than that of the Forget-me-not (*Myosotis dissitiflora*), which is especially charming when used as a carpet for the white Poet's Narcissus. The Spring Vetch (*Orobus verna*) bears its purple and pink flowers in countless numbers, and the chaste *Ranunculus emplexicaulis* expends its single white blossoms, while *Sanguinaria canadensis*, with its snowy, Crocus-like blooms, though little known, is worthy of a place in the border. The Foam-flower (*Tierella corallifolia*) makes a charming edging, and well justifies its English name when in full bloom, and the Celandine Poppy (*Stylophorum diphyllum*), with its large yellow flowers, has a handsome effect. *Triteleia uniflora*, now classed as *Milla*, a low-growing bulbous plant, is in April a mass of starry, white blossoms, and many of the Tulips are now at their best. In May, *Achillea ptarmica* fl. pl. The Pearl produces its little double-white flowers in profusion, remaining in bloom until the autumn; the hybrid *Aquilegias* display their graceful forms and soft gradations of colour; but though perennials are best treated as biennials, *Arenaria balearica* is delightful, spanning a large stone in the edging with a tracery of tiny white blossoms, and *A. montana* takes the place of the earlier-flowering *Arabis* on the margin of the border. *Campanula glomerata* opens its deep-purple blooms, and the scarlet *Geum coccineum* and brilliant orange *G. Heldreichii* show their glowing tints.



Group of hardy plants in an Irish garden. From a photograph by Miss Mabel Gaisford, The Grove, Dunboyne, Co. Meath, Ireland.

and, although during that period hardy flowers for adorning the open borders are not so plentiful as they become in summer days, there are yet many available to interest and charm the eye. Of these, the family of Daffodils provides a host in themselves, and, though the numerous species and varieties undoubtedly present the most satisfying picture when boldly naturalised on the Grass, many of them, from the giant trumpet form to the pretty triandrus pulchellus, add much to the beauty of the border, especially the golden varieties of the former section when planted amongst herbaceous Perennials, the rich carmine of whose young

of the same family, the Sea Pinks (*Armeria*), *Dryas octopetala*, *Gentiana acaulis*, and *Pinkie* in variety; while in late spring and early summer the *Helianthemum* or Sun Roses in different colours make a brilliant display. In March, the pretty *Adonis vernalis* opens the first of its single yellow flowers above its fennel-like leafage, preceded, however, by the newly-introduced *A. amurensis*. Anemones gladden the spring months with their lovely flowers, the Greek Windflower (*A. blanda*) often expanding its blossoms as early as January, followed later by the charming *A. pennina*, with flowers of a lighter blue, a species well adapted for

The Dey Lilies are a lovely race of plants, whose flowers, although not lasting, are produced in such quantities that an attractive display is afforded for some time. Among the best are the clear yellow *Hemerocallis flava*, the darker *H. Middendorfi*, the lower-growing *H. Dumortieri*, the tall, orange-buff *H. aurantiaca major* and *H. Kwanso* fol. var., the latter being also a very effective foliage plant. Irises, towards the end of May, are as lovely as any of our garden flowers. Of the bulbous section, the Spanish (*I. xiphium*) and English (*I. xiphoides*) are best suited for the border. These should be planted in good-sized clumps of one colour; when colours are mixed or splashed varieties

employed, the effect is trivial and unsatisfactory. Flag or German Irises are noble flowers that should be in every garden. There are countless named varieties, of which the following ten form a good selection: Florentina and Princess of Wales (white), aurea (golden-yellow), flavescens (light yellow), atropurpurea (deep purple), Bridesmaid (white and blue), Mme. Chereau (white and lavender), Victorine (white and violet), Queen of the May (rosy-lilac), and pallida (lavender). *Incarvillea Delavayi* is a handsome plant of recent introduction that does well in the border. It throws up a flower-spike 2 feet in height bearing many large rose-pink flowers and blooms at the end of May or early in June. Lilies of the Valley should be granted a nook amongst the taller subjects, and if well fed succeed admirably in full sunshine. The great Paeonies of the herbaceous and tree sections are among the chief attractions of the garden—the doubles with their massive blossoms, and the singles with their delicately graceful flowers. When purchasing herbaceous Paeonies it should be remembered that the best time for planting is the middle of September, and that they appreciate deep and rich soil. The giant Oriental Poppies strike the highest note of colour in the garden at the end of May, the vivid vermilion of their huge blossoms blazing with unrivalled splendour in the sunshine. Solomon's Seal (*Polygonatum*) is a charming plant for a shady spot in the border, and *Thermopsis montana*, with its yellow pea-like flowers, is a distinct and attractive perennial for the garden.

S. W. F.

CLEMATISES FROM SEED.

(REPLY TO "A. S.")

GENERALLY speaking, as far as the amateur and gardener are concerned, the raising of the Clematis from seed is almost, if not entirely, overlooked. It is difficult to understand why raising from seed should be so ignored, for few plants are capable of yielding such satisfactory results as these. This is more than ever apparent if a little care be exercised at flowering time in hybridising the blooms by keeping the varieties within their own section or division. Some may perhaps regard the raising of such things from seed as unnecessary, seeing how many good kinds exist among the named varieties. This fact, however, should deter no one from raising a batch of seedlings occasionally, if only for the embellishment of the shrubbery or woodland garden, for it should always be borne in mind that we have none too many of such beautiful climbers in our gardens, and, moreover, that however unworthy the seedlings may be when compared with the best named kinds now in cultivation, very few indeed would be unworthy a place in the garden. Many of the seedlings, while devoid of the florist's idea of form or insufficient substance of petal, have very good flowers, and many are possessed of great freedom of blooming. Any varieties possessed of the latter quality are certainly worth a place at the base of many a disfigured *Arenaria* or *Wellingtonia*, among whose branches these seedling Clematisses might ramble to their heart's content. As a rule, our gardeners are by no means overdone with free-flowering climbers, so that there are abundant room and opportunity for planting seedling Clematisses with a free hand.

Seeds may easily be obtained in any garden where a few kinds already exist either by fertilising with their own pollen or by hybridising wherever opportunity offers. Frequently in hot summers a batch of seed may be obtained without this assistance. Very often the seedlings are more vigorous than the grafted plants and less fear exists of breaking them, and for these reasons they are better suited for planting freely in the places mentioned. With the best-named kinds in the more prominent parts, the seedlings could be employed wherever an opportunity offered. Seeds are easily secured where a few varieties exist, and it is by no means a rare occurrence to get a score of good seeds from a single head. With these beautiful climbing plants there is no waiting half-a-dozen years for the result, for if the seeds are sown in a cold-frame in the late autumn as soon as harvested the plants would be fit for planting in May following and would flower in the year ensuing. Any seed sown in the early spring-time should be raised under glass in slight warmth,

always, however, placing the young plants in frames as soon as they are a few inches high. In planting out the seedlings, previously well started in pots, always give them the benefit of a good strong stake. When planting in the woodland or near some disfigured tree, dig out a large hole and refill with a barrowful of good rich soil. Near trees or in the shrubbery the soil will be much spent, and unless a good start is given them the newly-planted Clematisses will not make much headway.

OLD-TIME GARDEN FLOWERS.

OLD-TIME flowers and old-time gardens are not entirely things of the past, for we see instances to-day of a desire on the part of many to cultivate plants, and model, as it were, their gardens after the fashion in vogue long ago. One calls to mind places where the gravelled and stone walks are yet divided with trim Box edgings, or that equally old thing, Thrift, where Yew, out into all manner of shapes, reveal to us something of the taste which, several decades since, than obtained. As I write, my memory reverts to a west country garden where, on the terrace, a sundial still stands, an object more or less of curiosity, a relic of the past, not to be parted with any more than the specimens of Sheraton furniture in the old drawing-room overlooking the lawn, where summer arbours, embowered with Roses and other climbers, and rough timbered but cosy-looking seats at convenient corners or beneath overhanging trees, are still in keeping with the quaint surroundings. It is interesting to notice the change of opinion time has brought about. Some readers will, doubtless, recollect how, for a long season, the carpet bedding style of gardening spread like some contagion and seemed to take precedence of everything, when design and pattern appeared to be the chief points aimed at, and plants themselves cramped and pinched to such an extent in order to conform to some pre-arranged plan. And so it came about that, during this period, numerous hardy and herbaceous plants, which could not possibly be brought into requisition for the purpose named, were forsaken, and had to give place to summer bedders, some of which were in preparation months under glass for a brilliant but brief display out-of-doors. Whilst one has no wish to revert to the ideas of our predecessors in the matter of tree mutilation, we may, I think, imitate them in giving to hardy plants their rightful place in our gardens. Happily, to-day, the flowing tide is towards a more extended cultivation of hardy plants, and this revolution has not, in my judgment, come any too soon. Amongst them are many which we may rightly claim as "old-time garden flowers," and it is a matter for regret that they should ever have fallen into disrepute.

In advocating growing plants for the garden, one should not, I think, lose sight of the fact that, although primarily they should be cultivated for the adornment of borders and beds, one ought also to have in view their capabilities when in bloom for indoor decoration when out. We have, I submit, those combined qualities in not a few of those hereafter mentioned, and as now one may proceed with planting, it may be opportune to consider those that give us a delightful array of blossoms from early summer until winter's keenness puts an end to outdoor flowers. Let us, then, first of all, study our requirements before beginning to plant. For the back rows of borders, margins of shrubberies, and other places where tall-growing subjects are needed, one should remember *Delphiniums*, *Campanulas*, like *grandis* and *grandis alba*, with the double-white Peach-leaved Bellflower, *C. persicifolia alba plena*; *Phloxes* of various sorts, *Lupinus*, as *L. polyphyllus* (hush-purple), also the white form; *Spiraea anteboides*, *Starworts* for late autumn blooming, *Helianthus*, showy *Solidagos*, and *Rudbeckias*. For general border work one must also consider *Paeonies*—most brilliant of our old-fashioned flowers—*Inulas*, and the *Perennial Peas* (*Lathyruses*), *Diostryas*, *Galegas*, *Eryngiums*, and *Iberias*. Few bulbous plants offer a display so varied and for so long a time as do the *Irises*, *germanica*, *Kämpfers*, *florentina*, and *sibirica*, some of which are most effective for indoor decorative uses after being cut. *Perennial Corollifers*, of which *Centaurea montana sibirica* is an old sort, are valuable in a cut state. Let me also remind readers of Sweet

Williams, *Rockets*, and *Pinks*, the last still one of the sweetest of early summer flowers; of *Polemoniums*, like *P. Richardsoni*, a blue flower, also coming into full beauty in May and June. The *Scabiosas* and *Pyrethrums* are both good border plants, the latter in much demand for cutting. Fair Maids of France (*Ranunculus acutilobus*) and the *Globe Ranunculus*, with its yellow variety, *Trollius Orange Globe*, are both adapted for culture on borders where the soil is deep and rich, and where there is some shade for part of the day. *Columbines* have always been associated with old-time flowers, and are very interesting. *Anemones* are charming, and some of the spring-blooming sorts, like *fulgens*, as well as those that flower in late autumn, as *japonica* and *j. alba*, should be included in every collection of hardy flowers. Charming, too, are the *Gentians*, from the small-flowered *G. verna*, which delights to grow amid rocks and stones, and never seems better than when on some sunny rockery, to the old *acaulis* of our gardens. Where blue flowers are wanted these are sure to command admiration, being dwarf and pretty. These one cannot afford to do without the brilliancy of the *Poppies*, and those of the Oriental type are extremely showy. *Liliums*, too, grouped about a garden have a very pretty effect. We see this in early summer, where *candidum* is planted. The *Torch Lilies*, of which we select one example, viz., *Kniphofia grandis*, are among the showiest of our old-time flowers, and still are largely grown. For a cool, moist soil mention may be made of the *Day Lilies*, the *Hemerocallis*. On a sunny bed, *Alatromerizas*, *Gaillardias*, and *Lunaria* (*Honesty*) may be successfully undertaken, whilst for early summer flowering *Doronicums* and *Fritillarias*—*Crown Imperials*—are worth noting. One plant I had almost overlooked is the *Erigeron*, all the varieties of which are of much use where quantities of cut blooms are desired, and one of the many bulbous plants one cannot afford to leave out the *Galtonia* (*Hyacinthus candicans*), inasmuch as they are imposing when in bloom in July and August, their white bell flowers being somewhat conspicuous amongst *Gladioli* and other showy flowers then with us.

Whether we are disposed to regard hardy plants in the light of the ever-changing display, or value them most for the variety of blossoms they supply us with suitable for cutting, we cannot, I think—at any rate, those of us who have grown them—but admit that no class of summer bedding plants, however brilliant a pageant they afford, can compare with some that we still care to designate "old-time garden flowers." WOODBASTWICK.

MONTBRETIAS.

THESE beautiful flowers, which have been much improved of late, should be grown in every garden. They are very hardy and well adapted for growing in the wild garden and shrubbery borders, also by the margins of streams. When planted in such positions, however, some of the old soil must be removed and replaced with a mixture of loamy soil, well decomposed manure, and a little leaf-mould. They do best when grown in a sunny position and given ample room. The corms are sometimes left in the ground for two years, but this is a mistake, as the plants then become crowded, and the bloom-spikes are small and poor in quality. The corms should be taken up every year in March, divided and replanted, the large ones 6 inches apart, in rows 15 inches apart. The soil should be deep and fairly rich, and contain a liberal quantity of leaf-mould. Plant the corms firmly about 2 inches deep, and in May mulch the spaces between the rows with old mushroom-bed-mansure or leaf refuse, as *Montbretias*, being free-rooting plants, require plenty of moisture. A good mulching with diluted liquid-manure once in three weeks is of immense benefit to them. Do not allow exhausted flowers to remain on the plants, or they will soon impoverish them. The small corms should be planted by themselves and closer together than the large ones. If kept well watered they will make good flowering corms for next season. *Montbretias* are invaluable for cutting, and look charming arranged in vases with a little of their own foliage. They should be placed in a cool room, and the water changed occasionally. The following are all charming varieties: *Bouquet*

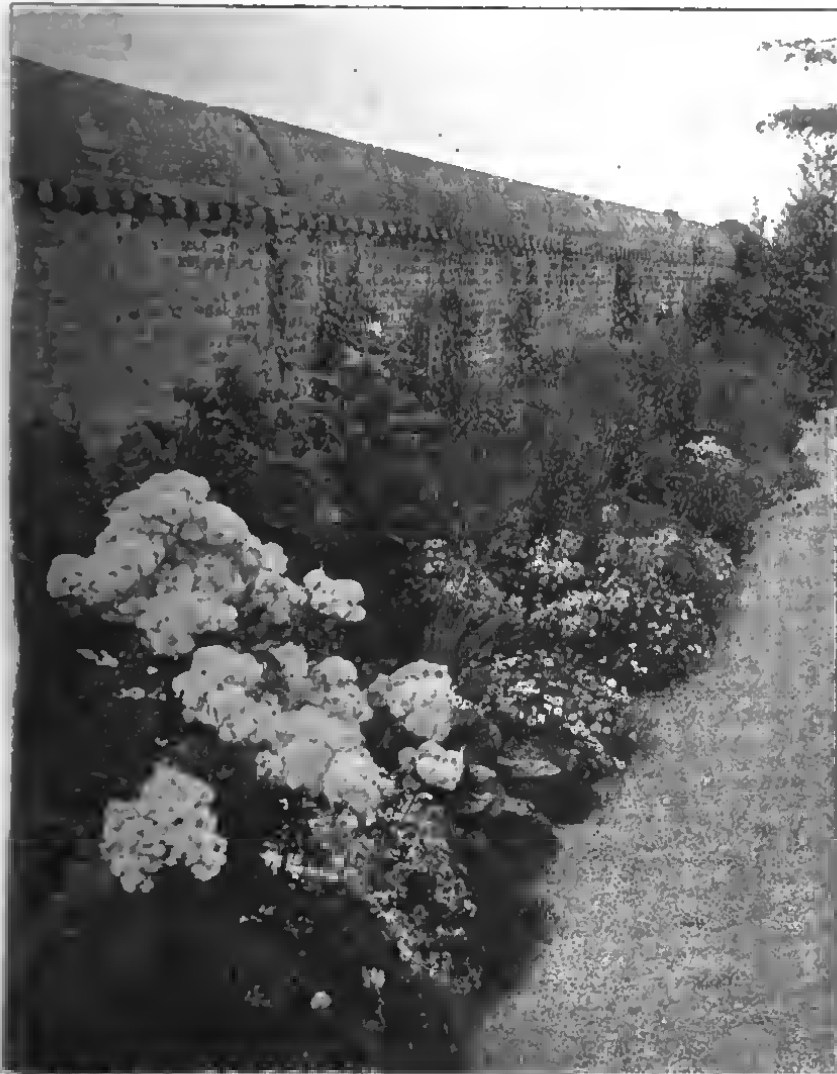
Parfait, bright vermilion, with yellow centre; Crocaminiflora, scarlet and yellow, very fine; Drap d'Or, rich yellow; Pottsi, orange and scarlet; Etoile de Feu, bright vermilion, with deep yellow centre; Transcendant, orange shaded outside, inside yellow, a very free-flowering variety; and Germania, a fine new variety. J.

CLIMBERS FOR A WALL-BACKED HERBACEOUS BORDER.

The photograph reproduced on this page shows the best form of mixed border—namely, one backed by a high wall. The wall in question is apparently of recent date, as it is only at rare

rarely met with in this country. Climbing Roses are a host in themselves, but these are treated of more fully in another article. The Clematis family affords a large selection of species and varieties suitable for wall climbers. The first to bloom is *C. balcarica* or *calyculus*, which, in the south-west, bears its white, purple-spotted flowers in February. At the commencement of June the well-known *C. montana* is smothered in its starry, ivory-white blossoms, and, in the autumn, the yellow-flowered *C. graveolens* blooms, as well as the fragrant Virgin's Bower (*C. Flammula*), and the well-known *C. paniculata*. The large-flowered Clematises of the Jackman, lanuginosa, petens, and floride sections prodnce their widespread

myriad snowy blossoms being norivalled. This is deservedly a favourite with cottagers who hold sweet-scented flowers in high estimation. *Bignonia* (*Tecoma*) *radicans* is a brilliant sight when thickly set with its orange-scarlet blossoms, and other species of *Bignonia* are well adapted to outdoor culture in the south-west, where *Solanum jasminoides* bears its white bloom-clusters through eight months out of the twelve, the fragrant *Stauntonia latifolia* its inconspicuous flowers in the earliest days of spring, and the *Lapegerias*, on north walls, their drooping, waxy blossoms of red and white till Christmas-tide, *Physianthus albens* its crowded white blossoms, and *Akebia quinata* its odorous maroon-coloured flowers. The five latter plants cannot, however, be considered hardy in more northerly counties. Of annual flowering climbers, or climbers that must be treated as annuals, we have *Cobaea scandens*, with its large purple bells, the pink-flowered *Lophospermum scandens*, the Canary Creeper (*Tropaeolum canariensis*), climbing *Tropaeolum* of the *Lobbianum* section, and the scarlet and yellow *Mimulus lobata*. In favoured localities in South Devon and Cornwall Ivy-leaved *Pelargoniums* are rarely injured during the winter, and such plants as *Solanum Wendlandi*, *Hidalgos Wercklei*, *Mandevilla suevoles*, *Gianthus puniceus*, and *Mutisia decurrens* succeed against the open wall. All the subjects mentioned in this note are suited for covering a high wall at the back of a herbaceous border, though some, as pointed out, are not sufficiently hardy for cold localities. Some require the assistance of wire to enclose the wall, and some are of such rampant growth as to need periodical thinning. In the accompanying illustration the value of fine form in the garden is shown in the effect produced by the lofty gray Mullein (*Verbascum*) and the foliage of the Flag Iris and *Saxifraga cordifolia*, while the tall *Thalictrum aquilegifolium* in the foreground, the Sea Pink, Sunroses, and other flowers in the middle distance, and the informal manner in which the edging plants have strayed in irregular breadth into the pathway, combine in rendering the border a pleasing example of natural beauty. S. W. F.



A wall-backed hardy plant border. From a photograph by Miss Willmott, Warley, Essex.

NOTES AND REPLIES.

The distillation of flowers.—I am very desirous of trying the home distillation of flowers. Could some reader kindly give me some information on the subject? I have a copper still for ordinary kitchen use, and the flowers available are Roses, Lavender, and Elder. The information required is mostly as to proportions and treatment of the flowers.—*Distill.*

Increasing Eryngium.—Will you kindly inform me what is the best way to propagate *Eryngium*? I do not find dividing a very successful way, as only a few start, so I think that root cuttings will be the best. Kindly say if that is so, and if so, how and when will be best to put them in? The method you recommended of propagating *Senecio pulcher* I have found very successful.—*W. Terr.*

[You do not say which species you inquire about, and there is considerable difference. The biennial kinds, as *E. serra* and *E. pandanifolium*, are easily raised from seeds, but they are scarcely hardy enough for British gardens generally. Many of the perennial kinds are quite easily raised from seeds also, and all may be increased by root cuttings. The best roots are those below the first thong, or about 8 inches from the crown. At this point you may sever what you require and replant the crown portions at once. The present is a good time for these root cuttings of not a few things, and none come more freely or ready than of the genus under notice. What you have to do is to cut the roots into lengths an inch long, or rather more, keeping the upper part always as forming the top. When you have sufficient made, insert them around the interior of some class well-drained pots, using sandy soil. By placing the cuttings not quite close together you may get from four to five dozen around a pot 8 inches in diameter. The best plan is first to place in enough soil so that the root portions when inserted just clear the surface rim of the pot, then stand the root cuttings in this surface soil and lean against the pot. When the pot is filled around, fill the centre with soil, and make firm and well water. Placed in the greenhouse in

Original from

intervals, here and there, that climbing plants thread its surface. Every wall-backed border should have the wall surface covered with flowering climbers, since these provide the most charming background possible for the herbaceous plants in the bed beneath. The list of flowering climbers, both perennial and annual, suitable for such a wall is a long one, and includes many flowers of conspicuous beauty. The *Wistaria* is admirably adapted for such a wall, old specimens being met with that have extended 70 feet and more along wall-coatings, where they are objects of especial loveliness when adorned with their countless long tassels of scented, lavender blossoms. The variety *multijuga*, with racemes sometimes as much as 3 feet in length, is extremely beautiful, but

blooms, single and double, through the summer and autumn, while the seldom-seen *C. coccinea* creates a brilliant effect with its scarlet blossoms. The common blue *Paeonia*-flower and its white variety *Constance Elliot* are fast-growing climbers that are practically evergreen, only losing their leaves when the young foliage is being pushed out in the spring. They are very ornamental during the summer with their large, star-shaped blossoms, and enjoy a further period of beauty in late autumn and early winter when thickly hung with oval fruits of glowing orange that gleam brightly under the dark skies from out the dark green leafage. *Honeysuckles* in variety are always welcome, and the white *Jasmin*, though common, can scarcely be overrated, the exquisite perfume of its

slight heat growth buds will appear in about a month at this season of the year. With greater progress the young plants may be treated in the usual way.]

Bulbs for border.—I shall be much obliged for your advice regarding a long, narrow border (at present thickly planted with spring bulbs)? It has a Box-hedge (low) at the back (W.), and practically gets little sun, but this has a very hot, dry soil (sandy). I want the names of bulbs for making a show in July and August. I have Gladioli. What Lilies would do well?—H. C.

[In Lilies you have a large selection, and you may practically plant any kinds of which you can now obtain good bulbs. For example, any of the forms of *L. Thunbergianum* would be excellent, and equally good are such as *L. croceum*, *L. nimbellatum* and *davuricum*, *L. Batemannii*, *L. longiflorum coccineum*, the lovely *L. auratum*, *L. tigrinum* in all its varieties, and, finally, the great host of beautiful things found under *Lilium speciosum*. These last, however, do not flower before September. In their stead you may plant *Alstromeria aurea*, *A. psittacina*, *A. chilensis*, etc., also any of the best *Montbretia*, and *Galetia candicans*. Then there is *Tigridia*, a rather showy, important group delighting in sun and warm soil. The majority of the Lilies named, excepting *L. auratum*, should succeed, and even this on occasion does not object to quite strong sun, provided the soil below is fairly deep. You say you have Gladioli. Do these include the newer race known as *Lemoinei* and *Childsi*, etc.? These embrace some really fine forms and quaint colours, and are more hardy.]

Tall v. dwarf Wallflowers for early blooming.—Amongst early-blooming hardy flowers Wallflowers hold an important place. Many growers have a special strain, and when grown in the open fields the plants are not very tall. Where they are needed for gathering from early in the year the very dwarf kinds so useful for planting in beds for spring gardening are not suitable, seeing they do not commence to bloom early compared to the taller-growing kinds, of which *Harbinger* is a type. Some years ago I had a good strain of this kind, and when planted in a sheltered border, facing west, in front of my cottage, I was able to gather handfuls of bloom during January, while the dwarf yellows and reds were not in bloom till the end of March. Last year, when at Bourne-mouth at the end of March, I observed the dwarf kinds had scarcely a bloom open.—J. CROOK.

Calceolarias under hand-glasses.—After a protracted winter, with several spells of sudden and severe frost, I was surprised to find a splendid lot of yellow and dark Calceolarias that had stood without any covering beyond some cloches and hand-glasses, that were set on a border in the autumn and filled with cuttings and kept quite close, but never opened or removed until the end of February. All the cuttings had made sturdy-looking dwarf plants that needed a little more space to develop into fine sturdy bushes; in fact, far better than the ordinary run of plants one finds at this time of year that have been grown in pits or frames.—J. G., Gosport.

The New Zealand Flax (Phormium tenax) in the open air.—Some ten years ago I had some plants in pots raised from seed brought home by the owner of this garden. These I planted out in two positions, one on low ground, near an ornamental pond, and exposed to north-east; the other was on some high ground 20 feet above the other close by. These are sheltered by a big mass of evergreen shrubs; the soil here is dry. In this position they do not grow nearly so fast as those near the water, but every summer they all bloom. In one severe winter those in the damp situation suffered slightly, but soon recovered. I should not hesitate to plant out *Phormium tenax* except in the coldest parts of the country. Many things that would thrive in the open suffer from being cramped in pots.—J. CROOK, *Ferde Abbey, Chard.*

Raising Eremuri from seed.—Good fresh seed sown as soon as ripe in a pan of light soil and set out in the open will begin germinating in less than a month, and the tiny spars will continue piercing through the earth till all have come up. The pan should be wintered in a cold-frame, but it will soon be observed that many of the young plants are ripening off. One would imagine something

was wrong, but all is going well, the season of life above ground the first year lasting only a month or two. About May the small fleshy roots may be taken out of the pan and planted in a bed of sandy soil where protection in the severest weather may be given in winter. Each year the young plants ripen off their leaves later and start to grow later than they did in the first year or so of their existence. Every summer they should be transplanted till about the eighth season after sowing the blooming stage will have arrived. The first two years the roots go straight down, but after that they assume a horizontal growth and radiate from the crown. New roots are formed every year, the old ones decaying and falling away.

Cold frames in April.—Perhaps at no other time in the year is it needful to watch more closely the inmates of cold-frames, whether they contain *Pansies*, *Anriculias*, *Calceolarias*, or other partially hardy subjects, than during the month of April. We often get bright spells of sunshine, which necessitate sometimes the shading of the plants in the frame or the removal of some where they have been placed too closely at first, as in the case of *Pansies* and *Calceolarias*, as to leave them too long together they become weak and lanky, spoiling each other from want of space. Where such conditions exist it is worth the trouble to remove some, if one has to sacrifice a few, rather than spoil the whole.—LEAHFRST.

Renovating Grass plots.—The lawn should now receive attention. How seldom, indeed, one thinks of Grass plots after the lawnmower was put away until it is time to attend to the duty again. How few consider the plot as requiring manure, and yet, after all, a little trouble spent in this direction is seen in fewer bare patches. Now is the time to make good any defects, and it is even worth while to spread over the surface some half-rotted dung, so that the rains may do their part, and any relaying of turf is best undertaken during this month. Seed may be sown early in April.—DERBY.

ROSES.

PLANTING A NEW BORDER OF ROSES. (REPLY TO "WILD GARDENER.")

We quite agree with you that the beautiful Tea Roses may be grown most satisfactorily upon roots, as you describe, and where exhibition bloom is not desired they do not require much pruning, provided they escape injury from frost. We note your intention to plant Tea Roses upon what you term "moots," but as you ask for information regarding *Aglaia* and other "Rambler," we conclude your intention is also to plant some of this class. Twelve first-rate fast-growing climbers are *Aglaia*, or *Yellow Rambler*. This is very beautiful, but requires patience in its treatment. If left unpruned and allowed to ramble at will it makes a glorious show about the third year after planting. *Electra*, which is newer and very similar, flowers freely the summer following the planting if not pruned in any way. Doubtless you have *Crimson Rambler*, otherwise this would be indispensable. *Euphrosyne* (*Pink Rambler*) and *Thalia* (*White Rambler*) are most beautiful, but the remarks regarding *Aglaia* apply also to these two. Two hybrids of *Rosa Wichuriana* are particularly lovely—namely, *Jersey Beauty* and *Ruby Queen*, both excellent ramblers. *Carmine Pillar* is good, also *Rosa sinica Anemone*, *Mme. Alfred Carriere*, *Reine Olga de Wurtemberg*, *Mme. Jules Siegfried*, and *Dr. Ronges*. The above would be a varied and excellent dozen ramblers. For the hedges between the roots and "moots," Japanese Roses and Scotch Roses, as suggested by you, are very suitable. As you desire the names of fifty of the very best exhibition Roses, you should write to Mr. Edward Mawley, hon. secretary of the National Rose Society. As to the arrangement, we think half circles of contrasting colours, composed of the strongest growers, and running the whole length of the border, would have a good effect, and in front of each half circle a hook or clump say of three or four plants of one variety, but of a more lowly growth, could be placed, and these of a different colour. This would have a better effect than straight lines. The angles in front could be planted with one plant of a dwarf-growing kind, or with *Tufted Escalopes*

and at back we presume you could arrange the angles to be opposite the "moots" or roots. The distance at which these Roses may be planted would be 1½ feet apart for the dwarfest growing, and about 2 feet apart for the stronger. If you aim at exhibition blooms you would need to prune more severely than if you were growing the Roses for merely garden decoration.

NOTES AND REPLIES.

Rose Marechal Niel planted last autumn.—Last autumn I purchased a *Marechal Niel* Rose. It was in a 7-inch or 8 inch pot. It has two vigorous, strong shoots or branches, one about 9 feet, the other about 14 feet long. I have planted it in a cold-house. Should either or both of the shoots be shortened? It has plenty of wire to run on. I want Roses as it is this year, and would thank you to inform me whether I could let it remain as it now is, or prune?—J. B.

[This fine plant, with growths 9 feet to 14 feet long, will require but little pruning now. Generally speaking such plants have 1 foot to 2 feet of unripened wood at the extreme ends of the growths, and by removing this the more eyes below are induced to break and provide blossom. Another good plan is to train the growths of such plants around three sticks, then almost every eye will break. This, of course, can best be done when the plant is allowed to remain in the pot. It is not a good plan to suffer too many blossoms to develop on one plant. A judicious thinning of the buds will assist those that remain. Often this popular Rose is over-cropped and over-fed. Feeding is needful as buds increase in size, commencing when about the size of Peas, but it is better to give it weak and often. We have found liquid-manure made from cow and sheep manure most beneficial, and a peck bag of soot dropped in the liquid-manure barrel is also valuable.]

Rose cuttings under glass bottles.—I followed the instructions given some months ago in your valuable paper for striking Rose cuttings under glass bottles. I am pleased to say at least 75 per cent. have rooted. I should like to know when is the time to take the bottles, when is the best time to put the Roses into permanent quarters? I should prefer November or March. Should the trench be left as it is when the bottles are removed, or filled up? If filled up it would cause the trees to be buried. If necessary, I could take them up in the autumn and put them in a cold-frame.—HAGLEY.

[We are glad to learn from you that the method of striking Rose cuttings advocated in these pages in our issue of July 7th, 1900, has in your case proved so successful. If you do not require the ground now occupied by the cuttings we should advise you to leave them where they are until next year, transplanting them to permanent positions in March or April. The glass bottles should not be removed this year until May. When this is done draw away the soil, leaving the plants free in the trench. A small stick should be placed again; each cutting and the growths tied upright. In June a thin mulching of well rotted manure and old potting soil would considerably strengthen the growths. Should you desire to transplant this spring you can do so in May; but in this case pot up the plants into small pots for three or four weeks and plant out during showery weather in June. Of course the plants after potting must be kept in a cold frame. After you remove the bottles in May it is as well to watch against frost. It would be a simple matter to cover the cuttings every night until all danger of frost is over.]

Rose W. A. Richardson.—I have often noticed in your columns that this Rose has a name for "producing pale-coloured blooms." While allowing this to be true, may I ask your correspondents if they have noticed that if the cuttings are taken from rather old, well-ripened wood the colour will be everything that can be desired; if, on the contrary, the cuttings be from young, rather tender wood, the blooms of the plant will be always paler, and no feeding or care will make them otherwise. I have struck as many as twenty of them in one season, and have noticed this peculiarity year after year. If more pains were taken in selecting the wood for the cuttings this lovely Rose might lose the reputation for "pale-coloured blooms."—H. M. B.

As many of the most interesting notes and articles in "GARDENING" from the very beginning have come from its readers, we offer each week a copy of the latest edition of either "STOVE AND GREENHOUSE PLANTS," or "THE ENGLISH FLOWER GARDEN," to the reader of the most useful or interesting letter or short article published in the current week's issue, which will be marked thus:—

ROOM AND WINDOW.

COSMOS.

THE genus *Cosmos* numbers only about ten species, and as these are mostly natives of tropical America, Mexico, etc., the best time to sow is after all danger of frost is past in spring; indeed, it is never safe to sow *Cosmos bipinnatus* until April. Of all the species, none are so beautiful as *C. bipinnatus*, here figured. A glance at our illustration will give some idea of the beauty of this charming annual, which, as a fine-foliaged plant, is the most elegant of all annuals. It grows to a height of from 3 feet to 5 feet, copiously branched and well clothed with delicate thread-like leaflets. The Hibiscus-like bright red-purple blossoms, which in warm summers are freely borne on long foot-stalks, are very useful for cutting. If one wants an early display a good plan is to sow in pots in a warm-frame in March, and a week before planting to stand them in a cold-frame to harden off, finally potting into their flowering quarters, 2 feet apart. A good way to obtain a

settling last but a short time when out. They can be made to last in capital condition for five or six days at the least if the precaution is taken to cut the bracts the day before they are required, and steep the stems all night in a bucket of water, placing the latter in the house in which they have been grown. Another method, and a very excellent one when the bracts are required at short notice, is to plunge the ends of the stems in boiling water, which effectually seals up the pores of the wood and prevents further flow of the "milky" fluid or juices, the draining away or loss of which is accountable for the flagging of the bracts when they are used in heated rooms. I have been using *Poinsettias* treated in this way for some time past, and with most excellent results.—A. W.

CHRYSANTHEMUMS.

SEASONABLE NOTES ON CHRYSANTHEMUMS.

MUCH may be done at this season to ensure the well-being of the young plants. Growth of a

prove that the cold-frame, for plants rooted early in the year, is the only accommodation suited to their needs at this season. Assuming the plants were rooted singly in "thumb"-pots they should now be in those measuring 3 inches in diameter. For a little while the pots may be arranged close together. We are not yet "out of the wood" in so far as regards sharp frosts, and at any time within the next week or two it will be necessary to provide adequate protection in the way of plenty of litter and good mats. Cold easterly and north-easterly winds are very cutting during March, and not infrequently also much later, and for this reason when giving the cold-frame hut a "crack" of air, care must be observed that the somewhat tender occupants of the frames do not suffer. It is necessary, of course, to commence inuring the young plants to harder and more airy conditions, but it will be apparent that they should be adequately protected against the cutting winds when they prevail. Through carelessness in this respect I have seen a promising batch of young plants almost spoiled, and although receiving careful treatment subsequently, they never appeared to recover from the check they then experienced. The plants must be grown on without a check from their earliest history until the blooms are out for the shows. Watering is an important item of culture even at this advanced period. The sharp bursts of sunshine very quickly dry up the moisture in the soil of the small pots, and unless one is on the alert in this respect the plants may suffer in consequence. One thorough watering when given is the rule to follow.

Plants needing their first shift even at this late date should be treated with the utmost care. Immense quantities of useful plants are propagated later than are those intended for exhibition, and many establishments now have their batches of plants, which are nicely rooted, in boxes and around the edges of some of the smaller-sized pots. These young plants should be lifted from the boxes or shaken out of the pots, and be repotted singly into small sixties (pots 3 inches in diameter). Compost for this shift should comprise three parts fibrous loam, one part leaf-soil, and one part nicely rotted horse-manure. Pass the foregoing through a sieve with a 1/2-inch mesh, and add thereto a liberal quantity of sharp sand or coarse silver-sand, and give the whole of the ingredients a thorough mixing. Use clean crocks and pots, and pot the young plants firmly. By these means growth of a sturdy character is encouraged, and if the plants be placed in a cold-frame subsequently, the sturdy growth becomes consolidated, and a good foundation thereby laid. Keep the cold-frame rather close for a few days, until the plants have recovered from the check experienced through the repotting.

E. G.

CHRYSANTHEMUM RUST.

THAT rust does exist is taken for granted, but the possibility is there are many instances where its presence passes unnoticed, or is accepted as a result of indifferent culture. Some kinds are very much more addicted to the disease than others, and though no sufficiently clear reason can be given why it is so, there are at any rate gardens where no disease appears among the plants. Instances occur, too, in which a collection has been hadly infested one year, and the next there is no disease. While, too, some growers take every precaution, and spare no effort to combat the enemy, its persistency is such that one's energy becomes almost, as it were, crushed. This has been so, at any rate, with some, and they have been driven to leave the plants to take their chances, whether for good or evil. An instance of a nurseryman who grew a great quantity for cutting for the purpose of his business, was a year or two since the victim of the disease to such an extent that almost the whole of the plants were ruined, the flowers opened in a poor, half-hearted way, and the plants lost all their foliage. This so exasperated the owner that he resolved on some drastic measures for the ensuing year. Fresh cuttings were bought in, and also a good stock of *Velthea*, a specific prepared specially for fungoid diseases, and for *Chrysanthemums* in particular. Into a solution of this the cuttings were dipped before they were inserted, and every week after until the flowering period came round they



Flowers of *Cosmos bipinnatus* in a vase. From a photograph by Geo. E. Low, Dublin.

succession is to sow seeds between these plants, and by the time the early plants are over the others will be showing flower. A light, sandy soil suits the *Cosmos* best, and the warmer the position the better will be the result.

Hardy Ferns for Rooms.—Many of the hardy Ferns are quite as well adapted for room decoration as the greenhouse kinds commonly grown for that purpose. Some beautiful varieties as the Welsh Hard Fern (*Polypodium vulgare cambricum*) and the Crested Male Fern (*Adiantum Filix-mas cristata*) are quite equal in beauty to most of the Ferns that require to be cultivated under glass throughout the year. The *Scolopendrinum*, *Polypodium*, some of the *Asplenium*, and *Polystichum* are evergreen if merely protected from the vicissitudes of our winter climate. For corridors, entrance halls, and similar places where cold draughts of air are apt to come and where the temperature will sometimes fall to freezing point, these hardy Ferns are much more suitable than greenhouse kinds.

Poinsettias flagging when cut.—One often hears the complaint that *Poinsettias* may take. These facts should

sturdy kind can only be developed by cool treatment, and for this reason, assuming the earliest batch of young plants has received the first shift, they should be arranged in the cold-frame close up to the glass. Many growers regard the treatment of young plants in a cool greenhouse as ideal at this early period, but the system will not hold good. As growth is made very rapidly at this season, particularly where there is the least amount of artificial heat, it will at once be apparent how undesirable is the character of the growth under such treatment. You may ventilate ever so freely, but you cannot prevent the young plants becoming drawn. Even in a cold greenhouse, when the plants are arranged on shelves near to the glass roof, the same danger, only in a less degree, is experienced. With the daily increasing power of the sun the temperature of all glass structures must necessarily rise considerably, and not infrequently at a very rapid rate, and with disastrous results. Sturdy growth under these conditions cannot possibly be, and unless a good foundation is laid at this early period it is almost hopeless ever to expect to produce in the end anything likely to reward us for all the trouble it may take.

were syringed with the same preparation. The result of this was a perfectly clean stock and abundance of first-class flowers in their season. Now this is a costly procedure, but in this instance it was no doubt well repaid. In some seasons and among some collections it is possible to find traces of the disease at any time of the year; in others it makes its appearance in late summer, and continues on through the winter. The cuttings, too, when taken are found with disease spots lurking about them, which develop during the period while they are kept close. The better course of dealing with them at this time of year is to pinch off the leaves so affected and burn them at once. It will often be found that the spots will be on the old leaves, the growth made beyond the original cutting being clean. If every individual plant is examined weekly during the time they occupy small pots the chances are they will go on through the summer without any trouble. Should it appear in the autumn just about or prior to their being taken indoors, a few syringings with Veltha will tend to check it greatly, if they do not stamp it out. As previously remarked, some kinds are much more prone to disease than others. A partial remedy is obvious—discard those which are the most diseased, and retain those not so addicted. It is supposed by some that high feeding contributes to this trouble, manures of a highly stimulating nature being necessary to build up the high-class exhibition flower. While this view is held by some, another grower will say the poorly-fed and weakly-grown plant is that which fosters the disease. That it does exist under both conditions has been often proved, but because this is so it must not be made an excuse to allow the disease when present to run its course unmolested. Soluble petroleum in a neat state, applied with a pointed stick or small camel-hair pencil to the rust spot, has been a remedy with some. Others, again, use the petroleum alone, but these applications are fit only for small plants which can be handled each separately. One very useful and partial remedy is to encourage the vigour by rational treatment from their early stages and throughout the growing season. A change of manure as an effort to stimulate vigour in the plants is advisable, and as manures of so many kinds are obtainable in suitable quantities cheaply, this comes within the means of everyone.

S.

Chrysanthemums—what to do with recently rooted cuttings.—At this period many growers have numerous cuttings which were propagated in shallow boxes, etc., and which have recently rooted. It is important that the young plants be potted up singly into small pots—those 3 inches in diameter or rather less—as the roots to quickly become matted and entangled that unless they are taken in hand promptly serious damage must necessarily ensue when dividing them. The soil for this potting should consist of two parts good fibrous loam, one part leaf-mould, and a half part of well-rotted horse-manure. Add thereto a liberal quantity of coarse silver-sand or clean road-grit, and thoroughly mix the whole. Both crocks and pots should be clean. Cover the crocks with the rougher siftings of the compost, and pot the young plants rather firmly. When potting is completed, either place the young plants in a cool greenhouse or in a cold frame where protection from frost can be provided. Keep the frame rather close for a day or two, after which gradually admit air, taking advantage of genial weather to give them a more abundant supply.—E. G.

Outdoor Chrysanthemums.—Border Chrysanthemums are some of the best things one can grow in a garden, particularly if the garden be near to a town, and early in April the old plants of last year—and I have many such that have withstood the winter with merely a little stable manure placed round them—will be ready for dividing. I look upon Mme. Desgrange, Mme. Marie Masse, Mrs. Hawkins, Mollere, Ivy Stark, Lady Fitzwygram, Comtesse Foucher de Cariel, and Queen of the Earlies as indispensable amongst the first to bloom. If only all admirers of this section would understand that they may be grown without any glass protection whatever, then many of our gardeners would wear a brighter aspect in the autumn.—E. G.

ORCHIDS.

CYPRIPEDIUM CALCEOLUS.

THIS has been called the English Lady's Slipper, and, indeed, is so called at the present time, but it is very doubtful if a single specimen of it could be found in a wild state in this country, even in those very few localities where once the plant was sparsely distributed. Happily, it is not extinct in other countries, and each year consignments are received in the early autumn months. These, unfortunately, are not lifted with much care by the collector, and the result is single crowns for the most part with but few root-fibres existing upon them. But even with such rough and ready treatment as this, the plants, with care, do not take unkindly to our English climate, and many may be established in due course, though failures are bound to follow now and then. Once the plants make a start at the root there is little to be feared for the fresh young fibrous roots, as these issue from immediately below the flowering crown, reach and extend a consider-

able distance when in the right kind of soil. Singularly enough, because it is an Orchid, the soil usually given is one of peat and as such soils do not suit this particular kind, not a few of the failures to grow it well or even to establish it at all may be traceable to this alone. Certainly if weakly plants and plants with but few roots to sustain them are at once planted in the worst selection of soil it is small wonder that failure results. In nature this species is only found on calcareous formations, usually in loamy soil freely impregnated with limestone chippings. To make it a success in our gardens the species should at least be planted in loamy soil, and in this, without the admixture of lime, I have grown the plant with every success. Naturally there is a certain percentage of lime in most loamy soils, and some, such as the Banstead loam, have a larger share than others. The addition of old mortar or some bone-meal will, however, assist if anyone so desires, and it may help in certain cases. Provide a deep bed, quits 18 inches deep, and make it sandy or gritty. A rather sheltered spot is good, and while some writers make a point of a well-drained and rather dry soil, I invariably plant in a recessed bed, about 3 inches below

the usual level, so that plenty of moisture is assured to the plants. Thus arranged a pretty effect may be gained by colonising the plants, as in the illustration, and once established the plants may go on for many years annually increasing in strength and general vigour. The English Lady's Slipper has a large, much-inflated lip, or labellum, of a deep yellow tone, lined with dark veins occasionally; the sepals and petals are brownish-purple. The plant flowers in May and is delicately fragrant. When well-established it will attain fully 18 inches in height. E. J.

CHIMNEY CAMPANULAS.

I HAVE a dozen of these, white. This time last year they were planted out in a cold-frame and potted up into 4-inch pots in April, on the understanding that they would flower about harvest-time. None showed any signs of bloom. I re-arranged the drainage in October and top-dressed them, putting them again in a cold-frame for the winter. Now they are little rosettes about 3 inches across. What can I do to get them to flower this season? Shall I bring them into the greenhouse, which is now between 50 degs. and 60 degs. at night, and whatever the sun chooses to make it in the day? Or should I shift them into bigger pots



Cypripedium calceolus in Mr. Goodman's garden at South Lodge, Hordham. From a photograph by Norah E. Hay, Greenocks, Brockenhurst.

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before doing so? I have another lot planted out in a frame that were sown this time last year. Surely I ought to have a show somehow?—H. M. B.

[Judging from your letter, with the first dozen of which you speak there must have been some cultural error. With good culture plants can easily be flowered in from twelve to sixteen months. By sowing the seeds now the young plants should be in 4-inch pots by the end of June. Better still, if planted in the open in deep, rich soil, 18 inches apart, or even in the frame you speak of. In either case attention must be paid to watering and feeding to build up a solid foundation. In September you may pot the plants up, or you may leave them until April, when, in the first week thereof, pot the clumps with all the roots you can get into 10 inch pots. See you have a good yet not over-abundant drainage. The soil may be any good, sound loam, with sand added; and also some old mortar. A handful of some good fertiliser will be useful. With the coming away of the flower-spikes the plants must be encouraged with liquid-manure twice each week, and at an early stage a top-dressing of richer soil. Ample water supplies are essential at this stage.

Now as to your other plants. Six-inch pots

are quite useless. These plants have been starved. You may improve them now by shaking away all the old soil and potting afresh in perfectly clean pots not less than 8 inches across, with a view to a liberal shift later on—say, first week in May. Employ very old manure, finely sifted, at the rate of one-fourth of the soil and send one-sixth. This shift may resuscitate them in a measure, and each little rosette may have its small spike of flowers. Your greenhouse at 60 degs. is rather too warm, and plenty of air will be needed. Be sure the plants do not get dry at the root. Those sown a year ago may be potted as already noted; or you may pot them now if you see they are on the move. Give them ample room, however, and keep in the cold-frame for a month longer, as you do not require them until harvest time. Pots of 10-inch diameter, with very firm potting and rich soil, and at least 1 inch retained as space for watering at the top, to be filled up each time water is required, with cool and liberal treatment, should insure you the display you expect in the coming autumn.]

NOTES AND REPLIES.

Orchid leaves falling off.—I enclose some leaves and bulbs of *Cattleya Gaskelliana* which have gone wrong, also some leaves of *Vanda concinnescens* which have fallen off. I should be much obliged if you will tell me the reason for this decay? The temperature of the house in which they are kept varies between 50 degs. and 55 degs. —C. BOLTON.

[We should say the following would be the cause: Temperature too low, probably combined with a too liberal supply of root moisture during cold periods. The temperature should not be less than 55 degs. for these species.]

Increasing double Primulas.—Having been a reader of your paper for some time past, I venture to ask a question. I have got several small glasshouses, and on a shelf in one I have about forty double Primulas, which have been in full bloom all the winter, and I am now anxious to propagate them. I have been told to fill the pots up with sandy soil. If this be correct, should I cut or sick them like Carnations, and shall I shade them? Please tell me what best to keep them in?—MUSCAT.

[Considerable difficulty is sometimes experienced in increasing the stock of this most useful winter and spring-flowering plant. As soon as the blooming is past remove the whole batch to a shady position in an intermediate-house, divert them of all their lower leaves, and fill in the vacant spaces at the top of the bells with new sweet Sphagnum, sifted loam, and silver-sand in equal proportions, raising the material somewhat above the pot in the form of a small mound, so that the bare portions of the old stocks are covered. This mulching is then kept continually moist by the daily use of the syringe, and so rapidly do the plants root into this medium that in a month's time the whole batch may be divided and potted off. Each crown or portion is separated with a sharp knife and potted, Moss and all. The plants are allowed to remain in the same house until established, after which they are placed in frames, and only a limited amount of air given for a time. Primulas, especially the double section, will stand, and even enjoy, more sun than many people suppose, while making their summer growth, their texture thereby becoming more consolidated and their flowering powers increased.]

Growing Amaryllis.—Please give cultural directions for growth of Amaryllis, when to pot, and after treatment? Also colour and shape of flower, and say if it will do out-of-doors? I do not mean Amaryllis Belladonna.—A.

[The different varieties of Amaryllis now in cultivation bear on the top of a sturdy stem (from 18 inches to 3 feet high) large, broadly funnel-shaped blossoms, which are just now at their best. In colour there is a considerable amount of variation, some having a light ground netted more or less with red, while all shades from light red to deep crimson are represented among them. They will not do out-of-doors. To succeed with them in pots they used the temperature of a warm greenhouse, and should, after flowering, be watered as before till the leaves begin to turn yellow, which will be about August. After this time water must be given, and when totally dormant they must be kept thoroughly dry. Throughout the latter part of the summer and in autumn they must be fully exposed to the sunshine in order to thoroughly ripen the bulbs. A shelf in the greenhouse or a frame fully exposed to the south is the best for them at that season. By the beginning of February a little water may be given, and this, of course, must be increased as the leaves and flower-stems develop. For potting, which, when

necessary, should be done before they start into growth, a suitable compost is two parts loam to one part each of leaf-mould, well decayed manure, and sand. In potting, shake the bulbs clear of the old soil. At one time it was considered necessary to repot every year, but it is not now so universally followed, and we have seen some good examples that had been for three years in the same pots.]

Forcing Anemones (Rockery).—Tubers of the Anemones require to be at least two years old before being of a size suitable for forcing, so that by sowing the seed at once you may, provided everything goes well, obtain the desired end in some three years to come. A better plan, we think, will be to purchase tubers as early as you can next autumn, and get them as large as possible. By potting these as soon as received (say September) flowers may be secured in February and March following. Four tubers will be ample in a 6-inch pot, and if the bulbs root quite freely you may even obtain a few winter flowers. Winter flowering is easily adjusted to the nature of all this tribe of plants. Heat, and excessive heat, minus the sun and its heat-giving influences, are just the things to ruin these beautiful flowers, and the only way to enjoy them in English gardens and in districts adjacent to large rivers is to plant them freely in a frame in the sunniest aspect possible, and keep all

given a suitable soil and position. In some gardens it is a rule to sow the first lot of seed early in March. This may do very well if large plants are needed and good accommodation can be given them, or if they are needed to be in bloom early in October. I fall, however, to see their value thus early. Really good plants can be grown for blooming during November onward by sowing towards the end of April. The chief thing is to keep the plants growing from the very first. I have often been impressed with this when looking over large trade nurseries where they are grown for seed. As a rule, I save any good variety for seed, and when the seed is ripe some time in July this is sown, and now (early in March) I have nice young blooming plants in 4-inch and 5-inch pots from this late sowing. Many fail to get the seed to germinate. This often arises from allowing the seed to float on the water at the first watering instead of making the soil moist first, then sowing the seed when the soil is set and covering it with fine, light sandy soil. If the soil is moist when the seed is sown and covered but little watering will be needed until it is up.—J. CROOK.

TREES AND SHRUBS.

A FINE IVY.

The illustration shows a good specimen of



Ivy "Clouded Gold" (*Hedera canariensis aureo-maculata*) over a doorway in a Norfolk garden. From a photograph sent by Mr. E. Banbury, 80, Cadogan Square, S.W.

frost away from the surface that will come through the soil in early November. Many would be quite satisfied if these Anemones would really force once quite well. Certainly they will not endure it twice in succession. If you still desire to try, pot early and introduce into warmth as soon as the pots are well filled with roots and ample foliage is in evidence.]

The Chinese Primula.—Few low-growing indoor plants are more useful or ornamental than Chinese Primulas when seen in good condition. These, like most soft-wooded plants, to have them at their best, should never receive a check. Often failure arises from sowing too early in very warm structures, then removing them into cold-pits or frames too early in the spring. Another evil is allowing the seedlings to remain crowded in seed-pans, or after they have been pricked out. When they have made large plants they are difficult to separate, and when the young, tender roots are destroyed the check is so severe that they seldom recover. When they are large enough to handle they should be pricked out into pans or boxes, and before they get too large it is best to lift them out of these with a nicot ball, placing them in 4-inch pots. Care should be taken in the watering after fresh potting. Often by careless watering at this stage the soil is made sour, and then the plants never take to the soil but have a yellow look and stunted growth. It is astonishing how fast these will grow when

Hedera canariensis aureo-maculata, known as "Clouded Gold." The garden in which it is growing (upon a wall looking west) is in west Norfolk. On the lower part of the wall the leaves are dark green, and the golden leaves all growing together at the top of the wall appear from a distance like a mass of yellow bloom, giving a most brilliant effect. The photograph was taken about 5 o'clock on an August afternoon with the sun on the creeper.

E. BANBURY.

NOTES AND REPLIES.

Climber for very hot, sheltered, south brick wall.—I wish to plant front of my house (as above), and am divided between a Vine and a Magnolia. The latter grows remarkably well in front border as trees—the Yulan and the common M. House too staked, much larger space to cover above than at the ground, owing to climbers already on it.—i.e., Roses, Clematis, Pyracantha, and Ampelopsis Vitis. For variety a Vine appeals to me. Kindly advise, and give names of most suitable and effective, time of planting, etc.—KERR.

[One of the best Vines for outdoor culture is the Sweetwater—that is, regarded from a fruiting standpoint—but if foliage effects alone are to be taken into consideration you may plant the out-leaved variety of the common Grape (*Ampelopsis*), or the huge-leaved Japanese *Vitis* *Coignetia*. A very pretty member of the Grape family is the *Vitis vinifera purpurea*, often called the Claret Vine. The leaves of this are in all stages tinged with purple, and in autumn before they drop they are very richly coloured,

This variety is, however, weaker in growth than the others previously mentioned. Whichever you decide on should be planted at once, and some good soil given the roots to make a start into. If you decide on a Magnolia, the Kilmont variety of the evergreen *M. grandiflora* will best suit your purpose. Planting should be done now and as recommended for the Vine.]

Treatment of dwarf Japanese trees.—Having purchased at a recent sale a Japanese dwarf Pine, 40 years old, I shall be very much obliged if you will inform me how I should treat it to keep it in good health? Do the roots require trimming to keep it from growing? I have no greenhouse, so keep it in the drawing-room, where it gets plenty of light.—BRAMMEL.

[Your Pine will only need the average attention given to plants grown in pots—that is, sufficient water to keep the soil in a moderate state of moisture, and an occasional syringing to remove the dust which is sure to accumulate on any plants kept entirely in the dwelling-house. No trimming of the roots is needed, as the plant has been gradually inured to this semi-moribund state by a process of semi-storvation, till its stunted condition has become chronic, and it is so permanently stunted that any attempt to induce it to grow freely would in all probability end in failure. If in process of time the soil becomes too much wasted add a little more.]

GARDEN PESTS AND FRIENDS.

NOTES AND REPLIES.

Fungus on Oak (F. W.).—The so-called fungus on Oak is really a Lichen (*Sclera pulmonacea*), sometimes known as the "lungs of the Oak." It is quite common, and is sometimes used instead of Iceland Moss as a nourishing food for sick persons. It is said that in Siberia it is used to impart a bitter taste to beer.—G. S. S.

Black Vine-weevil.—Kindly say what the enclosed grub is? I found over 100 in one pot.—ANON.

[The grubs you sent are those of the black Vine-weevil (*Otiorrhynchus sulcatus*), or a very closely allied species, the clay-coloured weevil (*O. picipes*). The grubs are so much alike that it is very difficult to tell them apart. These grubs are very injurious to the roots of many different kinds of plants—Cyclamens, Ferns, Primulas, Begonias, Sedums, Strawberries, etc. The only practical way of destroying them is to examine the roots of the plants and pick the grubs out, as insecticides strong enough to injure the grubs would kill the plants. The beetles, which feed on the foliage of Ferns, Vines, Peaches, Roses, and many other plants, are black and about 1/2 inch in length. They hide themselves under stones, rubbish, or some other shelter, coming out at night to feed, so that, though very common, many persons who know the grubs have never seen the weevils. Plants which are thought to be infested with them should be laid on their sides on a white cloth or sheet, and when it has been dark for about an hour, a bright light should be thrown suddenly upon them, this generally causing them to fall and lie perfectly motionless for a few minutes. If they do not fall, the plants should be given a good shake, and be carefully searched. Small bundles of dry Moss or hay should be placed on the soil near the stems of the plants or tied to them, so as to provide the weevils a handy shelter. These bundles should be searched every morning.—G. S. S.]

Titmice in gardens.—I am venturing to ask if you or your readers could tell me how far it is really proved that titmice do more good than harm in a garden? They have lately nearly stripped three Pear-trees of the blossoms, eating out the blossom and leaving only the husk. There is no apparent trace of insects in the buds left. On the other hand, the trees are old, and many of the Pears have dropped in previous years owing to a grub which gets through the Pear. It is said that titmice are insectivorous, and I they undoubtedly feed their young with grubs; on the other hand, in the autumn they eat *Sandwaver* seeds. How far is their devastation of fruit blossom due to a search for insects, and are they sufficiently successful to make their work worth while to the possessor of the fruit-tree?—M. BRUNSON.

[I think that there can be no doubt but that the titmice are very useful birds in gardens, and all ornithologists are of the same opinion. Many gardeners I know hold just the opposite opinion, but they are very apt to judge only by appearances, which are, it must be admitted, against them. It is quite a mistake to think that the birds that they attack are oused and would produce fruit if left unmolested.—G. S. S.]

The wood leopard-moth.—I will be much obliged if the accompanying grub is named in GARDENING ILLUSTRATED. It was found in the centre of a branch on a worn-out Apple-tree. It had burrowed along the centre of the

branch for 3 inches or 4 inches. The branch is about 2 1/2 inches in diameter.—A CONSTANT READER, *Old Chester*.

[The branch of your Apple-tree was infested by the caterpillar of the wood leopard-moth (*Zenzera tessuli*), one of our most elegant moths. The female measures 2 1/2 inches across the wings when they are fully opened, these being long and narrow, white, and almost transparent, with yellowish-brown veins. Between every two veins there is a row of rounded bluish-black spots, the head and thorax are covered with a thick white pile, the latter having three black spots on either side of the middle, the body is thickly covered with a thick black down, and each joint is fringed with white. The males are rather smaller than the females and have very deeply-toothed antennae. The presence of these caterpillars may generally be detected by small, sawdust-like particles which are thrown out by the caterpillar. If possible the branch should be cut off, but if it be undesirable to do so, the entrance to the hole should be slightly enlarged, and an attempt made with a pointed wire to catch the insect, or, if the wire be formed into a hook, to drag it out. If this fails, some cotton-wool or tow should be soaked in tar or paraffin-oil and pushed as far as possible into the gallery formed by the caterpillar, and the hole closed with a piece of well-kneaded clay, so as to assist in stifling the insect.—G. S. S.]

Grubs in a bed of Mint.—Will you kindly tell me what the enclosed grubs are, and, if left alone, would they turn to moths or what? I found them in a bed of Mint, which they have quite destroyed by eating the roots all away. I have picked hundreds out of a small bed. What is the best way to clear them from the garden? I have found others in different parts of the garden.—A READER.

[The insects you enclosed are the caterpillars of the common swift moth (*Hepialus lupulinus*), a common and very destructive pest to the roots of plants. I am afraid that there is nothing to be done but to turn them up out of the ground and destroy them, as insecticides cannot be made to reach them without seriously injuring the plants. By killing all you can find you will lessen the chance of an attack next year.—G. S. S.]

Fungus on Snowdrops.—I enclose specimens of Snowdrops which have been attacked by some sort of fungus or mildew, and shall be obliged if you will tell me what is the cause of it, if it is likely to spread, or if there is any remedy? The bulbs of the Snowdrops attacked have entirely disappeared.—D. O. B.

[Your Snowdrops are attacked by a fungus, *Sclerotinia galanthina*, which is nearly allied to the White Lily disease which has recently proved so destructive to that kind of Lily. I do not think that there is any cure for this disease. All the infested bulbs should be destroyed as soon as they show any signs of the disease, as it is very likely to spread.—G. S. S.]

VEGETABLES.

THE CULTURE OF ANGELOICA.

ANGELICA is the subject of special culture in the west of France, towards Niort and Châteaubriant. It is a biennial plant, exhaling a sweet odour, and having a warm, bitter, aromatic savour. It requires a good cool, deep substantial soil and a southern exposure. It needs frequent watering—"roots in the water, head in the sun," as they say. The seed is sown in nurseries in April, but the better way is to sow in September, when the seed has ripened, in a good exposure, for choice seeds sown in September do not always germinate in the same year. Seed sown in spring, on the other hand, germinates a month after or sooner. The seed is sown in lines a pinch at a time, and lightly covered over with sandy soil. Planting out takes place in the autumn, or in the spring following, when the roots are about the size of a little finger. They are planted 23 inches to 28 inches apart, then watered and covered with straw-manure. The only attention they receive during vegetation is hoeing and water in abundance until the autumn of the first or the spring of the second year. The ground is dug between and a good layer of dung or compost applied. The stalks are gathered in the spring of the second year or sometimes in the third year, when the umbels begin to lose their flowers. The plants are then between 3 feet and 4 feet in height. The stalks are cut down to the ground and bisected, leaving two shoots on the middle if the plants are to remain another

year. By preventing the plant from producing seed one can prolong its life for a year.

The seed is collected in August. The umbels are cut and put in the sun to dry, and when dried up they are separated, cleaned, and put in bags. But it is chiefly the stalks that are used in confectionery. When these are cut they are flattened out and cut into lengths of about 4 inches, and thrown into boiling water to whiten. When soft enough to yield to finger pressure they are taken out, the threads removed, and the pieces put into cold water to harden, after which they are taken out to drain. Treatment with boiling sugar follows in the process of transforming this vegetable into the sweetmilk which is so well known.

If it is intended to make use of the roots, these are pulled up in September, split into pieces, and kept dried in woodco boxes. Those of a year old are worth more than older ones. From the seeds of Angelica a pleasant liqueur is made, and in medicine its roots are more valuable than the other parts of the plant. Angelica is recommended for weak stomachs, and for gouty persons, and those who have weak digestions, also in the treatment of convalescents exhausted by long illness in the form of infusions of the roots and young, fresh stalks.

BLANCHED LEEKS.

THE note on these at page 1 of March 1st, from "A. D.," is a valuable one. I agree with all he says respecting their value when grown to about the size he names, and blanched as he describes. I prefer a dish of Leeks to most things during the first three months in the year. Owners of small gardens who may have grown them only in a green state should blanch them. Another recommendation is that a quantity of roots may be grown in a small space. Added to this, frost does not affect them when protected with soil to blanch them. Most lovers of good vegetables will agree that from the New Year onward the choice of vegetables is limited. Blanched Leeks have not been regarded with the favour they deserve. Since I have had the charge of a garden I have sown Leeks at the same time as the Spring Onions. When working out the rows for Onions I put one row of Leeks at each side of the quarter, sowing and treating just the same as the Onions. By the time the Onions are ripe the Leeks have attained to a good size. Early in the autumn, should they appear to have exhausted the soil, I give them a dressing of some stimulant, either in a dry or soluble form, according to the weather. Before the winter sets in these are protected, thus blanching them. This is easily done by removing the lower leaves and drawing a ridge of earth to them on both sides, as high as needed, leaving a portion of the green tops out of the soil. J. CROOK.

NOTES AND REPLIES.

Growing Winter Greens.—Can you say why the whole of my Winter Greens have not grown this year? I have pulled some up and find they are clubbed. Can you give any reason for it, or suggest a remedy? The earth is called "brick earth."—O. F.

[Where trouble in this direction has previously been experienced, preventive measures ought always to be taken. In many instances the roots of plants in the seed-beds will have commenced clubbing before they are large enough to put out. A free use of root and lime, forking it into the surface of the bed before sowing the seed, has a deterrent effect, and so also has sand soaked in petroleum, the surface of the bed being dressed with this every week or ten days. Before planting examine the underground portion of stem of each plant, and cleanly cut away every small excrescence or wart where found, following this up with the old-fashioned remedy of puddling the roots of all the plants. Form a puddle with clay, soot, lime, and water, a wineglassful of petroleum being also added with advantage, and drag the roots through this so as to thoroughly coat them and the lower portion of the stem with the puddle. Thus treated, they seem to feel the check of removal less than when not puddled, and are seldom interfered with by either maggots or wireworms afterwards. It is on stale, indifferently cultivated ground that grubs most often gain the ascendancy. Newly-slaked lime at the rate of 1 bushel per rod ought to be forked into the

surface of the previously well-manured ground, and after the plants have been put out, all being carefully fixed, clear water should be given for a time, or for the first week or so, afterwards giving liquid-manure frequently. Nitrate of soda, or that in mixture with superphosphate of lime, dissolved at the rate of 1 oz to a gallon of water, would be the best form of fertiliser for the purpose. Apply at first round the plants, but when the latter are growing strongly, draw mould up to the stems and pour the liquid-manure freely along the furrows. Petroleum is one of the best insecticides ever discovered, and in extreme cases of chomhing we would advise soaking and in it and mixing the latter freely with the soil in which the Cabbages are planted.]

Manuring poor ground (Myrrhis).—If the ground you found so terribly weedy has been trenched some 18 inches to 20 inches deep, and all the weed refuse was put into the bottom of each trench, the soil should be capable of sustaining a fair crop of strong-growing Potatoes, such as Up-to-Date. If you want to thoroughly clean the ground, nothing could possibly be better, as once the tops became strong they would smother weeds. It would be impossible for you to furnish anything like an adequate manuring at a cost of 10s. to 15s. per acre. Probably the best outlay of the latter sum would be in good fresh soot. Failing that, then get nitrate of soda, and give a thin sowing of that over the surface just before you sow or plant crops. Some of the crops named, especially Kales, would be too exhausting for poor soils. Some others would probably be stunted. If you planted all with Potatoes, as advised, kept them clean during the summer, lifted in the autumn, forked the ground over evenly and left it for the winter, it would be amply firm, then hoe deeply and clean off weeds before sowing Grass-seed in the ensuing April. When such treatment is adopted seedlings root deep, and get a strong grip of the soil, which helps to sustain them better than do mere surface waterings, which soon evaporate and leave the soil baked harder and drier than it was before. A sandy soil is not necessarily a very dry one—indeed, we find that it retains moisture better than do gravelly or clay soils, especially if the surface be kept well stirred. In the case of wind-swept gardens, such as yours is, it is well to plant frooly wind-breaks, such as hedges of Holly or Arbor-vitæ, or of anything which will check the force of the wind and allow plants in the intervening spaces to thrive. Even such temporary expedients as sowing Rape in narrow rows or drills, and allowing it to get 2 feet to 3 feet in height as a wind-break before cutting it down, are great help to plants. Something may be done by sucking in branches of Laurel or other ever-green shrubs, or of Fir, to form temporary protection to tender or seedling plants.

GARDEN WORK.

Conservatory.—Flowers are abundant now. Large pots planted with single Narcissus are very bright. Stella and Cynceure are very cheap and are light in appearance. Horsfieldi is a very dwarf variety, but is very effective in a mass. These require no forcing to flower now, merely planted a dozen or so in a good-sized pot and placed in a cold-frame till some progress has been made. It is not necessary to plunge in ashes or fire if the soil at the bottom is not rammed in very firm; the roots will go down and the bulbs remain in position. Standard scarlet or pink Thoros and Lahoums forced quietly bring a delightful whiff of spring in March. Now is the time to lay the foundation for a good display of climbing growth in spring and summer. Ipomea Leari is a gorgeous thing when in blossom. The roots are perennial, and when strong the growth spreads rapidly and the bluish-purple blossoms are of large size and freely produced. It is an old thing, but not often met with now. Granges and Camellias should have what pruning is required now. Plants in pots or tubs may not require much pruning, but when planted out in the border some attention is necessary to keep the outline perfect. This, also, is the best season for repotting. The plants will not thrive in a limestone soil; this is the characteristic of pretty well all hard-wooded plants. I have

seen Camellias and Acacias thrive well in good yellow loam; but, as a rule, a little leaf-mould, peat, and sand always improve it and are generally used. Roses which have been gently forced are lovely in bud now, and the flowers are more lasting than the early blossoms which have been pushed on in strong heat. Insects are very fond of the young shoots of Roses, and, if not destroyed, will cluster thickly about the buds. There are various ways of dealing with them. In the Rose-house use the vaporiser, but when the plants are few in number a sponge dipped in soapy water will clear them off or a little Tobacco-powder will settle them, and a syringing with clear water afterwards will make all comfortable again. Deal with all troubles of this nature promptly and they soon disappear. Do the watering in the morning. Give a little weak stimulant to all plants coming into flower.

Stove.—This is the season to repot Eucharises should it be necessary. Annual repotting is not always necessary or desirable, and it is well not to break up the mass of bulbs till the plants have reached a large size. When the mass of bulbs has reached a considerable size and seems inclined to burst the pot, then division must take place. These plants can be carried on for some time with liquid-manure, and the flowers are very freely produced under such conditions. The best compost is good loam two-thirds, as turfy as possible, and the other third equal parts very old cow-manure, charcoal (broken very small), and sharp sand. The pots must be well drained. Cuttings of the young shoots of Bouvardias will strike now in brisk bottom-heat kept close. Pot off the outtings as soon as rooted, and pinch from time to time. Some growers plant out and lift again in autumn; but my experience is in favour of growing them in pots. The Poinsettias are now for the most part resting. When the rest is over, give water, and syringe to get them to break. I like young cuttings, though short pieces of the ripe wood will root in bottom-heat. To get large heads of bracts the outtings should be struck early, though, of course, there is plenty of time yet. April and May are time enough to work up the main stock, though we never miss a cutting if we can help it. Epiphyllums may be grafted on the Pereskia or Cactus stocks now, or they will strike freely from outtings in porous compost. Grafted plants are the longest lived.

Orchard-house.—The trees will be in blossom even in a cold-house now, and careful attention to the ventilation will have much influence in the setting of the blossoms. Keep out cold winds. Damp the floors for an increase of temperature in bright weather. Ventilate early in the morning—not excessively, but admit air in small quantities, so as to avoid cold currents. Keep the roots healthily moist. As the growth increases, the demand for moisture will be greater, and if this demand is not promptly met something will soon go wrong, and the young fruits are the first to feel the change. Begin disbanding early, and then no great check need be given. Do not be in a hurry to pinch the young shoots, unless it is a case of grossness which is fast developing into a case of rothbery; then either remove the shoot altogether or stop it.

Figs under glass.—We have gathered ripe fruit of the White Marselles in May, and to do that the trees must be started early and a temperature about equal to that used for forcing Grapes kept up. When Figs are grown in pots they may be forced anywhere in a suitable temperature. We have forced them in a Pine stove standing on the back wall of the pit in which the Pines were plunged, and very good crops these trees in pots always produced. They were moved to another house to mature the second crop. In pot culture the feeding in the way of top-dressing and liquid-manure must be liberal, and when the plants have been in pots some time without a shift the roots may be pruned rather hard back and the pots reduced in size. The Fig under all conditions soon responds to warmth at the roots, and a leaf-hed will ensure good results. The leaf-hed in the vinery is not so common as it used to be, but I have seen very good early Figs gathered from pot-trees plunged in a bed of leaves in the early vinery. The disbanding and stopping of the young growths are important details. The stopping should be

done when five loaves have been made, and instead of pinching out the terminal bud, the best course is to raise the bud so as to hook further progress, but not altogether remove it. The object is to stop bleeding.

Window gardening.—Anything that requires larger pots may have attention now. Cuttings of Enchyses, Zonal Geraniums, Campanulas, and white and yellow Marguerites will strike now in the windows in a warm room. Geraniums will strike best without any covering, but other things will be best in a box covered with glass. Those who have a small frame on a hot-bed may do a lot of propagating now both from seeds and cuttings. Cuttings must have a little shade on bright days.

Outdoor garden.—There will be a good deal of work now in the propagating department. It is quite easy to have a very pretty garden without a single Geranium or taking the trouble to winter a single plant. Here is a list of plants which may be raised from seeds in February or March in the hot-bed or warm greenhouse, pricked off into boxes or pots, and when grown a little and hardened off be ready for planting in May: Petunias, splendid for dry, hot soils, Verbenas, Lobelias, Stocks, Asters, Dianthus (Indian Pink) in variety, Scabions in variety, Phlox Drommoldi, Mari-golds (African and French), Salpiglossis in variety, and Zinnias. Seedlings are often weakened in the seed pots by thick sowing and keeping them too long without transplanting. Petunias are among the brightest things in the garden in summer, and will thrive in the hottest, driest positions. Balsams are not much used in the beds, but they do much better planted in the garden than in pots in the conservatory. When used in beds or borders they should be planted 3 feet apart, and the ground between filled in with another colour of low growth. Verbenas, pegged down, will do, as would also the purple Heliotrope and white Stocks. Cuttings of almost everything will strike now in heat if kept close and shaded from the hot sunbline. Very pretty for grouping are the China Roses. Fellenberg makes a very bright mess, and is always in blossom from early spring till late in summer or autumn.

Fruit garden.—This is a good season for planting new Vineries where the borders are prepared and ready for the roots to work into. Many of our best Grape growers prefer borders altogether inside. When the question of feeding has been properly grasped inside borders are best, but roots in inside borders want a lot of nourishment, and the risk of neglect or want of judgment are greater than when the roots are partly inside and partly out. The best courses for the average man is to make 3 feet or so of border inside, and build the front wall on arches. Plant the Vines inside, and leave a free course for them to go outside when they like, and out they will go the first season. It is a mistake to make all the borders at once—the roots rosh through and are away out in the garden in three years. Keep the roots at home as long as possible, and with this object in view make the borders piecemeal, say about 3 foot at first and about 4 feet or 5 feet a year after. Sometimes the border making after the first year can be postponed so as to miss a year, by using rich top-dressings. It is a question of feeding more than extent of feeding ground. If heavy coverings are placed over wall-trees in blossom they should be taken off every morning when mild. Figs on walls should be pruned and restrained towards the end of the month. Take out an old branch here and there to give room to lay in young wood. A good dressing of lime will be useful under Gooseberries when the caterpillar exists.

Vegetable garden.—Those who grow prives Onions will now have their boxes of plants hardening off, and the ground made suitable for planting. The rows should be a foot apart, and the plants from 6 inches to 8 inches apart in the rows. Manure must be used freely in the preparation of the ground, and a top-dressing of short stuff, of which charred rubbish forms a part, will be beneficial. Later on a dressing of nitrate of soda will be useful. Plants raised early in this way get a good start of the Onion-fly. Those who have not sown their Tomatoes for planting outside should use no time now. Sow thinly in boxes, and grow from the start without check. Straw plants put out at the

end of May will render a good account of themselves. As regards variety, Holmes' Supreme and Laurenson's No. 3 are good croppers, but there are numbers of good varieties. The lets might be curtailed with advantage. Sow more Peas and Beans for succession. Antocrat and Duke of Albany are good Peas for sowing now. We find by sowing a second early with either of the above a succession is obtained. Sow a few seeds of Broccoli, Cabbage, and Kale for early planting. These things have frequently been sown too late when the season is dry. Run a string of matting round the earliest Cabbages to forward the heading. Sow and plant out Lettuces. Forward the Potato planting. Give them plenty of room—3 feet between the rows for large topped kinds is not too much.

E. HOBDAV.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

March 25th.—To clear the houses a little some of the autumn-struck Geraniums and other bedding plants have been removed to cold-frames. Coverings will be used at night. The Chrysanthemums have also been placed in cold-pits. All the early-struck plants are now in 5-inch pots. Precautions are taken against the advent of rust on the foliage, and the plants are closely watched. Sowed more Tomato seeds for outside; also more red Celery.

March 25th.—Planted out more Lettuces, and sowed seeds of White Cos and Continuity Cabbage Lettuces. A little more thinning has been given to the young shoots on Peaches, and the fruits thinned to about 6 inches apart on the averages. Some of the longest shoots have been tied in. Finished thinning Grapes in early house. This is the second time in going over the bunches, and only a little was required, and that little chiefly directed to relieve crowded parts of bunches and remove small berries.

March 26th.—Strawberries ripening are removed from warm-house to cooler quarters. The flavour is improved and the fruits are in a better condition for packing. Petunias and Verbenas raised in heat have been potted off or, in some instances, pricked off into boxes. They will be helped with a little warmth till established, and will then be removed to cooler house. Put in more cuttings of Lobelias in boxes. Sowed more hardy annuals, including things suitable for cutting. Potted a lot of *Lilium auratum* and *ancifolium*.

March 27th.—Planted out Gleditsia of various kinds in masses in the borders. Stirred the soil among bulbs in beds, which are growing freely. Manured and dug over a plot of land for Violets. The cuttings are rooted in boxes and will be ready to go out as soon as the ground has settled a little. Top-dressed Asparagus beds with nitrate of soda and raked the surface over. Top-dressed Cucumbers coming into bearing. The shoots are regularly pinched one leaf beyond fruit.

March 28th.—Disbudded Vines in late house. Orchard houses receive free ventilation on mild days. The stems of the trees are tapped with a padded stick about eleven o'clock in the forenoon, to distribute the pollen. Water is given when required, but no top-dressing or stimulant till the fruits are set and swelling. Dusted each over Peas to keep off sparrows. This has hitherto proved effectual, but if it fails other means will be adopted. Pruned various Roses. Teas will be left a little longer. Roses planted in autumn are now making roots.

March 29th.—Re-arranged conservatory to clear away hulks which have flowered, and fill in with other things coming on. Looked over climbers to thin and train growth. Earliest Pelargoniums are bursting into bloom. Azaleas also are very bright. Acacias going out of bloom are being pruned back. Put in a lot of Rose cuttings taken from forced plants under glass. We generally graft at this season a few Roses on Brier roots. Any healthy Brier roots as thick as a cedar pencil will do. The roots are grafted by what is known as whip-grafting, and then potted and plunged in bottom heat. Very few fail.

The Index to Volume XXIII is now ready and can be had from the Publisher, price 1d. post free, 34d.

BOOKS.

"THE BOOK OF THE APPLE."

THIS is the sixth volume of the series of "Handbooks on Practical Gardening" that is being issued under the general editorship of Mr. Harry Roberts, and is uniform both in size and appearance with its predecessors. For the information of those who have not possessed themselves of the volumes issued previous to the one now under review, it may be stated that Mr. Roberts deposes the writing of the practical portion of each volume to various authors, and to Mr. H. H. Thomas, the assistant editor of *The Garden*, has been entrusted the task of supplying that for "The Book of the Apple." This occupies some 80 pages, and the remainder is taken up with chapters by the editor, on "Apple Lore," "Apple Cookery," "The Evaporation of Apples," and "Cider-making," on which important matter Mr. Roberts has had the opinion and assistance of the best makers in the kingdom. The recipes given for cooking Apples are excellent, and the illustrations of the various and up-to-date machines and implements required for the manufacture of cider are extremely clear and good. Coming next to the more practical part of the treatise, we think that when compared with previous volumes of the series, this, the sixth, does not attain the same high standard that the others have done, viewed from a practical cultivator's standpoint, and although the information afforded will no doubt be of great service to amateurs and small cultivators, we fear that those engaged in the cultivation of the Apple, commercially and otherwise, will glean nothing that will be of assistance to them by a perusal of its contents. Apple culture has largely engrossed attention for several years past, and by the wide dissemination of information bearing on this subject by the gardening press, and by various works from the pens of eminently practical men, great strides have been made, and the old methods have given place to those of a more intelligent and rational character. Such being the case, the advent of a new work treating upon such a popular fruit as the Apple is eagerly scanned with a view to obtaining information bearing on some point or other on which they are not quite clear. Such will, we fear, be disappointed, but amateurs and others who wish to grow Apples on a comparatively small scale for private consumption will find much that will be helpful to them. There are several little matters on which Mr. Thomas has not touched, such, for instance, as the protection of the stems of "elandards" from attacks of rabbits and hares; the lifting and transplanting of the trees in lieu of root-pruning; the importance of winter-dressing the trees for all pests with the caustic alkali solution mentioned by him as a remedy for American-lyght only; and the spraying of trees before they blossom and immediately after the fruit is set with Paris-green, or Winter Moth Specific, as an antidote for the caterpillar of the winter and other moth. The chapter on storage is very good, and the list of varieties given and recommended can also be commended, but surely a mistake has been made in stating that Golden Noble does not keep well? A short chapter on budding, grafting, and training completes the portion of the work for which Mr. Thomas is responsible.

LAW AND CUSTOM.

The right to light.—A bought a house with ground around. The house stands about 4 feet from the boundary wall owned by B, and there is also a greenhouse about the same distance from the boundary wall. B has now raised the wall to the height of A's house, thereby obstructing the light and the heat of the sun. Can he be compelled to remove the addition to the wall?—*Tox*.

[It is not stated whether the obstruction complained of is in respect of the house or of the greenhouse, but as a greenhouse was held in *Clifford v. Holt* (1899) to be a building within the meaning of the term "building" in section 3 of the Prescription Act, 1832, the matter is immaterial. The right to the unobstructed flow of light and air is gained by twenty years' enjoyment, or by express or implied grant. If the house and greenhouse have been erected more than twenty years, the right to light is pretty certainly been gained, but you do not

say how long either has been built, nor whether there are any windows in the house overlooking this wall. If there be, there can be no doubt that the heightening of the wall has seriously interfered with the access of light to those windows, and an injunction may be obtained to restrain B from obstructing the light, and this practically means that in addition to the wall would have to come down. A will be well advised to consult a solicitor on the matter, as if he has gained the right to light he will need a solicitor's assistance to enforce his remedy, and even if the buildings have not been erected twenty years there may be circumstances from which a grant may be implied.—*K. C. T.*]

A tenant's claim for compensation.—A took 20 acres of waste land on a yearly tenancy under an agreement to leave the land in the same state as he found it. He sunk a coal-pit in the field. He died subsequently, and his trustees gave up the field. I have taken the land on the understanding that it is made good. The trustees have filled up the pit and have spread the remaining refuse over two acres of good soil, and have put a thin covering of soil over so thin that in rain or snow old bricks, stones, and stumps are on the surface. I cannot expect any crop unless more soil be placed on the surface; but the trustees say they will do no more to the land. I have already carted 100 loads on, but more is still required. Can I claim any recompense?—*D. B. AND J. W.*

[It depends upon the bargain made with the landlord whether you can enforce any claim or not. If you agreed to give a certain rent on the condition that the land was put into proper order, you may claim from the landlord damages for his breach of contract with you, but unless there was such a condition and you can prove its existence, you can enforce no compensation. It may be as you say, that, as between the trustees and the landlord, the trustees were bound to make the land good, but there was no obligation on the trustees to do this for you. You have nothing to do with the trustees and they have nothing to do with you. The landlord may, if he thinks fit, recover compensation from the trustees, but you can do nothing against them. Your only course is to complain to your landlord, and ask him to claim damages from the trustees. Of course, if the landlord contracted with you to make the land good, you may recover damages from him.—*K. C. T.*]

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

ANNUAL MEETING.

The annual meeting was held under the presidency of Mr. Herbert J. Cuthbush, at the Caledonian Hotel, Adelphi-terrace, Strand, W.C., on Monday, March 10th. The report for the past year was unanimously adopted, and it was decided to print 3,000 copies of same. Eighty-three new members have been elected during the year, and over £300 has been distributed in sick pay. The secretary's salary, printing, postage, and auditor's fees, etc., amount to £168. The treasurer has invested £1,800 during the year, the total invested funds now being £19,000.

Mr. Cuthbush, in the course of his remarks, said he hoped the membership by the end of the year would be 1,000, and that the invested funds would be £20,000.

The retiring members of the committee were again elected, also secretary, trustees, and treasurer.

For reports and rules readers should write to the secretary, Mr. W. Collins, 9, Martindale road, Balham, S.W.

—The monthly committee meeting of this Society was held at the Caledonian Hotel on Monday evening last. Mr. C. H. Curtis in the chair. Seven new members were elected and two others nominated. Ten members were reported on the sick fund; the amount of money paid out for the month being £33 12s. The sum of 30s. was granted to a sick member from the convalescent fund. The decision of the committee at the last meeting was upheld in the case of a member who wished to be re-instated. The death of two members was reported, and cheques were drawn for the amounts standing to their credit in the ledger, being £32 1s. 1d. and £23 7s. 1d. respectively. A hearty vote of thanks was given the chairman and vice-chairman for their services during the past year, and at a subsequent meeting they were unanimously re-elected for the ensuing year.

BEES.

SEASONABLE WORK IN THE APIARY.

The Crocus and the various kinds of Willow yield large quantities of pollen in the early spring, which is eagerly gathered by Bees for the feeding of the young, being mixed with honey and water for that purpose. When more is gathered than is required for present use it is stored in worker cells and sealed over with wax. The Bee foraging in the flowers becomes powdered with pollen, this it brushes from its body with its front legs, which are provided with brushes for this purpose, and collects and kneads it up into little pellets, which are transferred to the hollows of the hind legs formed for its reception and transportation. When many bees are seen carrying into a hive large quantities of pollen-pellets of various tints it is a pretty sure sign of prosperity and increase of population. When natural pollen cannot be obtained by the Bees in sufficient quantity it is the custom with some Bee-keepers to supply them with Pea-meal, placing it in shallow boxes, in a warm and sunny spot near the apiary, a few shavings being mixed with the meal to provide a foot-hold for the Bees. This artificial pollen is found to answer in brood-rearing, and is collected by the Bees as freely as natural pollen. Water is also carried into the hive at this season, and here again much help can be afforded by placing near the hives shallow pans of water with small sticks of wood floating upon the surface. This will often save the Bees the necessity of travelling long distances in search of water, which is so necessary in brood rearing. Indeed, so eager are the Bees to collect water in the early spring that many venture out for this purpose even in unpropitious weather, and never regain the hive. A little water provided near at hand obviates all this. Hives that were properly provisioned in the autumn will not require feeding at present. Where, however, feeding is found to be necessary to prevent starvation, the food should be applied in mild weather only, and in the evening, and only as much given as will be taken in a few hours, that the Bees may have become quiet before the morning. If fed during the day the excitement caused by the supply of food will induce them to fly abroad in search of a natural supply, and many may never return. Candy and Barley-sugar are both good for winter and early spring feeding; or a good feeding syrup may be made as follows: To 3 lb. of boiling water gradually add 10 lb. of granulated sugar, keeping it stirred with a wooden spoon till all the sugar is dissolved, then add half a teaspoonful of water in which has been dissolved a teaspoon, level full, of tartaric acid, when, after stirring a moment, remove from the fire. This, when cool, will be found of the consistency of ripe honey. It should be supplied (just warm) in a feeder placed on the top of the hive, the whole being covered with some heat-retaining material. The tartaric acid prevents the syrup becoming candied. Another very excellent food can be made by mixing liquid honey and finely-powdered leaf-sugar together to the consistency of putty. This can be laid upon the tops of the frames in the form of a cake, and is readily taken by the Bees. By feeding thus no disturbance is caused to the colonies.

Many stocks that were fed up heavily in autumn have even now a superabundance of stores, and feeding in cases of this kind is worse than useless, because any food supplied now will be used for daily consumption, while the sealed stores will be left occupying, in some cases, thousands of cells which should be usefully employed in the rearing of young Bees. If a frame of worker-comb filled with sealed honey be uncapped and set in the centre of a strong stock, it will be found that in about a week the food has been removed by the Bees from the cells, while thousands of eggs and larvae have taken its place. In examining hives in the spring, old colonies will sometimes be found overstocked with last season's pollen, while younger hives are short of it. A very advantageous interchange of combs may be made when this condition of things is observed. Strong stocks, with plenty of stores, begin breeding often as early as the month of January, and prosperous colonies should soon be in possession of large quantities of brood.

CORRESPONDENCE.

Questions.—Queries and answers are invited in *Gardening Illustrated*. All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF GARDENING, 27, Southampton-street, Covent Garden, London. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as *Gardening Illustrated* is sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The differences between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Geniatae (T. Jaeger).—These should be cut back after flowering, and after they have begun to grow repeat them, using loam, leaf soil, a little manure, and sand. Keep them close and shaded for a time until they have started to root freely. Gradually harden off and stand in the open air during the summer, being careful as to watering, as, if this is neglected, the plants will lose all their foliage.

Sweet Peas (Beginner).—All the Pea family prefer a rather stiff soil to root into, and never do well in loose soil. You will need exercise discretion in this, however. Light sandy soils may receive a good deal of firming with limonite. Heavy soils may be firming down with the back of the fork if dry and in good condition at the time; while light soils may be made firm by treading before and after planting.

Yucca filamentosa (Kent).—As *Yucca filamentosa* is hardy you may leave your plant, with its attendant suckers, alone, as it will thereby form an effective mass or clump. If the leaves are still tied up they should be loosened at once. One caution to be observed in the case of plants that have been tied up in this manner is that the young leaves in the centre are, when first exposed, very tender, hence they should be protected from sharp frosts till they have recovered their normal condition.

Removing stones from the soil (S. R.).—Unless the stones are of a size to be later removed by the proper working of the soil it is undoubtedly a mistake to remove them, so they play a valuable part in the economy of nature, keeping the soil open and properly drained, while, on dry soils, stones scattered on the surface prevent so rapid an evaporation as would otherwise be the case, and thereby assist vegetation. The practice of removing every stone is likely to encourage the Mossy growth, as the presence of Moss indicates a more or less stagnant state of the soil, and this stagnation is, of course, made worse by picking out every stone.

Daffodils in fibre (Beginner).—If the bulbs are planted wholly in fibre, by which we presume you mean Cocoon-fibre refuse, it is on woeless signs of failure we are assured. There is absolutely nothing to be gained in planting or rooting in this material, and the water would pass away without doing the least good. You cannot make things much worse now if you lift the bulbs and replant in good garden soil. Doubtless the roots have perished in the fibre, and if so, no new bulb will be formed this year, and no good growth will appear next year. In two years the bulbs may pull through somewhat. There is no better kind for the gardener than Narcissus Horsfieldi, and it is perfectly hardy and increases abundantly if left in the soil from year to year. Dig the ground deeply before replanting the roots, and employ some sand about the bulbs.

Wallflowers in a cool-house (Rockery).—Sow the seeds at once and grow the plants as freely as possible all the season. The seedlings may be planted or stopped to promote a more bushy growth, but this should not be encouraged after July, and at each time only the most erect point or tip should be removed. The better plan would be to remove the point when the seedlings were a few inches high, and again when a inches of growth have been made. By potting quite firmly in September you would obtain all that was possible in the time, but Wallflowers do not flower much in midwinter unless the spikes are already formed in late autumn. The best kind we know for winter flowering is the old double yellow, and this does best when kept in rather small pots. This variety cannot be raised from seeds, but from cuttings.

Soil for potting (S. R.).—The worst possible soil for potting is that which has been passed through a sieve with a 1/2-inch mesh; indeed, the tougher portion which does not pass through would, in the case of many plants, be by far the best to use. The only cases in which fine sifted soil is the best, are for sowing minute seeds and for many cuttings. For potting young and delicate subjects into small pots it is a great convenience to run the soil through a sieve, but, in that case, one with a 1/2-inch mesh is preferable. For potting and repotting in general, by all means use rich fibrous old turf as your basis, with different mixtures according to the requirements of the plants. A good compost for most subjects may be formed of two-thirds loam to one-third well-decayed leaf-mould, or a mixture of manure and leaf-mould, with a free sprinkling of sand. As loams vary a good deal in consistency, some of the heaviest are all the better if mixed with an equal amount of leaf-mould. Failing this last, peat may be used instead. Of course, there are many plants that this mixture will not suit—Azaleas, for instance, which need good fibrous peat, broken up by the hand, and sufficient drainage to be readily seen when mixed.

Thrip on Azaleas (Southdown).—The Azaleas-leaves you send are badly attacked by thrips. Syringing the plants with paraffin emulsion, Quassia extract, and soft-soap or Tobacco-water. A cheap insecticide for the destruction of this pest, also green and black-fly, is as follows: Tie up a peck of root in a canvas bag and place it in a hogshead of soft water. Stir the bag of root about daily for a week, and then add about 3 lb. of fresh sea-salt lime. When the lime has clarified the mixture it may be used for syringing, diluting it if necessary. Try it on one or two plants first. This is an excellent syringing mixture, not only freeing the plants from insects, but also giving health and vigour to them.

Ferns under greenhouse atags (Leck).—You will find a large number of the free-growing kinds useful as—e.g., *Nephridium melle*, *Cyrtanulum falcatum*, *Pteris of the linear type*, and the well-known British *Maidenhair*, *Adiantum capillus-Veneris* is usually one of the best. If not too dark and too much drip overhead, *Pteris aquatica* will do well and spread freely. *Doodia aspera*, *Pteris tremula*, together with the ordinary *Maidenhair*, *Davallia canariensis*, and *Woodwardia radicans*, would also be useful, and, with some of the Selaginellae, make good variety. Any rough, peaty mixture, with ordinary loamy soil added, will do, or even the old potting soil from Ferns, if a supply is at hand.

Pinching or stopping plants (Rockery).—Generally this is no rule for this, and, with such things as *Phlox Drummondii*, nothing to be gained. Wallflowers of a known rather leggy kind may be pinched to make more bushy plants, otherwise, if given plenty of room to develop, they branch out quite freely naturally. In *Falargonia*, all depends upon circumstances—e.g., winter flowering kinds are pinched twice or more, and all blooms removed so that the plant may be strengthened and devote all its energies to making good flowering branches for the time to come; and any pinching or stopping should be on these or similar lines. To stop plants of the annual or biennial class is only to delay a flowering which may be better secured by a later or even a successional sowing of seed.

Pot-Roses in a room (Beginner).—The shrivelling up of the bottom leaves is probably owing to too much moisture at the roots. It is just possible you have given the plants rather a large pinch of the Fertiliser. It is a mistake to use artificial manures upon room-grown plants. The Rose is not a good subject for room culture, its foliage requiring a rather moist atmosphere, and under plenty of sunlight can be given, which enables the plant to utilise the manure, this should be avoided until bloom-buds are visible. We should advise you to water more sparingly at the root, but the leaves will be the better for a daily sponging. To prevent the soil drying so quickly, a good plan would be to obtain a box containing some Cocoa-nut-fibre refuse and plunge the plants into the latter, keeping the fibre moistened now and then.

Stopping Chrysanthemums (Dulley).—Calvat's Sen, stop middle of April, crown bud; Lady Roberts, a Colonial introduction, which you had better try in one or two ways, stop early April; Dolly Glide, end of March, second crown; Miss Elsie Polton, stop middle of April, crown-bud; Canary Bird, stop early April, second crown; Heroine, stop early March, second crown; Mrs. J. Thornycroft, stop middle of March, first crown; Major Plumb, stop middle of March and secure first crown; Mile. M. Lager, stop middle of March and secure first crown. Nina and Lily are best treated as from the decorative point. All those grown for this work may be stopped twice if bushes are required, securing the buds any time after August 15. Not a few of the most shapely flowers are the result of one stopping and securing second crown buds.

Fuchsia for sheltered corner (S. H.).—If you have room at the start you should try the following three kinds, which represent the hardest types of this family: cocoon, globe, and the well-known *Hiccup*, which is the most in vogue. The others are very beautiful, but, and the first, perhaps the most hardy. It is not often the plants are killed outright. Even though the tops are cut down the roots break up again. If your soil is badly drained, dig out a couple of feet and put in bricks for drainage to the extent of 9 inches. Then lighten the soil with sand and grit and leaf-soil, and plant early in May. For winter protection Cocoon-fibre or coal-ashes is good, or a barrowload of dry Oak or Beech-leaves. A good protection is gained by planting right up to the wall, but this should not be so useful in your case.

Planting flower-beds (Scraper).—Your proposal to have in your flower-beds this season only red, white, and blue—the National colours—may give you pleasure, but this season it may become monotonous and hardly artistic. However, do not in any case use only three kinds of plants. You can have blue in *Lobelia*, Tufted Pansy True Blue, *Ageratum Perle Blue*, blue *Verbena* from seed, and blue *Salvia*, either raised from seed or from cuttings. Reds can be had in *Geraniums*, tuberous and fibrous-rooted *Beconias*, usually very persistent to bloom, and *Verbena*. Of whites, *Begonias*, silvery variegated *Geraniums*, white *Petunias*, white Tufted Pansies, Sweet Alyssum, *Dactylis glomerata variegata*, and *Cerastium tomentosum*. The last two are white leaved plants. Naturally quite dwarf things should go in the taller beds, but none of the things should be tall, as, if so, there will be no good effect.

Roses Marechal Niel and Crimson Rambler (Alden).—The growth of 7 feet is a moderate length for the growth of Marechal Niel to attain, and, unless they are very weak, you had better leave them as they are. The growths may be bent horizontally on the roof if you are unable to take them up perpendicularly. If some stout iron wires are put into the rafters, about a foot from the glass, the growths could be secured to these. The new shoots now forming will bear the blossom later on, so that if you desire to shorten the growths a little you must lose out time in so doing; but we should say this is not necessary, excepting, perhaps, 5 inches or 8 inches of the extreme ends. With this grand Rose, all the plants we have had them with grow the July 14 feet in length. If such plants are liberally fed they yield fine yellow blossoms either grown in pots or planted out in a well-prepared border under glass. The Crimson Rambler, having only one long shoot, should be left unpruned. If it is planted in some good soil it will quickly make up for its present lack of height.

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VEGETABLES.

NOTES ON PEAS.

I HEAR that seed of many varieties of Peas is likely to be scarce this season, owing to the drought last summer, but as this will necessitate thin sowing it may, after all, be a blessing in disguise, as thick sowing, which is a great evil, is still very common, especially amongst amateurs. Nothing very startling in the way of early Peas has been introduced of late, but no fault can be found with existing varieties, either as regards cropping or quality. The dwarf forcing sorts are still best represented by American Wonder, William Hurst, and Carter's Lightning, which, if sown in a sunny pit or deep frame in January, will afford useful gatherings a month before the earliest outdoor sowings. Chelsea Gem is probably the most popular of early Peas. It is hardy and prolific, and, being a wrinkled Marrow, is generally preferred to the round-seeded varieties. Not unfrequently early Peas are grown on the same ground many years in succession, with the result that it becomes Pea-sick and unable to afford the crop sufficient nourishment. Where growing them on the same ground annually is unavoidable, the top spit should be removed every two years and replaced with good loamy soil, in addition to which a liberal dressing of rich but well-decomposed manure should be given, and the ground bastard trenched. That dwarf, hardy, free-cropping Pea Early Sunrise is, I believe, still grown for market, especially in the midlands. It is scarcely good enough in flavour for garden culture, but for field culture, and producing early and heavy crops, few sorts surpass it. Wordsley Wonder is a grand second early variety, producing its long, well-filled pods in great profusion. If mulched and well watered it will continue bearing for some time. The quality is excellent, and it is a first-rate variety for market. Stratagem has stood the test of time, and is still a general favourite. Few varieties possess such good all-round qualities. The pods, which are fresh and continuously produced, are long, handsome, and covered with a delicate bloom, the Peas being of a dark-green colour and deliciously flavoured. Amsteurs cannot grow a better variety. Parrot's Prolific Marrow, a new Pea of great excellence, will doubtless become a general favourite. It belongs to the Veitch's Perfection type, but if sown at the same time as that standard variety, it is ready for gathering three weeks sooner, and is equal to it in quality. Its average height is 2½ feet. Sharp's Queen should be grown by everyone, as it possesses every good quality that may be expected in a Pea. Its height is 3 feet, and the long and handsome dark-green pods are filled with Peas of delicious flavour. It is a great favourite in Lincolnshire and Notts, and is largely grown by cottagers. It does well in light soil. Stourbridge Marrow is a most profitable variety, growing to a height of 4 feet, and bearing its large, well-coloured pods continuously, and

light shallow soil. Prodigy is another grand sort, similar in height and general character to Stourbridge Marrow. I grew it for years, and was highly pleased with it. Filbasket is a superb sort for small gardens, being a prodigious cropper and of excellent quality. I used to grow it in shallow trenches, and mulch and water it well, and it did splendidly. Lye's Favourite, a 3½-foot Pea, is one of the best and most profitable varieties in cultivation. In some parts of Northamptonshire it is grown almost exclusively. Autocrat, a splendid dry weather Pea, is indispensable. It is a vigorous grower, and unrequiring for light warm soils, as it resists mildew well, and if well watered yields for a long time. It is a good substitute for Ne Plus Ultra where the soil is too light for the latter. Where the soil is deep and rich enough, and tall stakes are procurable, Ne Plus Ultra and British Queen should always be grown for late supplies. In deep loamy soil I have known them grow 7 feet high and crop prodigiously from base to summit. Walker's Perpetual Bearer is still one of the best medium-height late sorts, and a capital mildew resister. It is invaluable for retentive soils and low-lying situations, and is a great and continuous cropper. I should have mentioned that there is an inferior variety of Stratagem, with light green pods, in commerce, and that therefore it is necessary to procure the seed from a reliable firm.

KEEPING ONIONS.

READERS of this paper who do not see the "Journal of the Royal Horticultural Society" can hardly be aware of the fact that three years ago a trial of autumn-sown Onions was made at Chiswick, and it was so inclusive that it comprised no less than forty-eight so-called varieties. Two primary objects were in view in conducting the trial. The first was to see how far Onions of the Spanish and Globe types, ordinarily sown in the spring, stood the winter as compared with the Rocca and Tripoli varieties, usually sown in the autumn; and the second to test keeping properties. A third test, not anticipated, but which occurred during the progress of the trial, was the difference between transplanted and non-transplanted Onions. So far as relates to the latter test, ample evidence was furnished to show that not only did the bulbs of transplanted Onions keep longer, but also that they were finer and of superior form. That has been freely substantiated generally; but in relation to keeping properties of varieties generally, the fact that the very worst keepers are the soft Tripolis and Rocca varieties so generally sown in the autumn, was specially established. Not a variety of these types was sound by the end of the year, and very many were useless even earlier. The white varieties, such as the Leviathan and Lisbon, always decay very speedily. On the other hand, many varieties, such as Bedfordshire Champion, Fordo Long Keeping, Magnum Bonum, The Wroton, and others, kept sound until June, and even then others were sound up to the middle or end of May, some even keeping as long and as sound as did the bulbs from spring sowings of the previous year. With respect to the general

hardiness of plants of varieties little difference was seen. Fogs, as usual, thinned the plants very much, but one variety was hardly any more hardy than the other. The trial has thoroughly demonstrated the fact that of all Onion varieties for autumn sowing the Tripolis and the Rocca are the most worthless.

A. D.

BURNT CLAY IN THE GARDEN.

THE value of burnt-bake, charcoal, wood-ashes, and the like is generally recognised in the garden, and is recommended when putting plants or in the construction of fruit or plant borders under glass. I have known the value of this material for years, but, as so often happens, the opportunity for obtaining it does not occur so often as one could wish. During the past winter a deep excavation into clay land provided the means for burning some for the garden and greenhouse. In the potting soil now come of this material has been mixed, and the growth shows the value of its presence in the soil. Chrysanthemums revel in it, as do also Carnations and many other plants. A heap of this ballast is looked upon as a valuable adjunct to the potting materials, and every soil prescription now contains a proportion of it. In the garden it is common knowledge what a direct influence ashes has on the working of heavy land or that which is of a close or pasty nature. It is well known, too, how attractive coal-ashes is to some plants, and how freely roots will ramify through and among them, particularly those of pot plants standing on an ash-bed. The manurial value of ashes is not of much importance, nor is there much food in them, or plants would assume a more vigorous character when given an unlimited root-run. Gypsum is said to be a product found in coal-ashes, which in a purer form is employed in some artificial manures. Burnt clay sets on the soil like charcoal.

A plot of ground measuring from 10 perches to 12 perches was cleared last autumn of Raspberries, these being removed to a fresh site. During the several years' tenure of the land by the Raspberry crop the soil became much trodden and compact, simply because the nature of the crop did not allow much surface cultivation. After this land had been deeply dug and left roughly exposed, a good dressing of the burnt clay was spread on the surface and left for the frost, rain, and air to pulverise it. After severe frost the surface was again moved with forks, and now the advantages both of the ballast and the frosty weather is clearly in evidence. Potatoes will occupy the ground in question as a preparatory crop for Strawberries, and I hope that the labour that has been already spent will give a good return in at least two prospective crops.

To those having no experience in burning clay, it may seem a great and perhaps a laborious undertaking. If the clay can be had locally for digging, or, as in my case, it can be brought easily from a distance, the burning is not a great item. If a fire be kindled with wood and coal, or, what is equally suited, house-embers, the clay lumps may be arranged in a cone-shaped heap, enclosing the fire, and in the course of feeding the fire put on alternate layers of

clanders and clay. Once well alight it is remarkable how freely the clay burns, and how soon one may get a heap of valuable material, from a garden point of view. An effort should be made to keep the fire from burning through, but not to overload it by an excessive charge, which will exclude the necessary air, while a sufficiency will aid slow combustion, rendering the material more fertile. With favourable weather and the clay in a dry state, the fire will burn freely and need attention twice or three times a day. Gardens having heavy clay subsoils may be made much more productive if some of the under spit is brought up, burnt, and spread over the surface. W. S.

SOWING THICKLY.

On the packets of such as Carrots and Beetroot it is often advised that the seed be sown thickly, but in my opinion it is out of place, as many sow much too thickly, with the result that crops that would yield a good return are so weakened that it is impossible for them to stand against disease and drought. I am aware there is another side to the question, namely, entire failure of crop by thin sowing of certain seeds which are of doubtful germination. Not only with vegetables, but with flowers also thick sowing is far too common. I have frequently seen hardy plants and half-hardy annuals sown so thickly that the season was shortened and the flowers weak of little value. Present day gardeners pride themselves upon improved culture in most departments of horticulture, and rightly so, but we have room for improvement in the matter of both thick sowing and planting also. The great fault of thick sowing is that we do not thin sufficiently. We crowd Potatoes far too much, and many who give a fair distance between the rows have far too many sets in the row. Peas are strangled in their fight upward, many of the tall growers and Marrow varieties losing all their bottom leaves and becoming an early prey to mildew. The Sweet Peas, given plenty of room and rich soil, are very useful; whereas if crowded the flowers are small and the season soon over. Very often as many seeds are sown in a drill as would plant six or more. The plant, given more space, branches out and, being stronger, has more root-hold and is better in every way. Take Asparagus. This of late years has been given more room, with the result that we have much better grass.

I have only named a few things we do not treat well, but my remarks apply with equal force to most vegetables and other plants. The plants when once they are weakened in the beds rarely regain strength if left too long before they are thinned. In the case of the Brassicas, how often do we sow six ounces or half an ounce in the space that would not allow a quarter of the plants to grow. The same remarks apply to salads. Lettuces are often sown so thickly that they are quite useless, being so drawn. I find the spring end summer sowings suffer most. The autumn plants, not being so vigorous, are less liable to suffer, and it is much better to make several sowings, as then there are a succession of plants and good material. W. E. R.

NOTES AND REPLIES.

Autumn-sown Onions.—If these were thickly sown in a small bed or plot with the idea of planting them out in spring, this must be done soon, especially as the plants have had to check to growth throughout the winter and have already got big. They will need careful lifting from the seed-bed, as the roots are brittle, and any great loss of roots or check of any kind will predispose the plants to rotting. In planting, the roots only should be buried, as deep planting leads to badly-shaped bulbs. A good plan with these Onions is to sow a fairly large bed in autumn, letting the majority of the seedlings mature where sown, and only transplanting the thinnings at this time of the year.

Old versus young Rhubarb roots for forcing.—Everyone with a garden may have forced Rhubarb. Seeing there are so many ways of forcing the roots, the difficulty with many is to obtain a continued supply of roots for forcing. This is best done by raising a young stock frequently, as these young roots are far better for this purpose than old

out roots. Good strong roots may be had from three to four years, according to the soil and treatment. My way is to raise a young stock every other year from seed. Some may say Rhubarb does not come quite true from seed. I find, by planting out thickly, I can see any poor or worthless plants the first autumn, when I remove them, thus causing no inconvenience. Seed can readily be obtained from any seed house, or you may save your own.—J. CROOK.

Lime from acetylene gas.—I have seen no reply to a query asked some time ago as to the garden use for the lime refuse from acetylene gas. I have used acetylene gas here with entirely successful results for two years. For eighteen months the refuse remained in a pit where it is thrown daily, the farmer being afraid to use it, and my gardener the same. One day the maker of the generator arrived and inquired why we did not use such a useful article in the garden, the reply being that we were ignorant of its value. We were told to do as follows, with what result so far I have not had time to see. The lime has been well mixed with a heap of sods and refuse-soil, which is to be thoroughly turned three times during the year. Next autumn it is to be wheeled on the ground and presently dug in. It is said to be extremely useful where land is infested with wire-worm.—G. M. SANDERS, Lincoln.

Oraneton's Excelior Onion.—From a famous Hampshire grower of Onions, Mr. N. Kueller, of Malshanger, has come to me half-a-dozen of Cranston's Excelior Onion, quite a superb sample, sent to show how well the bulbs of this fine globe-shaped variety keep. That a good deal of this keeping property is due to the splendid maturation the bulbs have had there can be no doubt, but, all the same, good keeping properties are inherent to varieties, and globe-shaped Onions usually keep longer than flatter ones do. The bulbs sent, which were some 2 lb. each in weight, have more pointed bases than have ordinary good-formed bulbs of Ailsa Craig. They are handsome, hard, glossy, and clean. One of the lot that I had cooked was as mild as could be desired, and deliciously soft and flavoured. These large Onions make, so served, really delicious food, and are singularly nutritive. The stock is a first-rate one, and comes in seed form from a Hereford firm, who, it is evident, take great pains to have it pure.—A. D.

Treatment of Tomato-plants.—Will you kindly inform me whether young Tomato-plants should have the soil pressed firmly round their roots, or not, when transplanted into their place for fruiting—viz., a long bed in greenhouse? And is it necessary to repot them two or three times? I have grown mine in pans, and they are now a foot high, and I am thinking of now transplanting them direct to the greenhouse-bed to remain there.—R. N.

[It is somewhat distressing to learn that Tomato plants yet in pans are 12 inches high, as they must of necessity be very leggy and weak. It is a pity you had not got them singly into small pots when they were but 4 inches in height and kept them near the glass, as they would now have been sturdy, well-leaved plants, fit to turn out into the border where you wish to grow them. If you plant out these long, drawn ones, do so in such a way that you can bury the stems some 4 inches at least in the soil, as new roots will be made from them. Do not have too much border. If the soil be good loam three parts, the other part being well-decayed manure, and if it be 20 inches wide and from 6 inches to 7 inches deep, that will be ample. You can plant at 13 inches apart, keeping each plant rigidly to the one main stem only, pinching out all side shoots. Certainly press the soil firmly about the plants, and the whole of it also, but not over hard. Firm soil conduces to sturdy growth and to early blooming.]

Lettuces.—Although there are numerous varieties of Cabbage and Cos Lettuces in commerce, it is worthy of note that gardeners generally limit their main varieties to a good stock of Paris White Cos and a compact, white, smooth-leaved Cabbage form like All-the-Year-Round, a great favourite, Stanstead Park, or Leyden White Dutch. We see many very fine hearting Cabbage Lettuces tried at Chiswick occasionally, but very many of them when tasted are found to be very bitter. That is, of course, a great defect. The white-leaved Cabbage Lettuces usually are sweet and crisp, but crispness has much to do with rapidity of growth, for if the reason be hot and dry, and

water is not freely given, bitterness is likely to follow.—A. D.

Bean Johnson's Wonderful.—I was fortunate enough to secure a capital stock of this excellent Longpod Bean last year, and found it to be a splendid cropper. It is interesting to note that in spite of the run on the long-podded but sparse cropping Beans of the Seville type, especially for exhibition, that Johnson's Wonderful, quite an old variety now, holds its own. It would be interesting to see a fair trial as to the productive or podding capacity of this Bean and that of the best of the Seville or Aquadulce type. As a cottager's Bean for productiveness I prefer the former. Getting on plants double the number of pods found on the Spanish varieties more than compensates for their being somewhat shorter.—D.

Raising Tomato-plants.—Myriads of amateurs are now thinking of growing Tomatoes again this season, and naturally like to take the best course to lead to success. But too much haste in sowing seed is not a means to that end, as because the plants are tender and need warmth, seedlings raised in cool greenhouses or frames too early are apt to be stunted or to damp off. The first week in April is quite soon enough to make a sowing of seed, and that is best done in 5-inch pots, into which has first been put some drainage, then filled with moderately fine, light soil. Make small holes to the number of about fifteen over the surface of the soil with the point of the finger, drop seed into each, then cover with sandy soil. Each plant then as it grows finds ample room, till of necessity shifted singly into small pots. The seed will be helped to germinate if the pots be stood in a box 6 inches deep, and after being watered covered over closely with a large piece of glass, which should be thinly shaded on sunny days.—D.

Parsley.—As this is a hardy herb, and once raised stands well before starting into flower, a first sowing may be made at once in a drill beside a garden path, or in several drills 12 inches apart on a garden border. Without doubt, it is convenient to have a nice row of Parsley beside a footpath, as it can then be gathered by anyone without its being needful to tread on the ground. But in such a position it is not well to sow in poor ground. Rather dig in deeply a dressing of half-decayed manure, as Parsley roots will go deep in such case. The drill may be just shallow enough to enable the seed to be thinly covered. That should be sown thinly also, as if got in thick, material addition is made to the labour of thinning. If a good stock of the compost garnishing or the best treble curled be sown, and plants ultimately thinned out to 6 inches apart, very superior leafage in great abundance is produced. Plants giving the best quality of leafage alone should be retained. A similar sowing to stand the winter may be made early in August.—A.

Size of Potatoes for planting.—Now the season is with us when many people will be selecting or planting their Potatoes, there are many cultivators who are anxious to know how small they may plant their tubers. This is a question not so easy to answer, seeing much depends on how the tubers have been treated during the winter. Much also depends on the nature of the soil you are planting. I am aware that a good average sized whole Potato is the best, and I consider tubers from 3 ounces to 3½ ounces each large enough, and this is the size I should select for choice in a general way. Hardly too much importance can be placed on the care of the seed. This has been so often pointed out so ably by "A. D." and others in GARDENING ILLUSTRATED that I need not say more on this. Where the soil is poor I prefer a larger tuber than when otherwise. I have a field where I grow most of the main crop. This is under plough culture. Every year I select all the best and most even sizes for planting in the field, and what is over, if the kind is needed, the small ones are planted in the garden, the soil here being so much better and deeply worked that these small tubers often give twice the crop of those in the field. On several occasions, having new or scarce kinds, I have cut large ones to one eye, and also planted the very smallest in the garden, covering them with sifted soil, such as bird-potting soil, leaf-mould, etc., and have been astonished at the fine crop.—J. CROOK.

PLANTS AND FLOWERS.

ROOM AND WINDOW.

MICHAELMAS DAISIES.

THE return of certain flowers, long familiar, conveys to us in no unmistakable manner the story of the progress of the seasons. Scarcely, indeed, has the year been cohered in ere we are confronted with the blossoms of Aconite, Chionodoxa, Iris reticulata, and Snowdrops, and following in quick succession come Scillas, Grape Hyacinths, Crocuses, and Narcissi. We regard them all as Nature's own messengers. All through the piercing, uncertain March weather we thought of April sunshine and budding leaves, and endeavoured to banish from our minds the recollection of a long and dreary winter past. Now we find April as coy and fickle as ever, and dream of May and May flowers. We think of meadows where presently Colandines will cover all with their golden stars; of gardens where Tulips will soon be all

third season; but when some of these are fading there appears that typical blossom, the subject of our illustration, the Michaelmas Daisy. We recognise it as a forerunner of cold nights and misty mornings, when frosts may be expected, but its flowers are bright for all that. For how many years has it been planted in some of our gardens? More, perhaps, than we should care to tell; but, possibly, like many others, our interest in this "old timer" is not very deep. The plant has been kept certainly, because it fills a gap. We have, maybe, one variety, and that the well-known blue; others we have heard of, but have not added to our solitary specimen. May we, therefore, at this time, when planting may still be pursued, bring before the notice of readers the claims of these simple flowers—call them Asters, Starworts, Michaelmas Daisies, or what you will? We know that when their petals open the wealth of summer and autumn blossoms is practically ended. When gathered they lend themselves by their informality, needing nothing, as may be seen, to embellish them beyond a little of their own foliage, and the ease

large white, fine; N.-B. T. S. Ware, pale rose, large; N.-B. T. Smith, large blue; ericoides, white, small, centre yellow; Coombe Fishacre, flesh, very pretty; paniculatus W. J. Grant, bluish-white, rosy centre, effective; cordifolius major, lavender, large, all from 2½ feet to 3½ feet high; Novi-Belgii Top Sawyer, rosy-lilac; N.-B. Purity, white; N.-B. Margaret, pale blue; N.-B. Herpur-Crewe, white, early; N.-B. Ashley Smith, rosy-purple; Nova-Angliae procox, crimson-purple, early; levis floribundus, bright blue; levis Councillor W. Waters, pale lavender; Mont Blanc, white; turhinellus, violet, tipped rose; pendulus, white, Tradescanti, small white, with beautiful foliage, very useful for cutting, these last growing from 3½ feet to 5 feet high. LEAUCENT.

FLOWERS IN THE HOUSE.

(REPLY TO "GWYNNE")

To obtain flowering subjects in the window-box is comparatively easy, but to do so on the shelf you have set up "around the sitting-room" is another matter. For this latter, we think you had best secure some pot-grown examples of plants, such as the market growers supply of Ferns, Heliotropes, Agrostum, Calceolaria, Campannia isophylla, etc. Or you may grow the following in the room quite well, but it is desirable to secure plants fairly well established: Dracoea congesta, D. marginata, D. lineata, Aspidistra ltrida and its variegated form, commonly called "Parlour Palm." Of true species of Palm you may grow Kentia Belmoreana and K. gracilis, two of the best of all Palms for indoor work; also Corypha australis (nearly hardy), Phoenix gracilis, P. eriopala, Scaforthia elegans, Lstania borbonica, Chamsrops Fortunei, and C. exoala. Of Ferns you will find Adiantum formosum, A. cuneatum, Pteris tremula, P. oreitia, P. serrulata in variety, Polytichum proliferum, and Davallia canariensis as good as can be for the purpose, while Campanula fragilis, C. isophylla alba, Saxifraga sarmentosa, and Lysimachia Nummularia or Moneywort are the best of drooping or hanging plants.

In the windows you cannot do better than grow the plants first named—Heliotropes, etc.—and supplement them with Goraniums, Mignonette, Vallota purpurea, the white Arum Lily, Tuberosa Begonias, and such things in season. Stocks and Mignonette, as also Heliochrysums, Rhodanthe, etc., may be raised from seed sown in pots. The two first of these will require hot three or four plants in each 5-inch pot, while the others may be sown much more thickly. At this time all this can be sown in pots on the window-sill—or some, at least, for succession.

In the window-boxes you may grow Nasturtium, Marguerites, single Petunias, Verbenas, Stocks, Mignonette, Canary Creeper, Celosias, Indian Pinks, Poppies, Sweet Sultan, Sweet Peas, allowing them to hang down in front of the window, Antirrhinum, Fancies, Phlox Drummondii, Marigolds, Convolvulus, and many more from seeds sown thinly in the boxes in patches. If you adopted this view for the window-boxes that are outside, and plant at the end of April three Begonias of the tuberous-rooted section in each box at the back near the window, these would give a later supply of bloom, and also permit the seedlings in front to grow and flower unchecked for the time being. In sowing these seeds some care will be necessary, and some thinning also when the young plants appear, as also the clearing away of old stems when flowering is past. A good deal of attention to watering will be required. E. J.

Iris fimbriata.—This fine old greenhouse plant does not receive the attention which its merits fully justify. For the large conservatory or the winter garden, where the latter is kept at about 40 degs. or 45 degs., this plant is beautifully adapted. It may be grown in large pans or planted out in a deep and broad pocket on the conservatory rockwork, and in either find a congenial home. This plant should have attention generally, on account of its winter-flowering properties, as blue flowers are very rare in winter, and any plant so free growing and free flowering at this season cannot be too well known.

The Index to Volume XXIII is now ready, and can be had from the Publisher, price 3s.; post free, 3s. 6d. ILLINOIS AT URBANA-CHAMPAIGN



Arrangement of Michaelmas Daisies. From a photograph sent by Mrs. Hughes, Dalchoolin, Craighvan, Co. Down.

adams with beauty; but when we enter May and breathe the fragrance of the Lime we sigh for

"The grace,
The golden smile of June,
With bloom and sun in every place."

For, after all, is it not in these halcyon days when our gardens are most resplendent; when the very air is filled with Roses; when Pinke and Rockets show themselves; when Paeonies and Canterbury Bells, Poppies and Lupins, and hosts of other flowers add their quota of beauty; and when on every hand are to be seen the peerless blossoms of white Lilies. 'Tis in June when Nature puts on her fairest dress, when skies are blue, and when the atmosphere is soft and lucid; but when she has come and gone, and hot July gives place to the more sultry days of August, other blossoms appear which plainly tell of a further change. Then it is we get the first glimpses of autumn; faint perhaps may be the signs at first, but none the less surely. Some low trees have scarcely begun to don their amber garb ere the bright blooms of Gladioli, Phloxes, Hollyhocks, and Ranunculus all portend the approach of the

with which they may be grown in almost any garden should ensure them a still wider patronage. As we have observed, planting may be done now, but it should not be deferred a day longer than is absolutely necessary. We are under the impression that the pale blue variety which one often meets with, and which takes up a deal of room, when left for a few years has prejudiced many against Michaelmas Daisies in general, but from the list of sorts here given it will be noticed that not a few are comparatively dwarf, and it is to those who have small gardens and have not much room that we recommend them. Mention ought also to be made as to the abundance of spikes one may get from a collection, and coming in as they do, when, as we have said, other garden flowers are over, they are doubly welcome. The following are good kinds: dumosus horizontalis, reddish, suffused white; Masaki, deep lilac, early; ptarmicoides, small white; linoxyris, bright yellow; acris, lilac-purple; sibirica, mauve, late; all from 1 foot to 1 foot high; alpinus albus, white. Also, grandiflorus, blue, 1 foot; Novi-Belgii Rev. Eyles, purple-blue; N.-B. Madonna,

STARTINO HARDY ANNUALS AND OTHER FLOWERS.

(REPLY TO "DELTA.")

The idea of utilising the hot-bed for seed sowing of many annuals, biennials, and perennials is often overlooked. In many instances it is invaluable, not merely for the warmth generated by the manure, but equally so—if not, indeed, more so—by reason of the greater vigour which the seedlings on raised appear to have. The bed, that is composed of quite one-third leaves, not only much longer retains its heating power, but throughout it is found to be far more uniform, and therefore more serviceable and reliable. You may, therefore, with every confidence resort to the hot-bed, more especially because you have ample cool glass accommodation later on, so that the plants, young and delicate as they are, can be kept going at this important stage in their existence. In the nas of the hot-bed thermometer the temperature is taken when the instrument is plunged, and a bottom heat or bed heat, say, of 70 degs. may mean a surface heat of some 10 degs. less when minus sun heat. You would in such case not plunge the pots in which are sown the more quickly appearing annuals or biennials, all of which will obtain ample heat from being stood on the surface of the bed, surrounded as they would be in such a frame by a warmth that penetrates on all sides. On the other hand, any seeds of perennials may be much assisted in their germinating by the very presence of this moist, warm, ammonia-laden atmosphere. You will find a maximum temperature of 60 degs. quite enough, and you will need exercise some vigilance that the young seedlings be not surrounded by a rank steaming heat. Whether such is present or not will depend on the way and the materials of which the bed is composed. Rank team can always be modified by a 3 inch covering of fine ashes, or its equivalent, over the manure, and with ventilation afforded at the back. You will, however, have need to be careful as to watering, and when water is afforded let it be done thoroughly. Quite often this is fatal in its results; the amount of moisture, and of atmospheric moisture in particular, is so great that root moisture may be much lessened. In all cases sow the seeds in very sandy soil. See that liberal drainage is given to pots and boxes, and above all make the soil quite firm for the seed sowing. Soil that is quite firm permits of a more uniform passage of the water, while soil that is loose is as retentive of moisture as a sponge, and not only becomes so very quickly, but is in other ways a most unsuitable and uncongential rooting medium for any plant.

PLANTS FOR BED.

I HAVE a small piece of ground which I should like to plant with a few flowers to bloom through the summer and autumn, and if you would kindly advise me what to put in and when to plant I should feel much obliged. The situation is north of Manchester, fairly elevated; soil apparently clayey, and air slightly smoky.—WALKERS.

[The following plants will most likely suit your purpose. The first dozen are intended for the back against the fence. *Helianthus multiflorus*, H. m. fl. pl., H. Soleil d'Or, *Tritoma Uvaria*, *Aster Novae-Angliae pulchellus*, A. N. A. ruber, *Anemone japonica rubra*, A. j. alba, *Galaga officinalis*, G. o. alba, *Helenium nudiflorum*, *Echinops rothenticus*. The following will do quite well in front of the above: *Gaillardia grandiflora*, *Hemerocallis flava*, *Coreopsis grandiflora*, *Iris Mme. Chersau*, I. pallida, I. pallida dalmatica, *Dalphinium Belladonna*, *Pyrethrum Hemlet*, P. Sherlock, P. Mrs. Bateman Brown, *Rudbeckia Newmanii*, *Aster Amellus*, A. acris, A. levigatus, *Aquilegia chrysantha*, *Pyrethrum J. N. Twedy*, P. Aphrodite; while in the front row you may plant *Carnations* in variety, also *Heuchera sanguinea*, *Anemone sylvatica*, *Helleborus niger*, pink Hepaticas, blue Hepaticas, *Achillea mongolica*, A. umbellata, *Acmisra cephalotes*, *Geranium Andreasi*, *Iberis sempervirens*, *Phlox Nelsoni*, P. divaricate, *Lychis viscaria fl. pl.*, *Megasea cordifolia purpurea*, (*Euthera macrocarpa*). All the plants named are strictly hardy perennials, and may be planted at once. You will note the plants are given in three sets, so as to form three rows lengthwise, and by devoting these plants to the 25 feet at disposal sufficient room will be given for each. All the plants are quite hardy, and will come up again with greater

vigour. It is quite possible in the first year of planting there may be vacant spaces that eventually will be occupied by the plants given. If such is the case it will be in the first and second rows from front or between these rows, and for the present year you could introduce some showy annuals, sowing the seeds thinly in the open ground after the other things were planted. Such things may include Shirley and other Poppies, *Marguerite Carotions*, Stocks, *Mignonette*, *Godetias*, and others, or you may prefer some *Asters* for flowering in September. These you could obtain quite easily in young plants, and put them out in May. Another idea that would be showy and last a long time consists of *Tuberous Begonias* and *Tufted Pansies* planted alternately. A dozen of each planted in April would do well. The *Begonias* would have to be planted 2 inches deep or nearly so, while the *Pansies* could be dealt with in the usual way. An alternative scheme, if you wish for much colour at one time, would be single *Dahlias* for the back row, with a few *Sweet Peas* on the fence, filling the middle row with summer-flowering *Chrysanthemums*, and the front row with *Tufted Pansies* and *Begonias* alternately, as just stated. This, if you wish for an annual display, would be the simpler, but would need to be planted afresh each year.]

ANNUALS FOR TOWN GARDENS.

ONE of the vexations of the town gardener's life is that he is deborred from growing many plants that he would like to do, and experience has taught him that to attempt the cultivation of some herbaceous subjects, for example, is only incurring unnecessary expense and trouble, to end in failure. Under such circumstances it is not altogether surprising to find that after a time those who went in strong at the commencement for all kinds of plants gave up gardening as a bad job. My sympathy is extended to all who, though loving flowers, have to fight against conditions that are so fatal to such a variety of plants. The closed-in garden, the impure atmosphere, that parasite of all towns the sparrow, not omitting neighbours' cats, have to be taken into account sooner or later by the one who endeavours to brighten during the summer months the patch of ground at the back of his house. What to grow then will presently be the question raised by not a few who live in towns, and it is to these that I offer a few suggestions. Some people have an idea that to have anything like a display of flowers out-of-doors one is bound to have at the start a large number of "pot plants," which to the person without a greenhouse often means a considerable item. Turn over the leaves of a seed catalogue for a few moments, and look up hardy and half-hardy annuals. Five or seven shillings spent in the purchase of seed, a cold-frame at hand, some boxes, and a sufficiency of potting soil is all the stock-in-trade one needs at this time of the year. In the meantime, let it be understood that the borders should be improved as much as possible by being dug over, if that has not already been done, manure added to worn-out beds, and lightened if need be by fresh soil or some road-scrappings. Now as to

HALF-HARDY ANNUALS.

These should not all be sown at once; indeed, if one wants a long display of flowers, a week or more may elapse between the first and second sowings. It is sowing all the seed at once that accounts for many a garden passing from a blaze of colour to a scabrous within comparatively a few weeks. Soil for the boxes should be fairly rich and light, loam and leaf-mould and sand, the finest left on the top. Thin sowing must also be observed if strong plants are wanted from the first. The aspect of the frame, if one can have it, should be a south one, as it is there that one gets the benefit of every ray of spring sunlight. The time of sowing will all depend upon the locality in which one lives. It is advisable not to be in too great a hurry; the end of March or beginning of April for tender things will, generally speaking, be found soon enough. Some will benefit by any additional heat one may give them, and if one frame for the time being may be kept as a kind of intermediate place by partly filling it with old hot-bed materials, leaves, and stable-manure, then one may sow *Petunias*, *Verbenas*, *Zinnias*, *Lobelia*, *Phlox Drummondii*, *Ageratum*, *Salpiglossis*, and

Perilla. In the cold-frames those subsequently mentioned will succeed: *Jacobaeas*, *Marigolds*, *Godetias*, *Helichrysums*, *Tagetes*, *Asters*, *Stocks*. Out in the open, towards the end of March, a sowing may be made of *Pansies*, *Sweet Peas*, *Coronopsis*, *Mathiola*, annual *Chrysanthemums*, *Clarkia*, *Nasturtiums*, *Linum*, *Nemophila*, *Mignonette*, *Virginian Stock*, *Pyrethrum aureum*, *Convolvulus*, *Nigella*, *Candytuft*. In hardy annuals alone one has the run of a beautiful assortment, and if the garden soil is poor one need not give up the idea of attempting to beautify a town garden, for it is in a town where one needs most brightness. *Nasturtiums* and *Jacobaeas* will thrive and flower well in common and almost worn-out stuff. *Pansies* will bloom abundantly if planted in a little loam and road-scrappings. *Mathiola* will do equally as well, and give off an aroma that is sweetness itself. *Coreopsis* will flower in soil not always rich, and the same may be said of the small-flowered *Marigold*, *Tagetes*. *Virginian Stock* and *Pyrethrum aureum* both make pretty edgings, the one small and profuse blooming, and the latter valued for its golden-yellow foliage. Annual *Chrysanthemums* will keep the flower-beds full for many weeks, and *Sweet Peas*, sown in a rich compost, do fairly well in a town, and require nothing to keep up the supply. *Petunias*, *Verbenas*, and *Zinnias*, whether planted in beds (where they are often best seen) or grown in the borders, seldom fail to bloom well, and the last-named, though sometimes failing because of too early a sowing, when once they are succeeded with prove to be one of the brightest and most continuous-blooming of our half-hardy annuals.

Where one can give annuals even better advantages, such as purer surroundings and soil improved by manure, etc., few things, in my estimation, are more worthy of our trouble. They are not always given the best culture, some people, because they are annuals, thinking that a raking over of the soil and a scattering of the seed is sufficient. Those who propose growing annuals should give them every advantage if they desire the best results; they will be well repaid by increased blossoms, although they may live in a town.

TOWNSMAN.

PLANTING OUT VIOLETS.

VIOLETS are annually becoming more popular, and the introduction of so many fine single varieties has induced many to commence their culture. In spite, however, of the numerous cultural articles that have been written on Violets, one often sees them in an unhealthy condition and overrun with red spider. This is chiefly owing to planting them in too hot a position and neglecting to mulch and water them. I have frequently urged the importance of having strong, healthy runners, as failing these, good flowering plants cannot be obtained. Old plants divided and planted out do not, as a rule, produce either many or good flowers. To ensure these, good runners are essential. These should be well rooted before being planted out, as rootless runners invariably get crippled by cold winds in spring, and seldom make good plants. I do not advise the use of farm-yard manure for Violets, except where the soil is very poor. Old Mushroom-bed-manure, leaf-mould, the sweepings of walks and drives, and burnt garden refuse are the best ingredients. If possible, a change of ground should be given annually, otherwise a portion of the old soil should be removed and replaced with fresh, of as loamy a nature as possible. A semi-shaded position suits Violets best, though in low-lying gardens, or where the soil is heavy sod retentive, a sunnier position may well be given. The best lot of plants I ever saw was grown in an orchard, in the partial shade of Apple-trees. Plant in firm ground, and allow a space of 9 inches all ways between the runners. Single varieties require more room than double varieties, especially California, which is a very strong grower. Planting completed, screen the runners from cold winds by means of small evergreen branches, and keep them well watered. From the middle to the end of April is the best time for planting.

Daffodils from Cornwall.—I am sending a few specimen Daffodils, as I thought it might interest you to know what is growing in these parts just now. I have taken the liberty

of naming them, although you will probably know them all. In the course of the next fortnight I hope to send you some of the very rare kinds, many of which are not in the catalogues. I expect you have very many flowers sent you, but I hope you will not mind my sending these.

CHARLES DAWSON.

Rosemarian, Gulval, Penance.

[Many thanks. A very beautiful gathering, consisting of M. J. Berkeley, cernuus (handsome flowers), Victoria, maximus (true), Tsoy, and Sir Watkin, all showing how well the Deffodil does in the west of England. Enclosed also were several bunches of single Violets, the flowers large and excellent in every way.—Ed.]

CHRISTMAS ROSES.

Few plants are more universally admired than the Christmas Roses, as the forms of *Helleborus viridis* are usually called. Christmas Roses do best in the cooler conditions of midland and northern gardens, and away in the west again are as good as could be desired. The specimen plants that all would like to be possessed of

and hastened in the light soils over sand and gravel, I hardly know, but so it seems to be. Happily, near London, these plants are not difficult to manage, and indeed, within six miles of its centre, I have grown examples of the major variety 3 feet in diameter—not in a single plant but by dozens, and all alike. Near London these plants are much healthier in the more elevated districts—Hampstead, Sydenham-hill, and such like places. In these, with a little care, the plants make wonderful headway, never losing their leafage—an item alone that angurs well for the safety and the success of the plants. Plants in these hill gardens near London are vastly superior to the identical subject in the lower levels, and, indeed, when some have been transferred with every care to these lower surroundings the plants quickly dwindle away. In the lower the leafage is quickly disfigured and much loss being entailed, progress is barred. Frequently in the Middlesex fruit orchards plants have been seen, and always the nearer the river area the less foliage and less vigorous plants result. In some instances from the trees affording a welcome

Sweet Peas, the colour in this instance being white, with bright scarlet flakes, making a very charming and effective flower. A more robust variety is Mrs. Joseph Chamberlain, a very free-flowering sort. The blossoms, which are very large and handsome, are developed on a long and stout footstalk, and they are heavily flaked bright rose on a white ground. Of the three sorts we are here recommending, that just described is, in our opinion, the best. The trio may be completed with Gaiety, a splendid counterpart to the last-named except in colour, which may be described as striped rosy-magenta on a white ground. The constitution of this variety is all that can be desired, being most robust. The plants remain in splendid condition for some months if the spent blossoms be removed, and liberal supplies of water be given during the warmer weather. We should advise you to grow them in clumps, some 3 feet or rather more apart, sowing five or six seeds in each clump. If you wish to hurry on the period of flowering, you had better sow a like number of seeds in 5-inch pots, and raise them under glass in a gentle bottom-heat. Under this treat-



Christmas Roses. From a photograph by Mr. F. Mason Good, Winsted, Ill.

become somewhat of a rarity south of London, and particularly on the chalk formations, as the South Downs are approached. Here the plants are not usually happy. Not that the plant may not be made to thrive if the primary outlay for soil and preparation is faced. In such a case the natural soil will usually have to be discarded. It will depend largely on its composition and how near the surface is the impenetrable rock. If but a few inches of soil exist and then rock, it will be best to dig up or break up the latter to at least 2 feet deep and bring in good soil from a fresh locality. To insure success there should be quite 3 feet deep of soil—that is, of soil and drainage combined. With a deep root-run of good holding soil and shaded from the hottest sun, the Christmas Roses will not give much trouble when planted at the right time. And this right time appears, more or less, also governed by locality. In northern districts and generally in the Midlands, about Gloucester and Bath, these things transplant quite well in the month of March; but nearer London, and on much lighter soil, this time of planting them is most disastrous for the plants themselves. Whether it be that the action of the fibres is delayed in the cold rock medium, or that they

shelter the plants are better, and this is a welcome sign and no small object lesson of the value of overhead shelter for these things. Those who would make a festivity of them may plant in frames where scrim or canvas can be thrown over them in seasons of heat and of fog, and not less so at the time of flowering and the coming of the foliage in the early days of the year. This last is one of the important seasons, and at such times every encouragement should be given to the plants to do their best. An occasional dose of liquid-manure, or a dressing of some good fertiliser over the soil, lightly pricked in with the handfork, will all be helpful when the rains have carried its manurial properties down to the active roots below. Thus assisted a better growth and larger crowns, that in time bring their own reward, are insured.

E. J.

NOTES AND REPLIES.

Sweet Peas—three good striped sorts (R. S. K.).—In reply to your inquiry as to the three best striped Sweet Peas, we can recommend the following: America is now regarded as the most distinct of the striped

ment the seedlings should be seen above the soil within a week, and in the course of a few days the pots should be placed on shelves near the glass. In a few weeks the plants should be hardened off in a cold-frame, and when some 6 inches to 8 inches high planted in the clumps prepared for their reception.

Propagating Dahlias.—I have some dozen and a half *Cactus* Dahlias, and shall be glad of your advice as to propagating same. I have no greenhouse, hot bed, frame, or anything of a like nature. Under the circumstances, I suppose I must start the tubers in Cocoa-nut-fibre kept moist in a window, and divide the tubers as soon as the shoots are about 2 inches long, and, I suppose, pot same and keep them growing in the window until planting out time arrives? I know I can plant them whole in the ground, but wish to increase my stock. Will you please answer fully when to start the Dahlias, best time to plant out, etc., as I am sure there are many amateurs to whom the knowledge will be very welcome?—A. E. KNOWLTON.

[We are afraid you will not find much success in propagating Dahlies without some better accommodation than you now possess—at least, at this time of the year. You might strike cuttings made of the green shoots in summer, and prepare them for another season; but in attempt to strike them now without heat or to divide small tubers may end in spoiling the

whole. Young Dahlias, as a rule, have one crown giving only a very few growing shoots, but older roots lend themselves to division. You had better, we think, be content with your existing stock, and in summer secure some side-shoots and insert them round the sides of small pots. Do this early so that time is permitted for a tuber to form, otherwise your effort will be in vain. In the nurseries where Dahlias are largely grown they are started into growth in a warm house, and as the shoots issue and reach a length of about 2 inches they are taken off with a beel of the old tuber, and inserted at once into small pots, and kept in a close and warm atmosphere. Even provided with these conveniences they are some time in rooting. Division of the tubers specialists do not resort to, but depend on spring-rooted cuttings. If your plants are of two years' growth or older you may find when new shoots form that they can be split through, but be sure to see that a growing crown is on each division. The separate tubers are of no value without a crown, though on each there may be many. There would be no need to keep them indoors if they are of this age and condition, but rather divide and plant at once, making sure that the tender shoots are protected with a covering of soil. Later, when they emerge from the earth, protect with inverted flower-pots at night as a precaution against late frosts. This is all the trouble that need be taken with dry tubers. Newly-rooted cuttings are more tender, and must not be planted until May.]

Portulacas.—The need for a greater variety of annuals is frequently demonstrated. Some few sorts seem to monopolise what space is given up to annuals. One of the brightest and most free-blooming of our summer flowers is the Portulaca. It is too little known, and as a consequence it does not receive anything like the consideration it deserves. Its requirements are not great, and consist in sowing in pans in the house in March or April, and transplanting afterwards to the borders. One seed not, however, go to this trouble, for seed sown on a warm border in April will give a good show of bloom in July. For borders where the sun has much power and the soil is shallow, Portulacas are the best things one can plant.—TOWNSMAN.

ROSES.

ROSES IN WESTMORELAND.

AFTER many years of failure with Roses I have now found out how they may be grown here, or, rather, which kinds do well. It is high and dry, 500 feet or so above the sea, on a spur of red sandstone, jutting out into an upland valley, and not near the mountains. This has to be explained, for the climate is totally different and much milder in the "leke country." Another good plan is to try what you think yourself will grow and not take too much advice about it even from very experienced gardeners, who have not experimented in exactly your surroundings. As, for instance, one will say it is impossible to grow such and such Roses "with the peat in your soil;" another that "there is nothing like peat for Roses." So again I say, try for yourself. After doing this I can make the following remarks, viz., that the Austrian Copper Briars, Laurette Messimy and Mme. Lambert, all grow splendidly on my dry, sandy soil without the aid of loam from a distance, which I tried, again by advice, in the shape of clay; this failed to grow the Roses properly. The border where now they grow best was a spot where nothing did well, and which was hurled up in summer, a border facing south, protected by a low wall and paling only from the north. Here Mme. Lambert grows luxuriantly. Hardly do two flower alike. Side by side you may have a delicate pink, a deep red rose, and a yellow and white bloom, or one composed of all three shades of colour in one flower. Laurette Messimy is at its best in autumn, when the pointed pink and copper-shaded buds last longer than any other Rose, and only come to greater perfection after several frosty nights. So it is better to be laughed at and succeed than to have blanks in your Rose-bed where many lovely but too tender Teas cannot stand the bracing climate. The amusement of my friends consisted in seeing me plant as many Roses as I liked, and I think I

was right, for now I have Roses and before I had not. In summer the Crimson Rambler looks very gay on tall poles (Larch) and trained on another light lath from pole to pole. The Copper Briar, which I first saw at Vichy, in the Emperor's days, near an intermittent spring, and which his uncle's old soldier, who guarded the "sources," told me he had found in the forest of Orleans, is the sweetest and most effective as to colour of any Rose that grows; a mass of it is more brilliant than scarlet Geranium, and while the Crimson Rambler is showy but has no scent, the perfume of the Copper Briar is unrivalled. A hedge of it looks well, and I am trying it now in clumps among the Heather and Grass between the lawn and the Pine-wood. Lady Penzance is all very well, but not any of that class beats the colour of my favourite Briar. In this county the Crimson Rambler will not grow against a wall, as I have seen it do in Yorkshire, covering the station-masters' houses, and the Carmine Pillar does best with me in a Beech hedge. There are most lovely Tea-scented Roses, L'Idéal and Beauté Incertaine, but they do not last like those I have named in this climate. I planted my Roses in sandy, peaty soil with plenty of manure put in; the result has been exceedingly good. I am trying Soleil d'Or and Mme. Réal this year. The moral is—it is better in an uncertain climate to grow two or three kinds well than by ambition to be reduced to discouragement and failure because you cannot, however hard you try, succeed with Banksias and the heavenly Boule d'Or of the sunny south. Wire arches do not do so well for climbing Roses as Larch poles—the wire is said to attract the lightning—and pergolas may be made of wood, and are much prettier than the more formal wire. M. V. B.

BEST ROSES FOR MARKET.

(REPLY TO "J. McSWEENEY.")

We do not know whether you contemplate growing Roses under glass for market, but that is the only way in which this flower would be rendered remunerative at your long distance from London. There is always a glut of Roses in June and July, and the prices that rule then are very low indeed. You ask us which are the best Roses for market. If, as we said before, you mean for indoor culture, the selection is a very small one. Perle des Jardins is the best yellow. Some growers are using Mme. Hoste as a second best, the buds being long and of a beautiful soft creamy-yellow. Surtout is also a very attractive Rose, but does not sell so well as a decided yellow of the style of Perle des Jardins. Maréchal Niel, producing as it does only one crop, is not grown so very extensively. Most of the blooms of this Rose which are in the market now come from France. It would pay anyone to grow Maréchal Niel in a cold-house, so that the flowers open a week or two prior to the Roses outdoors. Of course, in Ireland you have some Roses outdoors early in June. You would find Maréchal Niel would fetch good prices at the end of May and early in June. The plants would need to be grown very cool to keep them back to this date. Saffron is another good market Rose, its lovely buds in winter being much appreciated. You should make it a study which Roses have the best appearance under the electric and other artificial light. It is such Roses that find the most ready sale. It is said among pink Roses that Bridesmaid is most appreciated, but Catherine Mermet, Mme. Jules Grolez, and Belle Siebrecht all have their admirers. Long-stemmed blooms of Catherine Mermet just now will realise 5s. to 6s. per dozen wholesale. La France, Carolin Teatout, Mrs. Sharnan Crawford, and Mrs. John Laing are pink Roses having considerable market value. Among crimson, Liberty surpasses everything. It quite eclipses General Jacqueminot, Papa Goutier, and others. Very early in the year the flowers of Liberty realised 12s. per dozen wholesale. It was raised in Ireland, although bearing an American name. Of white Roses Niphetos holds the palm, its pure buds being serviceable in so many ways. Kaiserin Augusta Victoria is a fine Rose, but requires care in handling. It should not be disbudded to any great extent, thus the flowers expand better, although they would be rather short stemmed. As to the time to plant, again we are not sure whether you refer to outside planting or

not. If under glass, during May and June is the best time to plant out pot-grown stuff, but if not in pots, then autumn is the best time. You must not force the latter too first year, but give them all the air possible. Supposing you desire to grow your Roses outdoors, then autumn is the best time to plant. All the kinds named should succeed outdoors, the Tea-scented being allotted the warmest corner. You will see further remarks upon growing Roses for market in the back numbers of GARDENING. If the trees are not too close you might grow Roses in an orchard, but you prefer as much morning and mid-day sun as it is possible to give them. For market we should certainly advise you to have a small plot of ground trenched for them well away from trees and hedges. Plant the several kinds named, adding Fisher Holmes, Ulrich Brunner, and Gruse au Trüpfitz to the reds, Mme. Abel Chateau to the pinks, Gustave Regia, Billiard and Barre, and W. A. Richardson to the yellows, and Souvenir de Malmesbury to the whites.

Roses—early pruning.—Many amateurs fall into the common error of pruning their Roses too soon, for, being anxious to give their gardens a neat, finished look, they cut to work and prune their Roses about Christmas. If one could be sure the weather would be seasonable no harm would result. I never prune until March is quite half way through, and then all the unseasonably made shoots will be pruned off and the lower buds will be still tightly folded up. By the time the plants start into growth April will have arrived, and more genial conditions may be expected to prevail.—J. GROOM, Gosport.

GARDEN PESTS AND FRIENDS.

Grubs in soil.—My leaf-mould is full of insects, specimens of which I send. Kindly let me know what they are, and whether injurious to young seeds or seedlings?—HENRY A. HARR.

I should be much obliged if you will kindly inform me what the grubs are in accompanying little box, and if they are injurious to garden stuff? I did not notice any last year, and think they must have come from the manure. What is the best way to get rid of them?—WORKER.

[The grubs in your leaf-mould are those of a two-winged fly belonging to the genus Bibio. To this genus belongs the St. Mark's-fly, B. Marci, so called from its frequently being very abundant about St. Mark's-day (April 25), and your grubs very probably belong to that species. They are large, very black, hairy flies, do not fly very well, and may often be found flying about in pairs. The grubs are injurious to the roots of plants, and I certainly should not plant young seedlings in soil infested with them. They could be killed by baking the mould, or saturating it with boiling water, or if placed where poultry could scratch it over they would soon pick out the grubs. I doubt if watering with an insecticide would be of any use.—G. S. S.]

Diseased Artichokes.—I herewith forward you a specimen of a diseased Artichoke. Kindly tell me what the disease is, and what is the cause? Is the soil too light and dry? Or have the tubers been planted too long in one place? Do they look manure, or is it the result of being dug up and pitted this year? Kindly say whether Artichokes will remain sound and healthy if taken up and pitted for winter?—ARTICHOKE.

[The Artichoke you sent was so covered with one of the common white moulds that it was difficult to determine what had caused it to decay and shrivel as it had done. The frost will not hurt these tubers if left in the ground, but it is possible that if exposed to frost under other conditions it might. In a "pit" each tuber would be partly surrounded by air instead of earth, which might make a difference, and the frost might be more felt. I carefully examined sections under a microscope, but failed to find any cause for the decay. Artichokes are so hardy that they will grow anywhere. The soil and cultivation are not likely to have been at fault.—G. S. S.]

Photographs of Gardens, Plants, of Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents indoors or outdoors, sent to us in any one week. Second prize Half a Guinea.

The Prize Winners this week are: 1, Geo. E. Low, 2, Glenageary Hill, Dublin, for *Platycodon grande*. 2, Mrs. Hughes, Dalchoolin, Oungovan, Co. Down, for *Hydrangea* as a room plant.

TWO FRAME NARCISSI.

It would be difficult to find two more charming subjects for pot culture than *Narcissus monophyllus* and *N. triandrus*, and as their cultivation is of the easiest, and the bulbs will flower year after year, it is strange that they are not more often seen in amateurs' collections. The culture of *N. monophyllus* is as follows: Pot in August, placing bulbs 1½ inches apart, in a mixture of three parts light loam, one part coarse sand, with a fair sprinkling of small gravel stones; no leaf-mould or manure of any sort must be used. Water sparingly as soon as growth appears, increasing the supply as it proceeds, and keep continually moist until the flowers are over. The supply should then be gradually reduced, and about April stopped altogether. The pots should now be placed on a shelf in a frame or greenhouse, where they will be fully exposed to the sun, and should be allowed to remain there without watering until planting time. Annual repotting is quite unnecessary, once in three years being sufficient.

N. triandrus should be planted at the same time and manner as the foregoing, but the soil

This course of treatment is quite wrong. The plants require a rest after they cease to flower, it is true, but they should receive sufficient moisture to enable them to retain the old leaves until they begin to make fresh growth. They should also be accorded proper care, and instead of placing them, say, under a stage or similar place, put them in a cold-pit or frame instead to undergo a season of rest, and afford them plenty of air and just enough water to keep the foliage fresh until they begin to push up new leaves, which is the signal that the time for repotting has arrived. Plants now passing out of flower and given the above treatment will be ready for shaking out and repotting in June or early in July. For compost take one-half good fibrous yellow loam, one-quarter peat, one-quarter leaf-mould passed through a ½-inch sieve to free it of the rougher particles, with a pretty liberal addition of old mortar, crushed fine, and coarse silver-sand. The corms should be potted firmly, and when all are finished arrange them in frames facing the north. Until the roots make a fresh start keep the frames somewhat close and shaded also during the hottest part of the day, after which they are aired according to outside climatic conditions.

perature, as indicated above, they will, after being housed, quickly develop great quantities of bloom, and that of fine size and substance, and continue to flower for a long period. In proof of this statement I send herewith for your inspection and opinion a box of blooms gathered from corms varying in age from three to five years, and which have been flowering since last October.]

Very handsome flowers, large, and well developed on stout footstalks, the colours varying from pure white to crimson. The value of old corms was well shown at a recent meeting in the Drill Hall, where plants seven years old carried as many as 200 flowers, excellent in every way.

NOTES AND REPLIES.

Bouvardias.—The first batch of cuttings should now be ready, but before taking them off they should be examined, and if there are any signs of green-fly the house should be fumigated. This must be done carefully, as few subjects are so easily damaged by smoke as *Bouvardias* when they are making young growth, and it is even more difficult to fumigate

the cuttings, as the moisture in the propagating pit is against it. In making *Bouvardia* cuttings it is not necessary to cut them off close below a joint, as they will root from any part of the stem. Provided good, healthy cuttings can be had, there is little difficulty in rooting them. They require a good bottom-heat and a higher surface temperature than many subjects, especially for the early cuttings. It is essential to keep them from getting withered either during the process of making or after they are put in. If once they do get withered they are a long time making a start, and never seem to make much free-growing plants if they do start. It is easy to tell when they have made a start, and they should then be gradually exposed. Top the cuttings once before they are potted off, but they should stand in the cutting pots until they have started again. *Bouvardias* are often spoiled through not being treated liberally enough when they are required for cut bloom only. For early autumn flowering they may be planted out on a spot hot-bed, and when they get well rooted down they make strong growth and large trusses of bloom.

Humboldtia corymbiflora may be grown in pots, but should have plenty of root-room and a good, rich compost. All the *Bouvardias* should be grown fully exposed to the sun. They are naturally summer-flowering plants, but the flowering period may be regulated by stopping frequently. Although the same plants will keep up a succession of bloom for a considerable time, those required for late flowering should be stopped from time to time up to the end of September, and then if treated well they will go on flowering freely through the winter.

Growing on *Primula stellata*.—Last spring I sowed *Primula stellata*. The seeds germinated all right, but I mismanaged the plants by not keeping them near enough the light. They made little progress, the largest plants giving about twelve blooms in all (poor). They, however, seem to have recovered, and are now making rapid progress, looking very sturdy. I wish to know, if I keep potting them on and pinching out the flowers until August or September, if they will make a good show at Christmas? Or must I sow seed again, and try and manage better?—H. F. S.

[We think you would do far better to sow at once. The old plants may succeed, but it is very doubtful. You can keep them and do as you suggest, but young healthy plants give the best results in the case of single *Primula*.

Cinerarias in cold-frames.—I find there is a very general impression that green-fly is natural to this plant, and amateurs, who dread this pest, shy of introducing the *Cinerarias* to their greenhouses, lest they bring



The Bush Daffodil (*Narcissus triandrus*) in a pot. From a photograph sent by Mr. J. Rose, Rawlinson Road, Oxford.

should consist of loam three parts, leaf-mould one part, and a fair sprinkling of sand. The soil should be kept moist during the whole of the growing period, particular care being taken that the drainage of the pots is perfect. When growth is over and the foliage begins to turn yellow, the bulbs should be rested in a cool, shady place where the soil will not become dusty. The flowers shown in photograph are from bulbs which have been grown in pots and that have flowered annually for the past ten years.

Oxford. J. Rose.

OLD CYCLAMEN CORMS.

I WAS much interested in reading the remarks of "A. W." on the retaining of old *Cyclamen* corms year after year, and in getting such splendid results as 100 blooms on a single plant. Would "A. W." kindly give full particulars of the treatment and proper cultural method he alludes to for getting such good results, as, unfortunately, at present I have to be content with about a dozen blooms on each—JOE BONS, Penzance.

[Many ruin their old corms by neglecting them after they have done flowering. They are often cast on one side, perhaps placed under the greenhouse stage or in some out-of-the-way corner, with the result that the plants suffer from want of moisture, the foliage falls a prey to insects, particularly red-spider, and they eventually become entirely ruined. It is better to

The plants are also syringed twice a day, and on fine nights the saashes are drawn off so that they may have the full benefit of night dews, and replaced again the following morning. Watering, as a matter of course, has careful attention, as they must neither be allowed to want for moisture or be kept in a sodden condition. Under such treatment the old leaves are gradually superseded by fresh stout, healthy ones, and in the course the crown of the corm will bristle with flower buds.

Towards the end of August or middle of September the plants are ready for housing, and are then separated into two batches, the forwardst being placed in a house having a day and night temperature of 60 degs. and 55 degs. respectively, and the remainder in a slightly cooler situation to bloom later on. Feeding commences as soon as the flowers begin to push up, and this consists of liquid-manure and Clay's fertiliser. These stimulants are administered, as liberally as is consistent with safety, on every occasion that water is required, the liquid being used for a few days and then Clay's fertiliser, as the *Cyclamen* likes a change of food. If the plants are stood where they have plenty of light, and in addition have every attention in the way of watering and feeding, and subjected to a steady day and night tem-

the fly with it. After growing *Cineraria* for many years, I think the attacks of fly are very greatly exaggerated, but I do not in the least dispute the fact that many growers suffer severely from it, as I used to be continually fumigating to keep plants clean so long as I depended on artificial fire-heat to keep the frost out. Since I have grown them in cold-pits, and relied solely on mats and litter to keep the frost out, I have had no fly at all. I was led to adopt this plan by going into an amateur's small back garden some years ago, and seeing some of the dwarfest and healthiest *Cinerarias* I had ever seen. On inquiry as to how they were kept so healthy, with leaves down on the pot, I was shown an ordinary Cucumber-frame set on a bed of coal-ashes where these plants had passed safely through a severe winter. Since then I have never put my *Cinerarias* in a glass-house of any kind until they come into flower, but have kept them through the winter either in pits or frames, covered at night with mats, and opened and ventilated directly the frost was off. It takes a good deal of time covering and uncovering, but I can assure anyone that needs really good plants that he can grow them well without any artificial heat.—JAMES GROOM, *Gosport*.

Sweet-scented greenhouse flowers.—Sometimes one misses, on visiting green-houses of friends in the summer, the fragrant flowers one has been accustomed to, and notices a disposition on the part of some to grow blossoms whose beauty alone is their only feature. Whether this obtains to a very great extent I am not prepared to say, but during the next few months, when a good number of plants are being prepared for the beautifying of houses, one should endeavour as far as possible to grow a proportion that are best known and appreciated for the fragrance they yield. There is, on the other hand, a danger of leaning too much in this direction, when, as in the case of highly-perfumed blossoms like *Hyacinths*, the smell is overpowering, but one may, even as regards a matter like this, strike the happy medium. Fragrant flowers like *Heliotropes*, *Musk*, *Nicotiana affinis*, *Freesias*, *Mignonette*, *Petunias*, *Lilacs* in variety, and *Tuberose* should have a place in all greenhouses.—TOWNSMAN.

Grouping *Hyacinths* in pots.—I doubt if any other bulb is used so extensively in the garden as the *Hyacinth*. When grown in pots the large-spiked kinds are generally potted one bulb in each pot. For many purposes they are most useful in this way. In many instances when a single bulb is used in a vase the effect is poor. Recently I have been using in low vases three bulbs grouped together, with the best results. It is an easy matter to grow them in moderately fine soil, and when coming into bloom to wash the soil from the roots, placing them in the vessels they are to remain in while in bloom. In this way all the spikes are in beauty at one time, and when roots are filled in with sand and the pots mossed over, the spikes need no staking if they have been well grown. Some thirty years ago I remember seeing in a large garden in Wiltshire good-sized pots with five and seven bulbs in a pot, and grouped as these were on the floor of a conservatory amongst the spring-blooming things, so fine was the display that I have never forgotten it.—J. CROOK.

Cleaning houses, pits, and frames.—Many amateurs do not give much attention to this important work. In every instance it is well to wash all glass and wood, and now is the best time to do the work. I have been troubled with mealy-hug on the *Vines* ever since I have had charge of this garden, and it is very difficult to keep down with having to take stove plants into the *Vines*. The last three years I have painted all the wood and iron with paraffin oil, lime-washing the walls, etc. From the *Vines* I remove all loose bark, then scrub every bit of the *Vine* with a scrubbing brush, using *Abol* insecticide, applying it in as hot a condition as the hand will bear it. After two or three weeks the *Vines* are gone over a second time in the same way. By this method I have well nigh exterminated it in a far more effectual way than when I painted the *Vines* with lime, soot, mud, and some insecticide—the common way in gardens. It is important that all the top soil should be removed to clear of any insects in it.—J. CROOK.

ORCHIDS.

MEXICAN ONCIDIUMS.

THERE is no class of Orchids more free-flowering or attractive than the Mexican section of *Oncidiums*. The best among these are *O. Forbesi* (the subject of the accompanying illustration), *O. crispum*, *O. pratense*, *O. Marshallianum*, and the various natural hybrids that appear amongst importations of the above-mentioned species. These may be procured at a modest outlay, and, as they usually travel well, are generally placed upon the market in good condition. They are admirable subjects for amateurs who have a warm greenhouse or a cool intermediate house. They usually do well, even under most unfavorable conditions, for a few years after they are first imported. They cannot be classed among the long-lived section of Orchids. The cause of this will no doubt be found in the free-flowering characteristics of these *Oncidiums*. This, combined with the lasting qualities of the flowers and the selfishness of the grower, who thinks more of preserving the flowers to the longest possible moment, instead of removing the spike as soon as it has been expanded a reasonable time,



Oncidium Forbesii. From a photograph sent by Mr. J. Cox, 13, Haydon Park Road, Wimbeldon, Surrey.

causes undue stress on the pseudo-bulbs, and the result is apparent by the annual deterioration of the plant.

CULTURE.—The plants are best accommodated in baskets or shallow pans, well drained with broken potsherds. The compost suitable for them should consist of fibrous peat and Sphagnum Moss in equal portions, or they may be grown in leaf-soil, consisting wholly of Oak or Beech-leaves. This should be pressed moderately firm, and the surface should be covered with living, chopped Sphagnum Moss. A great deal has been written of late in the gardening press about leaf-soil for Orchids, but I cannot agree with its general use. It suits some plants, the above-mentioned *Oncidiums* being perhaps the chief.

H. J. CHAPMAN.

"Farm and Home Year Book."—We are glad to be able to state that the "Farm and Home Year Book" seems to have met a want felt by our readers. Its reception by the Press generally has been most cordial, and the demand for it has been so great that a third edition has been issued. Our readers should have no difficulty in obtaining it from any local bookseller or newsagent, who will order it if it is not in stock; or they may get it direct from the Publisher, 17, Farnival-street, Holborn, E.C., by post, for 1s. 6d.

CHRYSANTHEMUMS.

SOME OF THE BETTER JAPANESE SORTS FOR CUT FLOWERS.

WHITE Japanese Chrysanthemums always find a more ready sale than those of any other colour. The plants which develop the large white exhibition blooms are not necessarily the best varieties for making a free display; nevertheless, many of them are well adapted for this system of culture, and the following sorts may be regarded with favour. The varieties in the subjoined list embrace those blossoming from the early days of October till the end of the year and even later.

MARKET WHITE.—A beautiful free-flowering pure white bloom of drooping form. If partially disbudded the blooms come of a useful size, with a good length of footstalk. Height about 2½ feet. In bloom early October.

MYCHETT WHITE.—This is a fine flower. In late September and early October it is in superb condition. The plant is a rather difficult one from which to obtain stock, but by planting old stools under glass in a light compost success is assured. Height about 2½ feet.

QUEEN OF THE EARLES is a pure white

sort, the blossoms when well grown being very handsome. To be seen at its best the plant should be stopped two or three times during the growing season, this treatment producing specimens of a bushy character. In flower late September and October. Height about 3½ feet.

BARBARA FORBES.—This is another sort that has not attained the notoriety its merits deserve. The blooms are large and pure white, and the variety is seen to advantage when the plants are disbudded to about a dozen blooms on each. In flower October. Height about 4½ feet.

WHITE QUINTUS.—Of the many excellent October white-flowering Japanese sorts this is one of the best. It develops blossoms all the way up the stem, which is crowned at its apex with a cluster of dainty flowers of superb form. Height 3½ feet.

GLADYS ROBIT.—This is another pure white sort of unique form, and, to be seen at its best, should be disbudded to about a dozen blooms on each plant. Period of flowering late October. Height about 3½ feet.

MME LOUIS LEROY.—Although introduced some ten to twelve years ago, there is much in this variety to commend it to growers of free-flowering sorts. The plant is rather taller than some growers would desire, yet by

two or three stoppings its height may be considerably reduced. Late October and early November see this variety at its best.

MILLE LACROIX.—This is another of the older introductions, but withal a very lovely variety when the plants are grown freely. The somewhat small blossoms are very dainty in appearance, their whiteness being of a glossy kind. Habit bushy and free flowering. Early November is its period of blossoming. Height 4 feet.

EMILY SILSBURY.—A very charming pure white bloom, developed on plants about 4 feet high. By a rigid system of disbudding, a goodly number of large blooms may be obtained; when freely grown, however, it is useful for cutting, etc. Period of flowering late October and early November.

LADY BYRON.—This is a well-known sort for producing large, handsome blooms, but by a system of pinching or stopping, and also partially disbudding the resulting terminal buds, pretty pure white blossoms may be obtained in November. Height from 5½ feet to 6 feet.

LADY ELLEN CLARK.—In this instance the plant should be accorded treatment similar to the last named. It is a variety of easy culture, and should be disbudded. Pure white. Height about 5 feet.

MILLE A. DE GALBERT.—This is another of the one-time popular exhibition sorts. It is a handsome flower, and when grown in a free manner, charming. The blooms are pure white, with rather broad florets, and when the plant is subjected to pinching or stopping develops into a bushy specimen. Height about 6 feet. In bloom during late November.

MRS. C. BOWN.—A plant of Australian origin, and useful for all purposes. Its colour may be described as pure waxy-white, with a greenish centre to the large, full bloom. Height quite 5 feet. Late November.

WESTERN KING.—A lovely incurved Japanese bloom of glistening snow-white. The plants of this variety will carry eight to twelve very handsome blooms. Period of flowering late November and early December. Height about 5 feet.

SOUVENIR DE PETITE AMIE.—This may be had in bloom at almost any time by a varied system of culture, and also a differing period of bud selection. Pure white, large flower, bushy habit. Height about 3½ feet.

NELLIE POCKETT.—This, recently figured in these pages, may be described as pearly or waxy white. Should be pinched or stopped on a few occasions and disbudded. In flower late November from terminal buds. Height about 5½ feet or rather more.

MISS ALICE BYRON.—A handsome pure white sort of recent introduction, and invaluable for December use when grown freely. Cuttings inserted in March and April and grown on carefully develop charming plants bearing chaste blossoms of a useful size when partially disbudded. Height about 4 feet.

MME. PHILIPPE RIVOIRE.—A fine late variety, of an ivory-white colour. It is a plant possessing a good constitution, which is an item of importance in late-flowering kinds. For December use it is reliable. Height about 6 feet.

MME. THERESE PANCOUCHE.—This variety is regarded as the best of the late sorts by many growers. The blooms are large and handsome, and are also developed quite freely. Late December and early January often see this grand sort at its best. Height about 6 feet.

MME. CARNOT.—This, so popular as an exhibition sort, answers well when grown on to terminal buds and flowered freely. It is unfortunately a very tall plant, but by a series of pinching may be considerably reduced in height. It has pure white blossoms of a drooping character, which are highly valued during the period of flowering.

WINTER QUEEN.—Late blossoms of this plant are pure white, and when the plants are partially disbudded they develop blooms of useful proportions on stout, erect footstalks. Good habit. Late January see the blooms in good form. E. G.

NOTES AND REPLIES.

Early-flowering Chrysanthemum "Orange Masse" (Propagated) by you wrong in supposing this plant to be a sport from

one of the members of the Mme. Marie Masse family. We quite agree with you that the naming of this plant is very misleading to those who know little or nothing of its history, and it is a great pity that the name of "Masse" should be associated with this plant, seeing what an excellent lot of sports from Mme. Marie Masse is now being distributed. The variety under notice is really a seedling from Mme. Marie Masse, and may be classed as a very beautiful flower of a rich orange colour, tipped golden-yellow. The plant is rather taller than those of the family of plants referred to, but it is a distinct acquisition.

Chrysanthemum—how to make bushy plants for November flowering (T. G. H.).—You cannot do better than commence stopping your plants at once. You will find

of culture is very simple, and if the rules as laid down previously be carefully observed the plants should flower freely. When the terminal buds are developed they should be slightly thinned out.

FERNS.

THE ELK'S HORN FERNS.

THE Elk's or Stag's Horn Ferns (*Platycerium*) are in growth and aspect quite different from all other Ferns. Instead of finely cut fronds of tender siliage work, as in the Maiden-hair Ferns, for example, the Elk's Horn Ferns have thick and massive leafage, or rather combinations of leaf and stem of a leather-like texture, often silvery when young, changing to a dense



Platycerium grande. From a photograph by Mr. Geo. E. Low, Dublin.

that much better results will follow if you pinch out the point of each of your plants which has attained a height of some 6 inches or rather more. This will cause the plants to develop lateral growths in the axils of the leaves, and from these resulting growths the stronger-growing ones should be retained and subsequently treated to a vigorous system of culture. When these branching shoots have reached a length of 6 inches they may be pinched in a similar manner. The resulting shoots from this pinching of the growths will need to be treated similarly, as the subsequent growths attain a length of 6 inches to 8 inches, more or less, and by these means a large, bushy plant may be developed. For a November display, however, the last pinching of the shoots should take place about the third week in June, and from this point the shoots should be grown on and flowered from terminal buds. This method

dark green with age. There are about a dozen forms or kinds, found for the most part in Eastern and Australasian regions, where they grow in an epiphytal manner on trees, or now and then on rocks and boulders. This kind most often seen in greenhouses, or even in sitting-rooms, is

PLATYCERIUM ALCICORNE, introduced to British gardens about a century ago from Queensland and Polynesia. Its fertile fronds grow from 1 foot to 2 feet in length, and fork in a twin or dichotomous manner, and in colour are of a soft grey-green. They spring in tufts from the centre of the rounded or shell-shaped barren fronds, which are of a paler green colour when young, and turn to a rich reddish-brown as they decay. The barren flange-like fronds clasp the trunks or branches of trees, on which they grow in a wild state, or the pots, pans, or wooden blocks in or on which they are grown in our

gardens. If a plant of the common Elk's Horn be grown in a flower-pot, it may, when well established, be suspended upside down by a wire support, when the barren fronds will clasp the sides of the inverted pot, and the fertile leafage will clothe the pot in a very pretty and natural-looking manner. One of the best kinds is

P. ANTHORICUM, better known in gardens under the name of *P. stemmaria*, which comes from the Guinea Coast and Angola. It can be grown on thick slabs of wood, being fixed securely with copper nails and wire, along with a compost of fibrous peat, earth, and a little living Sphagnum or bog Moss. It enjoys a high and moderately moist temperature and a half-shady position. Another very noble species is

P. GRANDE, from North Australia, which produces much divided, strap-like fronds, often hanging down in masses 6 feet to 7 feet below the block on which it grows.

P. BIFORME is a dwarf and sturdy kind from the East Indies, with very thick and blunt or rounded fronds of a dark green colour. *P. Hillii* was sent to Europe from Queensland in 1873, and is probably only a geographical form of *P. alcinorum*.

P. WALLICHI AND **P. WILLINGII**, the one from the Malay Peninsula, and the other Java, are both very handsome, but are not so often seen as are the other kinds named. The latest addition to the group is

P. VEITCHII, introduced in 1896, of erect and sturdy habit, with stiff, erect, dark green fronds.

CULTURE—All the kinds, if we except the common *P. alcinorum*, require a warm or hot-house temperature, and look very handsome if the blocks on which they grow are hung on the dark velvety brown stems of the tropical Tree Ferns. They are usually increased by division, but some of the kinds produce viviparous buds or bulbils on their roots, from which young plants are more readily, or at any rate more quickly, obtained than from spores or seeds. Even individual plants are very effective, but a group or collection of all the kinds, as seen on the damp end wall of a plant stove, is a sight not readily forgotten. At home in the tropics these plants form dense masses on the forest trees beside rivers and creeks.

V. B., in *The Field*.

FRUIT.

GRAFTING TREES.

In the process of renovating old or perhaps worthless fruit-trees, re-grafting must play an important part. The work needs a certain amount of practical knowledge and expertise, but, still, it is not difficult to do by any intelligent person. We have seen Apple grafting done on pieces of roots of old trees by the fire-side in winter, the work being neatly done, and in all cases at once buried in the soil, leaving only the point of the scion exposed. That is not, however, a very excellent method, and, generally, it is far better to graft growing stocks in their proper season outdoors than to attempt that form of root grafting. But in renovating old trees, no labour should be wasted over those which have become exhausted, these being best grubbed out and destroyed. Still, there are many fairly clean, healthy trees found that crop well or badly, but the produce is at the best an indifferent that it has little or no market value, and will never repay for cultivation. Such trees present the very best of material for re-grafting, and were tens of thousands of such in the country but beheaded and re-grafted with good, fine, fruiting varieties that have market value the gain would be enormous.

Whenever it is purposed to so graft old trees the heads may be lopped at once to within 3 feet of the height at which it is purposed to insert the grafts. The final beheading can be done when the grafting is done. Whenever that is so the greatest care should be taken, not only to select places free from knots or branches, but also that the saw cuts be clean and there be no tearing of the bark. That can always be avoided by causing the saw to cut through the underside of the stem an inch or so in depth first, as by so doing the danger of bark tearing is avoided. But if the larger portions of the

branches be cut off and faggoted now, the rest can remain until the first week or so in April, by which time sap should be rising. The next matter of importance now is to secure grafts or scions. These should be of stout, hard shoots of last season's growth, and when cut from the trees of the good varieties it is desired to work on to the old stems of others, should have the lower ends made even, be tied into bundles, each variety separate, and labelled with the proper name, then be laid in fully 6 inches in depth under a north wall or fence, only the tops being exposed. So cared for the grafts are kept dormant, and are in that condition better fitted for grafting than would be the case were these so active in pushing buds on the trees on which to be worked at the time. When wanted for grafting a rise under the pump soon washes off the soil. Ready for use, also, should be secured a quantity of well-prepared clay for coating the graft joints. This should be nearly dry, well broken, free from stones, and have mixed with it one-fourth its bulk of clean horse-droppings, well beaten up, mixed, then moistened to get it into the proper plastic consistency. When so prepared, the clay should be smoothed over and covered up closely to keep it from drying. In making the final severance of the large branches on the tree to be grafted, it is best to do so about 2 feet or so from where they break out from the main stem. It is better to graft low down, putting in each three or four stout grafts, than to put in a couple 3 feet or 4 feet higher up, as the growth is so much stronger and a far better head is produced. Grafting may be done by simply inserting the scions under the bark; but with stout grafts cutting a small wedge-shaped piece out of the hard wood, and shaping the graft to fit it, enables the best work to be accomplished. It is work in which, with all proper materials, practice soon makes perfect.

A. D.

NOTES AND REPLIES.

Spraying with caustic alkali solution.—Will you kindly inform me if it is safe to spray fruit-trees in an orchard where sheep are grazing with the caustic alkali solution composed as follows: 1 lb. commercial caustic soda, 1 lb. crude potash, 3 lb. common treacle, 10 gallons water? Or whether there is a risk of some of the sheep being poisoned?—A. W.

[There is not the slightest risk of the sheep being poisoned through the use of the caustic alkali solution named by you, because if the spraying is properly carried out the small quantity of chemicals that would be deposited on the Grass would be so infinitesimal that it could not possibly do any harm. It would, however, be a good plan, seeing that the solution is of a very caustic nature, to remove the sheep while the spraying is being performed, and put them back again next day, or so soon as the whole of the trees have been sprayed. As the season is far advanced you should lose no time in getting the trees sprayed, otherwise injury may result should there be Plums, Damsons, or Pears in the orchard. Apples, being later in developing their blossom buds, are yet safe.]

Vines in tubs.—Outside the conservatory are gravel paths and a lawn. Would Vines in tubs inside conservatory do any good? The conservatory faces south, and has plenty of room for a couple of Vines. 2. The best Vines to grow in tubs without heating apparatus? 3. Is it too late to plant them now?—F. A. M.

[Usually Grape growing in tubs is not a success, but given careful treatment they may do for a time under this root restraint. The nature of the roots, however, is such that the Vines do not long remain productive when limited to such small areas. Good turfy soil is absolutely necessary, this being enriched with some half-decayed cow or horse manure, to which are added a few half-inch bones and a little Vine manure. The Black Hamburgh is the best variety to grow without heat; Foster's Seedling being a very good white Grape as a companion. There is yet time to procure strong fruiting canes from the nursery, which when being planted should have the soil made firm about the roots. Drainage is all-important, and should be ample without being excessive.]

Treatment of Vines and Peach-trees.—Would you kindly tell me when to withhold the syringe from Vines and Peaches that are being forced? Also, when to stop Vines? My Vines are just showing their embryo bunches, and are very vigorous. The Peaches are just over blossoming, and are forming little fruits. Any other information for future guidance would be obliged.—CANTANT.

[Under ordinary conditions Vines do not require to be syringed, Some Growers never

resort to syringing at all; others do so until the buds have developed, and until towards the flowering period, when it is discontinued. With proper attention to the ventilating and heating of theinery there is no need for syringing; atmospheric vapour can be maintained by frequent damping of the floor, and this is equally, if not more, beneficial to the occupants of the house. The laterals should be stopped at one, two, or three leaves beyond the bunch, according to the space at disposal; sub-laterals following this will also need to be pinched periodically at their first joint. Vines that are in a very vigorous state need very careful manipulation of the laterals; if kept too hard pinched the basal buds may be forced into premature growth, but if they are carrying a full crop not much excess of leaf will result. Peaches just passing out of their flowering stage will now require attention in disbudging the shoots and thinning of the fruit. You will find in the issues of GARDENING ILLUSTRATED for March 15 some instructions on disbudging Peaches, so that this need not be repeated; but the fruits when thickly set will need reducing in accordance with the numbers now developing. An old rule was that one Peach to each square foot of trellis is ample for a crop. Nectarines, being smaller, may be left a little more closer together. Some of the smaller kinds of Peaches may have slightly less space allowed between the fruits. Always choose the fruit on the upper side of the bunches for your crop, removing those situated beneath the trellis. Do not, however, be in too great a hurry in thinning down your fruit to this extent, because, though the fruits may now appear to be swelling freely, they may go to the size of Filberts, and then some of them collapse. Thin them down by a daily graduation, and when it is seen they are beyond their critical stage, then reduce finally to the desired number.]

Scale on Currant-trees.—Many of my Red Currant-trees in a north aspect and nailed to an old wooden shed are covered with scale. So also are some of the Gooseberries and Currants in another part of the garden. I have not noticed it before this year. The Gooseberry-trees have always borne fruit profusely and ripened it well. The Currants generally drop most of their fruit before it ripens. Can anyone tell me whether this is a common disease, and whether trees infested by it should be destroyed?—NEWLANDS.

[It is not usual for Currants or Gooseberries to become attacked by scale—at least we have not found it to be so—and we should certainly think, in the case of the Currants, that it would be much more economical to root them out and replant with young trees, rather than waste time on those which have lapsed into a state such as you describe. Both Currants and Gooseberries can be purchased so cheaply, and they so soon come into bearing, that there is no need to waste time in trying to retrieve their former health and state. Young bushes are more vigorous and bear much finer fruit. Before planting, however, we should advise in the case of the Currants growing against the shed, that the soil be removed to at least a yard in width and proportionate depth, and this replaced with fresh—not necessarily from a distance, but that which is fresh to tree-roots. A wash made with concentrated alkali is most effective for use on trees in a dormant state to destroy insect life. Soluble paraffin-oil, too, is also good for the same purpose. Flowers of sulphur made into a paint with water or skim-milk and this applied to the trees with a brush in dry weather will often prove fatal to scale, and is quite harmless to the trees. Without evidence to the contrary, we should think there must be extreme debility in such infested trees, calling for fresh soil with preferably some good solid farmyard-manure. In any case this would do much good, and could not possibly harm the trees.]

Root pruning fruit-trees.—Those who have not seen this operation skilfully performed must not suppose that root pruning means a general cutting away of all the roots which extend beyond a certain line and then filling the trench in again. The proper way is to open out a trench at the extremity of the principal roots, and then with steel forks to work inwards until a goodly number of the strongest roots have been traced to within a reasonable distance below the surface of the border. These will then require slightly cutting back with a sharp knife, and the work of relaying in fresh loam, which must be made very firm by ramming, will follow. At the trench is filled in again. If the

old compost is really good, a small quantity of fresh loam will suffice, and the addition of manure, as a mulching only, will complete the operation.

TREES AND SHRUBS.

THE RESULTS OF THE RECENT FROST ON BAMBOOS AND SHRUBS IN THE NORTH OF IRELAND.

(TO THE EDITOR OF "GARDENING ILLUSTRATED.")

SIR,—The recent very severe frost, which lasted about ten days here, with a temperature of 25 degs. of frost on some nights, has seriously affected many shrubs and plants which hitherto had shown themselves perfectly hardy here. Probably, however, as a very heavy fall of snow, averaging about 14 inches in depth, marked the commencement of this period of cold, and did not thaw until its close, the roots have escaped unharmed. The hardy Bamboos in this collection have been variously effected, and some have unexpectedly withstood the severe stress better than others which have hitherto enjoyed a greater reputation for hardiness. *Arundinaria nitida* and *Bambusa palmata* appear perfectly unaffected, though in exposed positions, and the latter in low damp ground at the edge of water, as well as in partial shade of trees. *Bambusa Veitchii* also seems to have withstood the frost well, but it is in a sheltered position. *B. ruscifolia* (viminalis), probably protected by snow, comes next in order of hardiness, showing very small traces of withering. *Phyllostachys heterocycla* shows fronds only slightly withered. *Phyllostachys nigra* and *nigro punctata* though much withered have come through fairly well, the latter perhaps the better. The dwarf *Arundinaria Fortunei aurea* has escaped pretty well, perhaps owing to the covering of snow. But all the species in the following list have their frondage completely withered and browned. *Arundinaria Khaziana*, which is a species apparently nearly allied to *A. nitida*, and which has come through some previous severe winters unharmed, now has its foliage destroyed and falling off. I cannot make out from the Kew list whether this is *A. Khaziana* (Munro), but in character it may be placed between *A. falcata* and *A. nitida*, and is of a very vigorous habit and most elegant appearance. Then follow *A. japonica* (Metak), *Simonii*, *Hindii* var. *graminea*, *Phyllostachys amra*, *Quillioi*, *mitis*, *crustilloniæ*, *flexuosa*, *viridis glaucescens*, *Merlicæ*, and, of course, *falcata*, which is deciduous every winter. The above list comprises the only twenty hardy species of which I have large enough plants to enable me to judge.

Some notes respecting the behaviour of other shrubs may prove also of interest. *Olearia liasii* and *stellulata* (Guianens) have come off well, but *O. macrodonta* and *O. Fosteri* (the latter usually extremely hardy) have their leaves quite blackened and falling. The genus *Elaeagnus* has, for the most part, escaped unimpaired. Among evergreens *Staurontia hexaphylla*, *Cleyera japonica* (why is this charmingly tinted shrub not generally grown?), *Raphiolepis japonica*, *Daphniphyllum macro-podium variegatum*, and *Choisya toroata*, have escaped well, and, to my surprise, *Nandina domestica* and *Engenia apiculata*, which is against a wall. *Griecelinia littoralis* is quite as bright as ever, and *O. lucida* var. *macrophylla* is almost unscathed. But when I mention that standard hybrid Roses have been killed, most Tea Roses on their own roots cut down to snow level, and even the common Monthly Roses and *Azara microphylla*, against walls severely damaged, it will be seen that the test has been a very severe one. W. DE V. KANE.

Drumreeke, Monaghan.

NOTES AND REPLIES.

Moving the Winter Sweet.—I have a Winter Sweet (*Chimonanthus fragrans*). It is in a bad situation, and has only had two or three flowers. I want to move it to a more sunny place. Will it bear moving? Is this the best time to move it—just after it has flowered? When should it be pruned?—OULAN.

[Yes, you had better move it at once, taking care that in the event of dry weather it is well watered, and also freely mulched to prevent evaporation. It requires very little pruning.]

Lonicera fragrantissima—A large bush of this has, until the recent hard frost killed the flowers, been blooming freely and

quite scenting the air in its immediate vicinity with its delicious perfume. This is one of those early-flowering shrubs that are lost sight of by people when making out their lists of requirements when additions or extensions are being made. It is quite hardy, but, as the flowers are liable to be cut off by frost, as has happened in my own case, it is well worthy of a position on a well, as protection could then be afforded whenever frost appears imminent, when the blossoms are about to open, or during the flowering period.—A. W.

Outting Ivy.—The common Ivy is the best of all evergreen wall climbers, for it is at its best during the dark, dreary days of mid-winter and gives a snug, warm look to any building that is covered with it. Like all other creepers of a strong growing nature, it needs frequent attention to keep it in order, or it will fill up water-spouts and overgrow windows if not kept in check by timely pruning. It must have at least one good cutting in every year, and I find that March is the best time for doing it, for then the season of active growth is close at hand, and the young foliage quickly develops and takes off the somewhat bare look given it by clipping. A small, sharp reaping-hook, or pair of pruning shears, is the best tool for outting it in with, and it should be cleared entirely off the wall below the gutters for at least 1 foot, or it quickly fills them up and causes an obstruction.—J. G., Gosport.

Cassia corymbosa.—An illustration and short note on this brilliant-flowered plant appeared on page 3, the latter containing cultural directions for flowering it under glass. It is, I think, not generally known that in the south-west the Cassia is one of the most valuable wall plants for open-air culture. In a garden, distant but about three miles from where I write, a large plant covers some 200 square feet of wall, and is in August so crowded with blossom as to present an almost unbroken sheet of rich gold. Its flowering season is a very protracted one, blooms often being carried as late as November or December. No protection of any kind is afforded to this specimen, which is trained on a wall facing south-west, at a height of about 300 feet above sea-level. What pruning is necessary is taken in hand in early spring. I know of several other examples that do well on open walls in South Devon and Cornwall, and amateurs residing in that favoured locality will do well to find a place on a sheltered wall for the subject of this note.—S. W. F., Kingswear, South Devon.

The illustration and accompanying notes in a recent issue should be the means of bringing to the notice of many one of the very best autumn-blooming plants. In the note referred to mention is made of the many ways in which this plant may be grown. In a garden I had charge of in Ferbeck Isle, near Wareham, it flourished on the open wall, being protected in severe weather by a mat. The best plants I ever had were in large pots, growing them in the same way as *Fuchsias*. These were 8 feet high from the pot. In summer they were placed in two recesses beside a front door. The abundance of green, Ash-like leaves and mass of yellow blooms showed off well against the red brick mansion. Being grown in pots, and not started early, short joints with abundance of bloom were formed. At Cricket St. Thomas, near Chard, this Cassia has been used with the best results for many years for covering a wall under a verandah. The plants are twenty to thirty years of age, and are grown in long, narrow, wooden boxes, standing at the foot of the wall. These cover a wall 20 feet to 30 feet long, and about 15 feet high. Every autumn and up till near on Christmas they are a mass of bloom, almost hiding the foliage. Before severe frost sets in these are removed to a cold-house and pruned close in, the same as *Fuchsias*, etc.—J. CROOK.

Staphylea colchica.—This, figured recently, is one of the prettiest spring flowering plants we have for the greenhouse or conservatory from early February onwards. This can easily be had by placing in gentle moist heat, such as an early vinery or Peach-house affords, early in the year. The flowers are white and very sweet, and remind one of a *Coccoloba* when first cut open. Given the same treatment as the *molle* in Azules, the plants may be kept in pots for several years by top-dressing and re-

potting every third or fourth year. What it requires is thorough ripening of the wood. This is done by keeping the plant under glass after flowering until frost has gone and then placing in a sunny position out-of-doors, and standing to be regarded westward and a daily syringing during very hot weather in summer. If one had a good stock of plants it would be as well to plant out one half each year in a well prepared bed, forcing the other half only, and *vice versa*. The plant is quite hardy and flowers in early summer. It can be easily rooted from young shoots taken off from plants that have made early growth in March or April, and placed in sandy soil in small pots, under a bell-glass, in an intermediate house, with or without a little bottom heat. Plants so treated have had from four to six trusses of flowers on this spring, and only put in two years since. Cuttings may also be taken later on in summer and kept close, potting off singly when rooted. Nice sized plants may be grown in 6-inch and 8-inch pots by a little feeding. This I prefer doing after the plants have passed out of flower.—J. M. B.

BIRDS.

Death of Zebra Finch (*Zitella*).—This pretty little bird appears to have died in a fit of apoplexy, due to the rupture of a blood-vessel in the substance of the brain. You say your aviary is "kept beautifully heated." It is very possible that you are keeping your birds in too high a temperature, and a dry, over-heated atmosphere would tend to bring on this trouble. The internal organs appeared to be in a perfectly healthy condition, but the body was a little too fat, which pointed to the bird having been too generally treated. Millet and Canary-seed should form the diet of these birds. Little can be done in cases of this kind, although should the osmure be of slight extent the patient may recover in a degree, but can seldom be restored to perfect health, there usually being left behind paralysis of the limbs. There was no appearance of egg-binding. In the case of your other birds avoid over-feeding and over-heating the aviary.—S. S. G.

Death of Waxbill (*Ixy*).—The little bird appeared to be in a healthy condition, with the exception of a slight congestion of the liver. Perhaps you have been feeding it too liberally, or it might have taken a chill after losing its mate. These little Waxbills are so attached to their mates that on the death of one the other seldom long survives. Millet and Canary seed should form the staple diet of these birds; both white Millet and spray Millet may be given. A little green food in the shape of Watercress, Lettuce, or Chickweed may be supplied occasionally, and the flowering stalks of Grass prove very acceptable. The comparatively big nest, which is composed of hay, fibre, and feathers, is usually built in a small bush, with sometimes be placed in a small cage hanging on the wall of the aviary, while an inverted birch broom will be made use of for this purpose in an outdoor aviary.—S. S. G.

Grey Parrot pecking out its feathers (*A Subscriber*).—The habit of feather-eating is most difficult to cure, and sometimes arises from a gross condition of the system brought about by too high feeding. It is sometimes carried to such an extent that the bird becomes quite denuded, with the exception, perhaps, of the large quills of the wings and tail. The head, of course, remains fully feathered, presenting a spectacle ludicrous in the extreme. No animal food of any kind should be given to a Parrot. Bread and milk sop is also bad, as is food of any kind containing grease, egg, or milk. The habit may sometimes be cured by supplying the bird with something upon which to exercise its beak, and nothing is better for this purpose than a small piece of soft non-splintering wood. Feed your Parrot upon boiled Maize, Hemp seed, Canary seed, crusts of bread, and occasionally a little ripe fruit and a few Nuts. Do not fail to supply a good allowance of coarse grit-sand to aid digestion. The presence of insect pests will often cause feather-eating. In this case the cage should be scalded with boiling water, and, after being well dried, thoroughly painted all over with Fir-tree-oil.—S. S. G.

Canary ailing (*A Constant Reader of "Gardening"*).—You do not give any particulars as to feeding and general treatment. Your Canary appears to be suffering from a slight cold, which in some cases is the forerunner of asthma. You had better protect it from cold air, especially at night-time, by covering the cage, and avoid draughts. Many good birds are lost through their cages being placed at a window, each a position being inseparable from draughts. Discontinue Rape-seed for a time, giving in its place a liberal supply of Flax-seed. Give also occasionally a little Arrowroot-biscuit and hard-boiled yolk of eggs minced fine, also a few drops of cod-liver-oil, added to a little stale bread which has been soaked in cold water and well squeezed. A small supply of broken grit would benefit your bird, and for green food give it Watercress and Dandelion. Some old mortar, broken and mixed with the grit-seed, will also prove of value in restoring your Canary to health; but avoid pampering it with sugar or other sweet food. If there is any coughing or sneezing, an infusion of the leaves of the common Speedwell, with a little honey added, will make a tea that will prove beneficial if given daily for a week or ten days.—S. S. G.

POULTRY.

Hens ailing (*W. D. K.*).—Your hens appear to be suffering from liver disease, which may be brought about by too high feeding or from being kept in a closely-confined space. The first appearance of this complaint is generally a wasting away of the flesh, drooping comb, and unhealthy-looking droppings. The appetite varies, but there is always a great desire for water. Avoid all stimulating or heating kinds of food; care in feeding and housing will often do much where the attack is slight. As your run has been occupied by a number of fowls for some time past it would be well to remove about a foot of the soil and make up with good sweet earth or sandy gravel. Keep the sickly birds apart from the others, and give them a slight purge in the form of one grain of calomel per bird every other day for a week or ten days, mixed in the soft food. For a time lessen the quantity of food at each meal, that the digestive organs may be enabled to recover their strength. After the course of medicine has been gone through add some sulphate of iron to the drinking-water to give strength and stamina.—S. S. G.

LAW AND CUSTOM.

A gardener's notice—I am a head gardener at 21 a week salary, paid fortnightly, with cottage found. Can I leave on a fortnight's notice? There was no agreement as to notice when I was engaged.—R. T. H.

[It is a little doubtful what notice you must give, but it need not be a fortnight's. If the engagement at a weekly wage was the only matter from which any indication could be drawn, I think a week's notice would be sufficient; but as you say you are a head-gardener and have a cottage found, I think a longer notice implied, and I advise you to give a month's notice.—K. C. T.]

Removal of fixtures after expiration of tenancy.—Notice was served upon the monthly tenant of a house and piece of land to determine his tenancy, but he did not give up possession until two weeks after the expiration of the notice. When he quitted he left a wooden erection upon the land, and neither made nor suggested any arrangement for its future removal. Can the landlord detain the wooden erection until his claim for dilapidations is paid?—READER.

[Your statement reads as though this erection were affixed to the freehold, so as in point of fact to be a tenants' fixture. In the case of an ordinary tenancy, such as this appears to be, a tenant who quits, and leaves behind him any fixtures, cannot afterwards re-enter to remove such fixtures; these become the property of the landlord. If however the things left behind are mere chattels, these do not become the property of the landlord; but if the tenant re-enters to remove them he is guilty of trespass, and is liable to an action to recover damages. So the landlord, in this case, may detain the erection referred to until the tenant offers satisfactory terms.—K. C. T.]

As many of the most interesting notes and articles in "GARDENING" from the very beginning have come from its readers, we offer each week a copy of the latest edition of either "STOVE AND GREENHOUSE PLANTS," or "THE ENGLISH FLOWER GARDEN," to the sender of the most useful or interesting letter or short-article published in the current week's issue, which will be marked by us.

GARDEN WORK.

Conservatory.—There are flowers for each season, and to make the house really interesting advantage should be taken of each family as its season comes round. We are approaching now the Pelargonium season. Our earliest plants are just expanding their blossoms, and for a month or more there will be a grand show. Then will come Hydrangeas, Fuchsias, and the later Lilies, anatum and lancifolium. We generally have Trompet Lilies at Easter, and if grown in quantity they will come in succession for some time, and if cold storage is used there is hardly any limit to the time. At the present moment there are Deutzias, Spiraeas, Lily of the Valley, Roses, Tree-Cercoarias, and hulhs in much variety. Gladioli, both The Bride and the early-flowering varieties of goudavensis, may be had in bloom in March and April if potted in autumn and brought on quickly, plunged in a bed of leaves in a pit. We used to force these largely for the conservatory and for cutting at one time, but no one sticks to the same flowers always, and so a change is made and something else is taken in hand. The Dutch Roman Hyacinths are very useful now; the flowers have long stalks and are useful for cutting. We grow them four bulbs in each 5 inch pot for room decoration, but for the conservatory larger pots are used and the flowers are neatly staked up. A dozen large pots or ac mixed with Ferns are a very effective group. The Clematises form another family which, when well done, are sure to attract attention, and they are very suitable for the unheated conservatory, and they may either be planted out and trained round the sides of the house or grown in pots and trained round wires or stakes in the cool-house a special feature might be made of Canterbury Bells and Forget-me-nots, Tree-Paonies and Rhododendrons. Whatever is grown should be done well, and there should be no crowding, in an injurious sense. I remember the first plant I received of Weigela rosea; it was treated as a greenhouse plant, made a fine specimen, and attracted a good deal of attention. Now it has become a fairly hardy shrub it is not much seen under glass, yet it is one of the best forcing shrubs, and when well grown makes a fine specimen.

Stove.—Plants in flower, delicate Ferns, and fine-foliaged plants must have a thin shade when the sun is bright in the middle of the day, but we must guard against darkening the house excessively, as that weakens the growth and makes it spindling. Cuttings of winter-flowering Begonias will, if kept close, strike now in bottom-heat. Most of the Begonias will root from leaves taken off with the stalk, and the latter inserted in light sandy soil, or they will root in moist, warm Cocoa-nut-fibre. This material is a good rooting medium for cuttings of all kinds, especially Dracenas, Crotons, and other fine-leaved plants. Cuttings of Tea and other Roses taken from forced plants will root with certainty in a very short time. It is the water-pot which kills most of the cuttings which die, but the Cocoa-nut-fibre, when moistened, retains its moisture, and beyond a light dewing over, cuttings require scarcely any water till rooted and ready for potting, which should be done as soon as roots are formed. Anything which requires repotting should have attention now. The compost for fine-foliaged plants should be of a fibrous character. For the most part they want liberal supplies of water, and unless the drainage is free and the compost very fibrous the plants will not do so well. Night temperature now 65 degs. to 70 degs., but, if possible, the stove should have a division across, with one end a little warmer than the other, and then Ixores and other things which require a high temperature may have the conditions made suitable.

Ferns under glass.—Ferns are never more interesting than they are now, when making growth freely. Many of the Adiantums have lovely tints when making new growth at this season. This, or a little earlier, is the best time for dividing plants which cannot be relied upon to produce perfect spores, such as Adiantum Farleyense. Most of the Aspleniums, being viviparous, can be propagated from the little plants which form on the fronds. These little bits, taken off when small and dibbled into boxes of light sandy soil, will soon get

strong enough to transfer to small pots singly. To make rapid growth young stuff at this season must have warmth. Later on in summer I have had them do well in cold-pits, the lights being sprinkled over with limewash through the syringes. Spores may be sown now, and old Maiden-hairs and other plants divided if more stock is required; but, as a rule, seedlings make better plants than divided pieces, though they are rather looser about it. We find 60 degs. at night high enough for all Ferns in winter. Shade will soon have to be used, especially if there are Palms in the house, as Palms suffer more from hot sunshine than Ferns do. Both will require a thin shade now when the sun is bright about 10 o'clock in the forenoon.

Tomatoes under glass.—Tomatoes will bear a good deal of warmth, but it is not wise to exceed 60 degs. at night and 55 degs. will be better, as a close, stuffy atmosphere is very likely to bring on disease. On bright days give air early in the morning very freely, and do the forcing by closing early in the afternoon with the sunshine inside, and keep down fires during the day. Plants intended for outside should be grown cool to get them strong.

Window gardening.—Now is the time to put in cuttings and sow seeds. Any plants which require repotting should have attention. Aspidistras may be divided now if required. Do not over-pot nor yet over-water after repotting.

Outdoor garden.—The Grass is growing freely now, and will soon require mowing. If the roller has been used sufficiently during winter the turf will be firm and close. Woodashes are a good dressing for a lawn, and we have seen considerable improvement follow the use of basic slag; but if the lawn is thin and poor, 4 lb. of nitrate of soda now will be an advantage. Keep the mowing-machine cutters well up, so that the roots of the Grasses may be protected. The wearing out of lawns may in many cases be traced to the use of a low-set machine. This may be remedied in half an hour by dropping the front rollers half an inch. Monthrelias are lovely things on a sunny border, but they must not be left in a crowded condition or the flowers will be small, though liquid manure will help them as soon as the flower-spikes appear. It is rather late now to transplant. Tea Roses may be planted in beds or borders. They look best on slightly raised beds where the soil has been deepened and prepared. It is not so much a question of manure as rich, healthy soil, where the manure has become absorbed. A little fine rich stuff round the roots in planting is a great help, but keep the manure away from them. I have moved Tea Roses in April, after growth had begun, and found them do well. All Roses may be pruned now. Of course the recently planted Roses and Teas will be left till last.

Fruit garden.—Where Strawberries are well manured with manure, the work for the time being is pretty well done. If weeds appear they must, of course, be pulled out, and if the system of taking runners only for young plants is adopted, the fruiting plants may be kept free from runners. It means a little more work, but I think it pays. Those who have grafting to do will find the sap flowing freely now, and not delay giving attention to it. The main points in successful grafting are in selecting a time when the sap is moving upwards freely, and in fitting the scion properly to the stock. The latter is easily managed by a little practice, and that practice may take place upon the branches of any kind of tree. This is the best season for transplanting Figs, which are grown through deep rooting. The roots must be kept out of the cold, damp soil if the trees are to produce fruit. There are several ways of doing this. We once made a foundation of clinkers from the boiler fires, and grouted them in with lime and ashes to make a firm, dry bed, and the trees afterwards bore splendidly. All pruning ought to be finished now. Even the Morallo Cherries on the north walls are bursting their buds. On the whole the prospects of a good bloom on fruit-trees are favourable.

Vegetable garden.—French Beans, from their liability to red-spider, will be dangerous in fruit-houses now. They ought to be coming on in pits now, where there is some warmth either from a bed of fermenting materials or hot

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PLANTS AND FLOWERS.

SOME NOTES ON EVENING PRIMROSES.

Few plants are more desirable for the hardy flower border than many of the various species of Evening Primroses. They are admirable subjects for filling many a gap, for adding a bright splash of yellow or patch of white just where the colours are wanted, and some can be usefully employed for covering the ground in the front of the border, where they may be associated with Nasturtiums or low-growing rock plants. Most of these species are perennial in duration, but (*E. biennis*, or its well-known garden variety *Lamarckiana*, is only biennial. This tall, somewhat coarse plant is of too rank a growth for the more select parts of the garden. It is more a plant for the wilder spots in large gardens, where it may be associated with Foxgloves, Verbasiums, and Cow Parsley with advantage, but for small gardens where tidiness is essential and space a consideration it is somewhat too rampant in its growth and seeds itself everywhere.

The perennial species of (*E. nocturna*, on the other hand, may be most appropriately placed among the choicest of hardy plants. Their culture for the most part is of the simplest, and their hardiness beyond dispute, but there seems to be some confusion as to their nomenclature. In the first instance we come to a group of five varieties which appear from their similarity of habit and inflorescence to belong to one species. They are (*E. frutescens*, *E. Fraseri*, *E. venusta*, *E. Youngi*, and *E. Youngi* plants. I am personally acquainted with all these varieties. I have seen *Fraseri*, *venusta*, and *Youngi* placed under the heading of *frutescens* as the name of the species. I have also heard of (*E. glauca* as being the type. But whatever may be the origin of these varieties, I am convinced that owing to their similarity it will be quite sufficient if two only are cultivated, and of the two I would choose *Youngi* and *Fraseri*. The former is a most graceful and elegant plant when properly staked and tied in order to exhibit its pretty branching habit to the best advantage. This tying and staking should be so performed as to give sufficient play to the various stems, and at the same time to provide the adequate support. Many gardeners tie up hardy plants as if they were tying a bundle of corn, and this should never be done with

E. Youngi. The time of flowering of this (*E. nocturna* commences at the end of June and continues till the middle of July, when it is loaded with numerous small flowers of the brightest yellow, and while in flower it constitutes one of the gayest objects in the border.

E. Fraseri is very similar to *Youngi*. The flower-stems are straighter in growth, somewhat taller, and the flowers, which appear practically simultaneously with those of *Youngi*, are a shade lighter in the yellow and somewhat larger and more widely expanded. Both these (*E. nocturna* may be propagated by division either in spring or autumn. In

E. speciosa we should be quite

distinct species. The flowers are white with a yellow centre, and measure about 3 inches in diameter. When the flower stems have grown about 2 feet high at the end of June or the beginning of July, the lowest bud on each stem opens and remains open for about thirty-six hours, so that one bud opening every evening there are always two flowers in bloom on a stem at a time. By far the best way of propagating (*E. nocturna speciosa* is by means of the suckers thrown up from the roots in the autumn, which can be removed in the spring just as they begin to grow, potted until the little plant has well established itself, and then about six weeks after potting turned out of the pot into permanent quarters in the open border. A plant two years old from such a sucker is at its best, and as old plants do not move satisfactorily, owing to the difficulty of arranging their long, straggling network of roots, it is better to continually raise fresh plants from suckers after the manner described.

E. MACROCARPA (the large fruited (*E. nocturna*) is an important front border plant. It has large yellow flowers, about 4 inches in diameter, which are produced from the axils of the leaves. These flowers resemble somewhat closely the flowers of *E. Lamarckiana*, and being of so large a size, present a very striking appearance at sunset in summer, when they appear close to the ground, among the dark green foliage of the plant, which rambles loosely over the soil. This (*E. nocturna* is so easily raised from seed that it is scarcely worth while to trouble about cuttings. The seed should be sown in pans or boxes, and the seedlings pricked out when large enough. I have noticed that this (*E. nocturna* harmonises pleasantly with *Nasturtiums*, more especially with the dwarf dark red *Tom Thumb Nasturtium* with dark green foliage. (*E. nocturna macrocarpa* has a very long flowering season, commencing to bloom in July and continuing to flower till overtaken by the autumn frosts. It is a plant which I should never like to be without. *Missouriensis* is a synonym. With

E. MARGINATA and *LINEARIS* we come to the end of the list of the perennial (*E. nocturna*, but both of these species should most certainly be cultivated. *Linearis*, or *riparia*, as it is also called, is a low growing (*E. nocturna* with small yellow flowers, an excellent "front-border" plant. *Marginata*, also called *eximia* or *crispifolia*, is another trailing (*E. nocturna*, producing large white flowers about 4 inches across. It has also convenient suckers for the purposes of propagation, which appear above ground in autumn. It is the only perennial (*E. nocturna* for which slugs exhibit any partiality.

E. TARANIFOLIA, also called *oculis*, is a trailing (*E. nocturna* of biennial duration. It produces flowers something after the manner of *macrocarpa*, but these flowers are, on first opening, of a beautiful pure white, changing, on fading, to a soft pink. When well developed, on a moist, warm July evening they are of an immense size, sometimes about 5 inches in diameter, and they are visible on the darkest nights, which we get at the time when they are blooming at their best. This plant must, of course, be raised from seed and will flower well the first

year if the seed is sown in March in a cold frame. Of the annual (*E. nocturna*,

E. DRUMMONDI is the best. It produces large yellow flowers like those of *Lamarckiana*, and grows about 2 feet high. Personally I find it best to treat this annual as I treat many other hardy annuals—namely, to sow it in the first instance in boxes, and then prick it out like a half-hardy annual, planting finally in the open border, leaving each plant a space of about 18 inches in diameter in which to develop. I confess that this is not absolutely necessary, but I find that many hardy annuals give the best results if so treated.

Sum.—I have left the question of the soil in which (*E. nocturna* grow best to the end, because they seem to be extremely accommodating in this respect. One is generally told that a sandy soil and full sunshine give the best results. Certainly I have found that on my soil, which is a strong loam on a very retentive subsoil, they do extremely well, and further that half shade is by no means disadvantageous in hot weather, when the plants which are fully exposed are producing small flowers and looking very limp. R. C. REYNOLDS NEVILLE.
Graft Coppy, Ramstead Lane, Chichester.

NOTES AND REPLIES.

Flowers for fragrance.—Two annuals that may be sown out-of-doors forthwith are common enough, but cannot be left out of a garden if fragrance is wanted. They are *Mignonette* and *Matthiola bicornis* (the Night-scented Stock). For flower borders both should be sown thinly. The *Matthiola* is not much to look at in the daytime; but at sunset, when its scented flowers open, we forget it has any drawbacks. To get good plants of *Mignonette*, sturdy growth must be encouraged from the outset, and this can only be effected where the seed is sown very thinly.—LEAFHURST.

Carnation Grenadin—All who require choice flowers for cutting in June should grow both the red and the white forms of this *Carnation*. It flowers a month earlier than the ordinary *Border Carnations*, and is invaluable for button-holes, bouquets, and dinner table decoration. The flowers, which are produced in great profusion, are of fine form and deliciously fragrant. It should be treated as an annual, as it makes little or no grass and cannot be propagated by cuttings. The seed should be sown in April, or where no artificial heat can be given in a sunny greenhouse or even a frame in May. If sown in April a temperature of 60° legs. should be afforded, and the seed-pan placed in a shady position. It should also be covered with a pane of glass and a little Moss laid on the glass. Water carefully, and as soon as the seedlings have made two pairs of leaves prick them out 3 inches apart into boxes containing fairly fine loamy and leafy soil. Place them near the glass and shade lightly from hot sun, and as soon as the roots have taken hold of the fresh soil remove the plants to a frame facing south and gradually harden them off. Plant them out in beds or borders—the former for preference—in June in soil containing a large percentage of leaf-mould and wood-ashes. When

planted in mixed flower borders a little of the old soil should be removed and replaced with fresh. I usually plant in pairs. Plant firmly, mulch with old Mushroom-bed or hotbed-mannure, and give a good watering.—CRAMER

COTTAGE GARDEN LESSONS.

THE first illustration in the last edition of "The English Flower Garden" is that of a Devonshire cottage garden, of which the author writes that it is "an artistic garden in its simplest expression." Farther on in the same work we are told that "among the things made by man, nothing is prettier than an English cottage garden," and that "one lesson of these little gardens that are so pretty is that one can get good effects from simple materials." Rigid economy has to be practised by the cottager. No galvanised iron arches, cemented paths, glazed tile edgings and such-like are possible for him. Any alterations and improvements that are contemplated by the occupier of the little plot must necessarily be carried out with the smallest possible expenditure and with such materials as are at hand. A couple of naturally curved or angled Oak boughs from the neighbouring wood, if firmly sunk 2 feet or so into the ground on either side of the narrow

unrivalled as secure retreats for the rapacious multitude of slugs and snails that nightly emerge from their shelter to devastate the garden. In the matter of paths, again, the cottager is restricted by considerations of expense. Carefully-laid and geometrically-arranged tiles and flagstones set in cement are not for him, but a path in front of the cottage porch that will not become sodden in wet weather is a desideratum, and this can be provided in a cheap and homely manner that effectually answers the purpose. Where pebbles are plentiful these are sometimes collected, set on their edges closely together, and rammed firmly into the path, when they form a surface very similar to the cobbled roadways so often met with in country towns and elsewhere, dry to the foot indeed, but somewhat rugged and uneven. A better way is shown in the accompanying illustration, and one that is worthy of being followed in gardens other than those of cottages. Flat stones such as are here seen are easily procurable in most neighbourhoods. These, when obtained, have their edges roughly trimmed with a hammer, and are then fitted together on the path after the fashion of a child's puzzle. When this is done they are firmly basted into the ground with a rammer or beetle, and then form a dry and fairly level

history was, to a large extent, responsible for its straggling and unsatisfactory habit of growth, but that idea has long since been dispelled. What is still more unsatisfactory is the fact that its constitution is almost played out. Of a nice collection of plants which flowered beautifully with me last season, not one of the old stools is alive to-day, although several other varieties in precisely the same position are now growing vigorously, and flower-buds already forming. As I value this plant for hybridising, however, a fair number of cuttings inserted in August last are now doing well. These cuttings were inserted in the open, and left without any covering whatever throughout the autumn and winter. This system of culture is a severe test of the hardiness of the plants perpetuated in this way, and is also the means of giving a more robust character to plants which were previously coddled in frames. The plants in the early spring may not be an interesting to look upon, but each one may be lifted with a goodly supply of roots, and many shoots in embryo just beneath the surface-soil. From plants raised in this way and planted direct from the cutting-bed to their flowering quarters, beautiful tints subsequently and quickly develop. A J. Rowberry has in recent years been crossed with many other plants possessing a good habit of growth, and the resulting progeny has been a distinct improvement.—D. B. CRANE.

Plants for small front garden.—I have a small front garden about 14 feet square which faces the west, therefore it only gets the afternoon sun. What kind of flowering plants would you recommend me to plant that would bloom this summer and look well? When and how should I plant them? I am particularly fond of a good Rose, but am afraid that in such a position Roses would not bloom.—E. E. L.

[We regard a western exposure, in so far as summer-flowering plants are concerned, as a very good one, and for so small a space no plant equals Tuberosa Begonias, for these begin flowering at midsummer and continue till cut down by frost. You can now obtain the tubers of these in the dry state, and with the ground well prepared by deep digging and the addition of some manure, plant the tubers 1 inch deep, covering each one with sand. The middle of April will be quite soon enough to plant, and if good roots are secured 9 inches or 12 inches apart will do quite well. When the Begonias are planted sow a few seeds of Mignonette over the bed to flower first and be pulled out when the Begonias require the room. It is too late to plant a Rose now, but you may plant one in autumn and it should do quite well.]

Eremuri from seed.—I was much interested in your account of *Eremurus robustus* grown from seed, which appeared in a recent issue. I have been a regular reader of GARDENING ILLUSTRATED for the last ten years. I mark each week the thing which most interests me, then lend the week's number to anyone in the village who cares to read it, and I am pleased to say there are many. At the end of the year the numbers are bound, and I find them very interesting for reference as to success or failure in anything I have tried. I am wandering away, I find, from *Eremuri*, on which I would like to give you my experience. In the autumn of 1901 I bought three rather expensive, but fine roots of *Eremurus robustus*, and planted them in good soil on a west border, mulching them with light, strawy manure in winter, and keeping the sun off them in spring on frosty mornings. All three looked very healthy, and one had a fine head of bloom. When the bloom was partly over I cut off the top half and ripened the remainder of the seed, which I sowed in sand and leaf-mould on Sept. 20, 1901. Nothing appeared, so I put an extra thick coat of partially rotted leaf-mould, covered with a piece of wire to keep the blackbirds from scratching it away, and to my joy on March 13 of this year dozens of tiny plants appeared. I shall now treat them as advised in your article, but I must say that eight years before blooming is rather a long time to look forward. However, unless one has a very long purse, this is the only way to procure a large number of beautiful and expensive plants, and also by far the most interesting.—G. M. SANDARS, Lincoln.

Passiflora corallina.—I have one of the above planted outside. It is three years old, and has not flowered yet. Please say when it should be pruned, and to what extent to encourage flowering this year? It covers half the front of the house.—H. B. SWINERT.

[If your *Passiflora* is in a sunny spot, it



A cottage garden front. From a photograph by W. Rossiter, Bath.

path, and securely lashed together at the top, will form a lasting archway over which a climbing Rose or creeper may be trained. For the verge of the path rough stones of irregular shape are sunk half their depth in the ground. No money or ingenuity can provide a more artistic and satisfactory edging than this of rough stone for any garden, however large or small. It has no formality of outline, such as is so painfully apparent in all other edgings, even when newly set in position, for each stone has its own individual form and character, while there is no site so admirably adapted to the successful culture of such plants as Saxifrageae, Sedums, members of the Dianthus family, Arabis, Aubrietia, Alyssum, dwarf Phloxes, and numerous other genera of rock plants of lowly growth, as that provided by a rough stone edging, with the many deep and narrow crannies it affords for the roots to penetrate. As the several subjects grow they spread a veil of flower and foliage over the stones, here invading the path a trifle, here separating to allow the many-angled top of rough stone to stand out from their abundant leafage and blossom, and presenting a delightful picture of varied form and colour to the eye. Margins of glazed tiles are an abomination until they are hidden from sight by living growth, and Box edgings are still worse, for nothing can ever break the stiff and formal lines that at once offend the artistic eye, while they stand

pathway. One attraction of such paths is the facility they afford for the introduction of dwarf plants into the interstices between the stones. Mossy Saxifrageae, creeping Sedums, *Erinus alpinus*, and many other little plants will edge the stones with low cushions of green, and even annuals will spangle the path with flower. I remember once seeing in such a pathway many plants of blue *Lobelia*, sprung from wind-blown seed, flowering at a height of about 2 inches, and making a bright tracery on the white stones.

S. W. F.

Spring gardening.—One of my prettiest spring borders here is made solely of Giant Polyanthus. I bought the seed originally, but picked out the very best and most free-flowering plants and divided them up. The colours are dark yellow, pale, and white, and as I keep these plants for seed, and as far apart as possible, they come pretty true. The seed is sown immediately it is ripe, comes up readily, and in spring the seedlings are transplanted into beds in some shady corner, and in autumn, when the bedding-out plants are past, the ground is manured and the Polyanthuses planted. Seedlings are by far the best.—CAUTION.

Tafted Pansy A. J. Rowberry.—The criticisms passed upon the habit of this plant during the year after its distribution have since been amply justified. It was generally acknowledged that excessive propagation in its early

should have flowered before this time. Pruning may be carried out at once by cutting away any weak and entangled shoots, leaving the principal ones regularly distributed over the front of the house in order to present a uniform appearance as the summer growth takes place. The finest effect is produced and the greatest display of blossoms obtained when the principal branches are secured in position and the minor ones allowed to dispose themselves in a loose and informal manner.]

Poor lawns (M. E. T.)—It is very evident that your lawn No. 1 has very poor, hungry sub-soil, and it will prove but a very temporary advantage to you to pare off the present bad Grass and sow it without manuring the ground. If, after paring off the Grass and weeds, you could top-dress with well-decayed manure, fork it in several inches deep, then have the ground evenly trodden all over, well levelled with the aid of a coarse rake, and then sown with good pasture Grass suitable for your sandy soil, you might then get a good permanent lawn. If you cannot give a dressing of animal manure, then get and dress the ground before forking it up with some basic slag, at the rate of 6 lb. per rod. If you add a heavy dressing of root, so much the better. Ask your seedsmen for Grasses suitable to your soil. Sow so soon as the ground is ready; well rake it, and well roll it. Keep off birds for a few days until growth takes place. That should be in about 10 days. So soon as the Grass is 3 inches in height top-dress with sulphate of ammonia, crushed fine, at the rate of 3 lb. per rod; that will soon wash in and give the Grass a good start. In six weeks it should be ready for mowing. That at the first should be done with a scythe, but later use the lawn mower. To lawn No. 2 give at once a dressing of basic slag at the rate of 4 lb. per rod. That becomes soluble slowly, and is best applied earlier. However, apply it now, and then in May give a dressing of sulphate of ammonia, same as advised above. No doubt a top-dressing of fine sifted soil at once strewn over the lawn would help it. Still, in this case, also, it is evident the soil is poor and needs feeding.

EREMURUS.

AMONG the many introductions of late years to our hardy plants few can surpass the lovely Eremurus, and the moderate price at which some of the species are now quoted should prevent none from adding a few at least to their collections. There are three species which I would strongly recommend—viz., *E. robustus*, *himalaicus*, and *Bungei*. *E. robustus* is the tallest and most handsome. The flower-stems in the accompanying photograph were nearly 9 feet high, 4 feet being covered with delicate flesh-coloured blossoms, producing a charming effect and a stately grandeur unequalled. *E. himalaicus* has white flowers, which are very handsome, but it does not grow so tall. It is, however, easy to grow, its only fault being its liability to be damaged by late frosts, as it is the first to push up its strong but tender growth. I shall never forget my first sight of a large group of *Bungei*—the effect of a large number of spikes of brilliant gold, with a dark Yew hedge as a background, was superb. This species is later in flowering—viz., July, and is altogether smaller than the preceding, attaining a height of not more than 3 feet to 4 feet. The spikes are of a beautiful chrome-yellow, with long deep orange stamens; but what adds so much to its beauty is the peculiar effect produced by the withering of the flowers: they assume a pale-brown, which quickly darkens in colour until almost a black basis formed, which, shading from the upper part

of the flower, still a bright yellow, creates a most striking effect. There is nothing to be afraid of in their

CULTURE.—Strong roots planted in autumn in an ordinary deep border with good soil, containing plenty of manure and well drained, will flower the following summer. In planting great care is necessary, as the big fleshy roots, resembling a large turnip, are very brittle. Underneath the crown I put some clean sand and a handful of charcoal, covering the roots with soil, so that the tip of the crown is just visible. In a sunny position they quickly increase, doubling their crowns each season. Plants with three crowns last season have six now. These, if carefully lifted in the autumn, can easily be divided, and if replanted as described take no harm, and flower the following summer. The only precaution necessary is protection against slugs and early spring frosts.



Eremurus robustus. From a photograph sent by Mr. Ernest Ballant, The Court, Colwell, Malvern.

This is effected by covering the crowns with cool-ashes and a little soot in autumn and some slight protection when early spring frosts are feared. I find an old champagne bottle straw envelope most suitable and effective. In case of long, severe frosts some covering is advisable, and if these small matters have attention the trouble will be amply repaid. There are many other species. E. B.

The Court, Colwell, near Malvern.

Photographs of Gardens, Plants, or Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize Half a Guinea.

The Prize Winners this week are: 1, Mrs. F. Hughes, Dalchoolin, Craigovan, Co. Down, for *Michasmas* *Discois* in a vase; 2, Mrs. Deane, Fairfields, Fareham, Hants, for *Opuntia Mammula* on brick pillars.

ROOM AND WINDOW.

FERNS IN AND FOR THE HOUSE.

SOME Ferns are much better adapted to this purpose than others. If the tenderer ones are so used, it is not because those which are hardier are not plentiful enough, for in most cases the latter are more easily grown, and can also be bought more cheaply. Nor can it be said that the hardier ones are less beautiful on the whole than their more delicate relations. Oftentimes it is not, however, the plants themselves that are at fault, but rather the treatment which has been accorded them. For instance, if they have been grown on rapidly in too much heat and moisture it must not cause any surprise if they do not fail to give that amount of satisfaction which might otherwise be expected from them. Ferns are frequently allotted positions where even *Geraniums* would not be stood. These positions may be where too much shade exists, or where too far removed from the glass, both evils causing a weakly and attenuated growth with less substance in the fronds. These plants cannot, of course, be expected to do good service in a dry atmosphere or where the circulation of air is at times sharp and keenly perceptible. I have lately been noting the growth of some plants of *Pteris*. The greater portion of these has stood in a single line along the front of a Peash-house, the front lights of which open and are about 2½ feet in depth. Here these plants are fully exposed to the sun every day, the growth being both robust and dense, just the durable material for the purposes now under consideration, with, of course, a little hardening oil, which is not nearly enough considered, more particularly at this season of the year with the growth none too hard. The other plants are in another house and further removed from the glass; consequently more in the shade, because the roof is covered with climbers. Here the same kinds of Ferns do not thrive so well, yet some might prefer the position as the better of the two for Ferns through fear of too much sunshine in the former instance. It may answer all very well as far as appearance goes for the time being to grow Ferns in a humid atmosphere and shady house, so long as they are not required to be used in other positions not so congenial to them. Thus eventually it is the plants that have to bear the blame, or else the place in which they are placed. Another detriment to Ferns in and for the house is that of

OVERPOTTING, which is a great mistake. A good hood of fronts upon a plant with plenty of roots working through all the soil has much the better chance of resisting effectually any change. Instead of overpotting, let the work be done thoroughly well when it is done, potting firmly, at the same time using the soil of as good a quality as it can be obtained. If the work of potting is done loosely, the roots rarely take kindly to the surface soil, the result being that this becomes sour or is washed out of the pot in watering. By good soil I do not mean that which is rich or productive of a rank growth; too much peat or leaf-soil or artificial or other manures would each have this tendency, whilst leam has not. In most cases I would use a proportion of peat, one-third to two-thirds of loam with sand in addition being a good ratio. But some may say, why not employ manurial stimulants, naing as an argument in their favour that tradn growers do so? To such my reply is that the two objects in view are widely divergent. Those who grow for sale wish naturally to push along their plants as quickly as possible, and that in as presentable a condition as can be attained, but this does not represent durability afterwards. The proper place for and use of such aids to growth are when the plants have become pot-bound. Their use then is commendable, and is a means of saving the over-potting previously discouraged. Of course, plants that have filled their pots with roots take more water, but this is the very thing we like to see them do. If a plant will not take water so frequently as it should do it is a sure indication of something being wrong, the results of which will quickly follow. It surely should not be any trouble to give a little closer attention to watering in such cases. When Ferns, that are more pot-bound than usual are used in the house it is a good plan to

safeguard any contingency of injury from drought by placing a saucer under the pot; whilst if the pot stands in a vase or jardinière, some Moss around it and upon the surface is another good protection to the roots. Another assistance to Ferns at such times is that of watering them with rain-water as contrasted with that which is hard. If standing in the front of or close to a window, it is not the sunshine which will do the plants so much harm as sharp currents of air. For instance, if the window be thrown widely open, it is better to remove the plants to another part, or drop them down upon the floor for the time being. Where goes the lighting medium, there is rather more risk of injury; but the plants, if removed to a good distance from the lights, will scarcely feel the effects of it.

The following may be taken as a good selection of Ferns for the purposes under discussion. Of the Maidenhaire, *A. canestum* is still the most reliable. Of other forms of *Adiantum*, *A. pubescens*, although a very old variety, is yet one of the best. The *Aspleniums* supply several useful varieties, *A. bulbiferum*, *A. dimorphum*, *A. laxum pumilum* and *A. lucidum* being all good kinds. *Cyrtomium falcatum* is one of the hardiest. Of the *Davallias*, *D. canariensis* and *D. Mariani* are two of the best. *Loetrea patens* and *Phlebodium aureum* are both hardy Ferns. *Nephrolepis pectinata* and *N. tuberosa* are the best of this genus. The *Pteris* family provides us with several of the best for the purpose; these embrace the forms of *P. cretica* (c. *nobilis* and c. *Mayeri* being two of the finest) and of *P. serrulata* (s. *cristata* and *s. cristata compacta* being chosen); whilst *P. tremula*, with its increasing forms, deserves special notice. Of Ferns not so reliable are the many forms of *Adiantum*, more especially those with the larger pinnae, comprising chiefly the stove kinds. The *Aspleniums*, which require heat, are not reliable, nor are the same, on the whole, of the *Davallias*. The *Lomarias*, the *Gymnogrammas*, most of the *Nephrolepis* and the hothouse forms of the *Pteris* family will not withstand adverse treatment so well as many other kinds. F.

ROSES.

SEASONABLE NOTES.

Now is a very busy time for the Rose grower. If he has any weakly plants there will be a desire to make up the gaps. It will never pay anyone to nurse up weak Rose plants when good specimens may be procured so cheaply. I do not care for the plan of just digging out a hole where there is a failure, and inserting a new plant in the position; but one cannot replant the whole bed at this time of year, so that this mending up becomes necessary. The evil may be lessened by taking out two or three shovelfuls of the soil, placing some well-decayed manure in the bottom, then returning part of the soil so that the fresh manure does not come into immediate contact with the roots. The removal of more soil than is really necessary will assist the water to pass away freely. It is the stagnation which follows heavy rains that is so injurious to Roses planted among permanent plants.

TEA ROSES planted now succeed admirably. They should be on the Brier. Prone the growths back before planting close to where budded, leaving two or three eyes on each shoot. This pruning back of Tea Roses applies also to other tribes planted out now, save the Rambler and other very vigorous growers. These may be pruned back to half their length. I have had much success with spring planting of Tea Roses even as late as the middle of April. A very important matter is to prepare the ground previously by ridging. Let this be done before Christmas if possible. The frost and pulverize the soil so well that when the time comes to plant it is in the best possible condition, and the plants start at once to root into this congenial medium. Some well-decayed manure is spread on the ground prior to ridging, then, at planting time, each plant receives about a handful of bone-meal, which is well mixed with the soil. It is surprising the growth good, healthy plants will make by the autumn. By planting thus late a crop of blossom is obtained just when the first crop of permanent plants is waning. Where beds of Roses are pegged down,

a few dwarf standards interspersed will assist to relieve such beds. These may be planted now. If the Roses are light in colour, then let the dwarf standards be of a good red or crimson, and *vice versa*. By dwarf standards I mean such as have stems from 15 inches to 20 inches. In warm localities Tea Roses, especially the thin varieties, such as Marie Van Bloutte, Mme. Falcot, etc., open very early, sometimes too early, especially for those who exhibit. Where a north wall is available and the soil can be made good, I would advise the planting of a few of this class upon such a wall with the object of retarding the blossom. Let anyone try Wm. Allen Richardson on such a wall. The colour is rich and beautiful, provided there be good root accommodation.

DWARF STOCKS for budding should be planted at once on well-trenched land. Seedling Briars are best planted with an iron dibber, taking great care that the soil is well pushed down to the ends of the long roots. That is to say, there must be no vacuum after the plant is fastened. Manetti and Brier cuttings are best planted by making a shallow cutting along a line, then a led will hold the stock in position whilst the soil is placed on to the roots. Firm planting is very necessary, but do not attempt the work if surface is wet and sticky. Better far wait a while. I have planted in the middle of April with great success. By planting rather shallow the bud may be inserted near the roots, then if plants are wanted for potting a much better plant is obtained. Manure, where it has been on the surface since November, should be very lightly turned in. Rather than risk injury to the roots by digging too deeply among the plants I prefer to half bury the manure, then cover the manure not hurried with some fine soil which usually abounds in every garden. That from the potting shed would do. Where plantations of Roses appear to require assistance in the shape of some good fertilizer, now is the time to give a dressing of basic-slag, at the rate of about 5 cwt. to the acre. Saw this broadcast and its influence will be manifest in robust growth and dark green foliage. Tea Roses may have a dressing of coot during this month, but I should prefer the above mentioned manure.

PRUNING ROSES—So much has been written upon this subject that the novice hardly knows which advice to take. If he be an exhibitor he must prune hard, if otherwise I would counsel moderate pruning. By moderate pruning I do not mean just shortening all the shoots. The thin twiggy wood, not so stout as a straw, when laid upon Hybrid Perpetuals should be discarded. The growths, to give good flowers of this tribe, should be certainly as thick as a lead pencil, and some kinds even as much as an inch or an inch and a half in circumference. These latter growths, when well hardened, are the kind to retain. Shorten such to from 9 inches to 18 inches, according to the vigour of the variety. Only one such growth on a plant would be preferable to the thin wood alluded to above. Do not be afraid to cut right down to the ground some of the growths more than two years old. If this be done and the plants are healthy, then fine new shoots spring up for next year. Teas, Hybrid Teas, and China Roses, if they have escaped injury by frost, should be very sparingly pruned; this can be done at once. Thin out the heart of the plant, but merely remove ends of the remaining growth. That is for decorative Roses. If, however, Tea Roses are wanted for exhibition, then cut back hard to good plump eyes. No matter how hard such are pruned they will flower, unless they be what are known as climbers. Roses, such as the Austrian Briars, Blairii No. 2, Rambler Rose, the many beautiful single species, and Penzance Briars, require no pruning, save just cutting away the merest ends. If the shoots are too crowded, then one or two of the oldest may be cut clean out; in fact, it is a good plan to do this every year to encourage new basal growth. Those fine 10-foot or 12-foot growths made by Crimson Rambler last summer must be left intact, and a glorious profusion of blossom will follow, more especially if the growth is bent downward or arched over, like the Wild Rose in the hedges.

ROSE HEDGES may require overhauling. Where bare towards the base cut down a growth on each plant in order to thicken the hedge. All dead wood should be removed. Some of the strong growths instead of being cut back may

be laid in horizontally to blossom, then be removed. Do not forget to give these Roses some manure, both solid and liquid, and keep free of weeds.

ROSE CUTTINGS inserted in autumn have been almost lifted out of the ground by the frost. They should be pushed down at once, or many will fail to grow. Anyone having a warm greenhouse, and who can procure some growths that have just flowered, may strike a fine lot of cuttings at this season of the year. A box with glass cover stood on the hot-water pipes makes a fine preheating-frame. The cuttings should have good, healthy foliage attached. Insert in large 60 pots, using sandy compost with plenty of drainage. Plunge pots in some leaves and keep case close. Sprinkle foliage each morning. A bottom temperature of 60 degs., with a top one of 50 degs., will root Rose cuttings admirably. Remove the covering each morning. Shade from mid-day sun by placing a piece of newspaper on glass. When the roots are about 1/2 inch long, which they will be in about four or five weeks, pot off into thumbs or small 60's and keep in the same temperature. When roots show through the pot shift into next size and gradually harden off prior to planting out in June.

FORCED ROSES—Where Roses are being forced under glass, those showing bud should have a light sprinkling of some good artificial manure, pointing this in with a sharpened stick. Much care is needed just now regarding the application of water, or a deal of mischief will follow. Plants that were top-dressed in autumn are far ahead of others that were repotted. Roses for early forcing should be repotted at midsummer if they need it. Where the plants are grown cool, then autumn is perhaps the best time for repotting, excepting for Tea Roses. These should always be repotted after first or second flowering. Plants potted in autumn and grown outdoors may now be pruned and placed in cold pits. They will flower admirably in such pits quite a month before those outdoors. Pot-Roses grown for exhibition should be tied out at once if this has not already been done. Put a string under rim of pot, and gently draw down the branches until the most approved shape is obtained. The advantages of this tying out are manifest at foliage develops.

STOCKS BUDDED LAST SUMMER should be cut back at once to the inserted bud, excepting in the case of standard Briars. These have 3 inches or 4 inches of the Brier retained above the bud to assist in drawing up the sap. This portion of Brier is removed later on. Sticks flattened on one side should be tied on to the top of the Brier in readiness to secure the new shoot as it grows, and sticks or Bamboo-canes placed near the dwarf-budded stocks. The ground, too, should be tamped in, or thinly dug over, to admit air and sun. Do not uncover the buds on the dwarf plants just yet. I refer to such as have been earthed up.

LABELS require looking to. Half the interest of a Rose-garden is lost if there are no names. Nothing can surpass the Acme label. If fastened on the plants with wire sea that the wire does not get twisted tightly. Allow it to hang loosely, or the consequences will be serious. ROSA.

Powerfully-scented Roses—Kindly give me the names of about a dozen Rose, powerfully-scented varieties, including Teas.—T. H. R.

[The Teas must be swept from the list if you seek for "powerfully scented" kinds, for the fragrance in these is of a delicate kind, yet often most refreshing. Some of the best of fragrant Roses are La France, General Jacqueminot, Horace Verost, Jean Liabaud, Gustave Pigeaneau, Chas. Darwin, Dwyager Duches de Marlborough, Mme Gabriel Luizet (not "powerfully fragrant," but exquisitely sweet-scented), Maréchal Vaillant, Mrs. Harkness, Augustine Guinoisseau, Lamarque, Gloire de Dijon, Maréchal Niel, and Triomphe de Rennes.]

As many of the most interesting notes and articles in "GARDENING" from the very beginning have come from its readers, we offer each week a copy of the latest edition of either "STOVES and GREENHOUSE PLANTS," or "THE ENGLISH FLOWER GARDEN," to the sender of the most useful or interesting letter or short article published in the current week's issue, which will be marked thus "A."

FRUIT.

FRUIT-TREE ARCHES.

It will be acknowledged that fruit-tree arches are not very numerous, and least of all in the flower garden. How often, for instance, one observes a dividing line in the shape of a fence or hedge, with a gate to shut off, as it were, the space reserved for fruit-trees and that set apart for flowers? I am rather inclined to think, however, that in some quarters this rule is now being relaxed, for in gardens I have visited there seems to be a disposition to introduce dwarf bush fruit-trees in borders where hardy flowers are grown. A year or so since I called at a place where Peare and Apples had been trained on arches over the paths, and at the time of my visit the Worcester Pearmain and other varieties were objects of beauty, clusters of fruit vying in brightness with the gay colours of the flowers beneath. Occasionally

If, however, good Grapes are expected, the same care and attention as accorded to Vines under glass must be given. A south wall or board-fence is the best position for them, as there they receive a maximum amount of sun, which is indispensable for the production of good Grapes. The formation of the border must first be considered, and as the roots of the Vines will probably occupy it for many years, it must be prepared with no niggardly hand. Very rich soil, however, must be avoided, as it encourages too strong and sappy a growth. Good turfy fibrous loam three parts, and one part mortar or plaster refuse, charcoal in pieces the size of Walnuts, wood-ashes or burnt garden refuse, and bone-meal or horn-shavings, well mixed together, answer well. Where loam cannot be obtained good garden soil may be substituted, and rather more bones or horn-shavings added. Three feet to four feet in width, and 2½ feet deep, are suitable dimensions for the border, though when the Vines are

the wall or tie them to the trellis, as the case may be, allowing plenty of room for the wood to swell, and stop the laterals at the second leaf, and again when another leaf is formed, and allow no more growth afterwards. The main rod may be allowed to extend unchecked to the top of the wall or fence. Keep the border constantly moist, renewing the mulching if the summer is hot, and if growth is not as strong as desirable, give a good soaking with diluted liquid-manure several times during the summer. Syringe the foliage on fine afternoons with water that has been warmed by the sun—this will keep red-spider at bay and otherwise assist the Vines. In autumn, when the foliage commences to turn yellow, reduce the supply of water to the roots, but by no means allow them to get dry, or the eyes will not swell to the normal size. If the border can be covered with bracken or stable-litter to a depth of a foot in winter, so much the better.

The following January cut the Vines back to



A natural fruit tree archway in a London park. From a photograph by G. A. Champion.

old trees are left for a number of years, similar to those in our illustration, their boughs extending over the pathway like sheltering arms, quaint, perhaps, but still partaking somewhat of the picturesque. To my mind, there is a quiet beauty about old trees, which seems to deepen as the years go on, and old fruit-trees are no exception to this. Here, as is shown, we have apparently old trunks and stems, about which there is an abundance of flowers and leafage, informal but charming. One must not forget, too, that before the time of leaves the blossoming fruit-trees are always attractive.

WOODHARTWICK.

OUTDOOR GRAPE CULTURE.

Outdoor Grape culture has of late received renewed attention, and there is every probability that it will again become general. As a rule, the culture given is very indifferent, many seeming to imagine that almost any kind of soil and treatment is good enough for outdoor Vines.

planted against a dwelling this width cannot always be allowed. The border must be drained by placing 6 inches of broken bricks in the bottom, these being covered with sods, grass side downwards, to prevent the soil mixing with them. The soil should be in a semi-dry condition, as borders made of wet material soon become sour, and the Vines do not root in it freely. March is the best time for planting, but the Vines should be cut back to within a foot of their base in January. If pruned in March they will probably bleed badly. After pruning the wounds should be dressed with styptic to prevent bleeding. When planting shorten all shoe-sole-like roots and carefully spread out the rest, covering them with 3 inches or 4 inches of the finest of the compost and making it very firm, finally mulching them with short litter as a protection from frost. One, two, or three rods may be allowed to each Vine, according to the space at command, but they should not be closer together than 2½ feet.

A growth proceeds nail the leading shoots to

within 3 feet or 4 feet of the border, and remove all laterals, taking care to preserve the eyes at their base, and early in April uncover the border and give it a good watering. The Vines may be allowed to carry three or four bunches each, according to their strength. The laterals should be evenly disposed 18 inches apart on each side of the Vine-rod, the surplus ones being rubbed off when quite small. This year the main rods may be topped when they have grown 6 feet, provided they are strong, otherwise they must be allowed to grow to the top of the wall, as in the previous year. A second stopping will not be necessary. The laterals must be stopped at the second leaf beyond the bunch, and not allowed to grow any more, they must also be nailed securely to the wall. Water and syringe as advised for the first year, and apply a mulch of short manure to the border in May. Thin the bunches when the berries are the size of small shot, taking care not to leave too many berries, or they may damp off when ripening if the weather is wet. The new hardy black Grape,

Reine Olga, which received an award of merit last autumn, will probably be the most commonly grown in the future. The bunches and berries are large, the latter colouring beautifully, and being of delicious flavour. Black Cluster, Old White Sweetwater, and Miller's Burgundy are all good open-air varieties.

SUFFOLK.

NOTES AND REPLIES.

Yellow Gooseberries.—Yellow Gooseberries are very popular, owing to their attractive appearance, and they invariably realise good prices. The number of varieties has of late greatly increased, and some of the largest, when grown as cordons against sunny walls or board fences, are exceedingly handsome and of delicious flavour. By the way, the plan of growing Gooseberries as cordons is now very common, and I can strongly recommend it to amateurs. Early Sulphur is still the earliest yellow variety. It is of medium size, very juicy, and exceedingly rich and juicy, and no garden should be without a tree of it. Golden Drop is a very showy variety of good size and an abundant bearer. Champagne is a deliciously flavoured variety, a good bearer, and unsurpassed for wine. Golden Lion is another excellent variety and unsurpassed for dessert. The colour is brilliant yellow. Of the larger exhibition sorts, Leveller is perhaps the most showy, being of great size and handsome form. It is a prodigious cropper and the flavour is excellent. Drill, though an old variety, is still indispensable. It possesses a very hardy constitution and seldom fails to fruit well. Added to this the quality is first-rate. Highlander is another grand variety, and indispensable where the fruit is required for exhibition. Leader and Trampeter must also be included, their all-round qualities being all that can be desired.—J.

Fruit prospects.—As we have thus far had remarkably little sunshine, the first buds are as firmly rolled up as they were at Christmas, and from present appearance we shall have a late spring. On looking round the trees and bushes I find there is likely to be a great wealth of bloom, and if we get no exceptional frosts in May, there ought to be a good crop. As last year was generally a very prolific fruit season, many people seem to think that this year must be a poor one, but from many years' observation I do not think that this must follow. There is no doubt that when fruit-trees are allowed to carry all the fruit that sets, then the tree gets so exhausted that it takes a year or more to recover. The notion has got a firm hold that some kinds of fruit are alternate year croppers, whereas if the crop had been thinned so that the tree could have perfected its crop, and also the buds for next season's crops, there would be a crop every year. I have just examined my Apple and Pear trees, and I find that those that carried full crops last year are looking best for bloom this year. On well-managed trees there should be no lack of spare buds that only need developing into fruit-buds. Pay attention to their needs in the autumn, and even before one crop is gathered, the work of feeding the roots for the next crop should start. While the soil is warm is the time to soak the roots with manure-water to plump up the buds for next season.—JAMES OROUN, *Gosport*.

Muscad Grapes falling.—I should feel obliged if you could tell me the cause of my Grapes going like the enclosed? They are white Muscads, and for the past two years they have given very little fruit—about two bunches this year and the same last. There are about forty bunches, some the same as those enclosed. I send also two leaves to show that the Vine seems in good health. The Vine is rather old, but always cropped well till last year. These are from the young wood.—F. M. CARROVER.

Evidently your Vine roots are not healthy, and there is a suspicion of their being in ungenial quarters. You do not say whether the berries are an inside or an outside one; but the roots are the chief cause of complaint. Vines, particularly Muscads, when forced early, the roots in cold soil, and not in a healthy condition, produce bunches similar to yours. Early forcing aggravates the evil very much. The leaves sent are of a healthy colour, but they are extremely deficient of substance, pointing to debility from a weak root action. You should improve the soil conditions so as to quicken the root growth, and encourage them nearer the surface. Preparing you have given a top-dressing of turfy loam, which is necessary every winter, you would do well to apply a coat of cow-manure some 2 inches

in thickness. This has a wonderful effect on weak Vines if their roots are near enough the surface to benefit by its pressure. Give also liquid manure diluted each time water is needed. A dressing of bone-meal would do much good, particularly if the soil should be deficient of lime. Hard forcing should be stayed, and a more natural course followed at least for a season or two, so as to give the Vines an opportunity to recoup some of their lost vigour. Are you satisfied that the burler has a sufficiency of water in the summer? There are so many causes that are likely to invite debility, that, without some knowledge of the circumstances, we could not define the most likely ones. Muscads are particularly liable to give tendrilled bunches, such as those you send, when there is an absence of proper nutriment in the soil, and the growth of the Vine is weak and indifferently ripened. Remove these causes by more generous treatment, and start your Vines later—say by the 1st of March—and you may find much better returns. Old Vines are sometimes improved by cutting their rods down to the joint just below the lowermost or first wire of the rod trellis and turning up a young rod; or you might try extension by increasing the number of rods on some Vines, removing some of the existing ones to make room for the corresponding number of new rods introduced. An example such as this, with healthy roots, sometimes proves most satisfactory.]

INDOOR PLANTS

THE OLD DOUBLE WHITE PRIMULA.

In a general sense this is not an amateur's plant, though there are cases where it may be fairly well done. In the most experienced hands this plant will go wrong occasionally, though the mischief can usually be traced to careless watering. Nevertheless, when well done few plants are more serviceable to the gardener from early November up to April for supplying cut-flowers or planting in vases in the mansion, and I use them with good effect on the dinner-table. Those who have a stock of this cut-and-come-again plant should at once set about mounding them up with a mixture of finely-sifted loam and leaf-soil, chopped Sphagnum, and a good percentage of silver or river sand, first trimming off the lowermost leaves. Should there not be much space for this top-dressing it is a good plan to drop the plant into a size larger pot, so that room is left for the soil. Keep this fairly moist by sprinkling each day with a rose on the can, and from now onwards a slight shade will be necessary, and the plant can be stood in a cold-pit or frame, but within a foot of the glass, or the leaves get drawn. In about six weeks the plants should be fit to split up, taking every care of the fibre-like roots attached to the young offshoots, avoiding the centre growth of each plant, as I have found this does not grow away so kindly as the outer growths. For potting, use a similar soil as advocated above, except the Sphagnum. Pots 2½ inches to 4 inches in diameter will be large enough, not pressing the soil too firmly. Water in, and place in a frame or pit that has just a slight bottom-heat, though mine generally go straight into a cold-frame. Keep close and well shaded from the sun for a fortnight, lightly bedewing overhead with the syringe on bright mornings. As soon as growth starts afresh give a little ventilation, when, if all goes well, they should be ready to put into the pots they are expected to flower in towards the end of May. These need not exceed 5½ inches in diameter, as good decorative stuff can be grown and flowered in sizes less even than this, as will be seen by the plant I forward you.

The soil for this final potting should consist of three parts of fibrous loam to two parts of leaf-soil and finely sifted peat, a good percentage of sand, and a fair sprinkling of well broken up charcoal. Though I dislike using much manure of any kind in the soil, last season I added a 6-inch petrol of well powdered deer droppings to each bushel of soil, and the plants certainly profited by it. The plants thrive well in cold-frames during summer, carefully shading from ten o'clock up to four p.m. if the sun reaches them up to that time, and do not water indiscriminately at any time, affording plenty of air and space and keeping near to the glass. Towards the middle of October the whole batch

should be removed to a shelf in the greenhouse, when the trusses of bloom will soon push up. By the end of November the plants should be a perfect sheet of bloom, with stout flower-stems. There is supposed to be a large-flowered variety, grandiflora by name, but I consider it is more a matter of culture than ought else. When watering during winter avoid pouring it into the centre, and shield damping set in dust with powdered charcoal.

J. M. R.

[With the above notes was sent a beautifully grown plant, literally laden with blooms of fine size and substance, the foliage quite hiding the pot. This, as "J. M. R." says, is one of the most useful "cut-and-come-again" plants we have. It used to be well grown many years ago in the R.H.S. Gardens at Chiswick, the plant being increased in the way recommended by our correspondent. We remember that a batch of double varieties in various colours, raised by the late Mr. Gilbert, of Birghley, was grown at the same time, but they did not keep up the succession of bloom that the "old double white" did, and we doubt if they are now in cultivation.—Ed.]

TREATMENT OF AFRICAN BULBS.

I was much obliged by someone telling me the cultivation required for the following South African bulbs, the names of which I give: *Bulbine pugioniformis*, *Watsonia O'Brienii*, *Wachenborfia paniculata*, *Trichonema*, *Satyrium*, *Veltheimia*, and *Hypoxis stellata*.—ANN.

[*Bulbine pugioniformis* is a pretty little bulbous plant, with narrow leaves and clusters of yellow blossoms. *Watsonia O'Brienii* (according to the latest classification the correct name of this plant is *Watsonia iridifolia*) is a charming plant, a good deal like a slender-growing *Gladiolus*, with blossoms of the purest white. *Wachenborfia paniculata* bears from three to five golden-yellow flowers on a spike a foot or more in height. It usually blooms in the spring. *Trichonema* is now included in the genus *Romulea*, a pretty class of small-growing bulbs, most of which have flowers of some shade of rose or yellow. *Satyrium* is a group of terrestrial Orchids, most of which have large, fleshy leaves that lie almost flat on the soil. The different species have white, pink, or yellow blossoms. *Veltheimia* belongs to the Lily family, and consists of only two or three species. The best known is *V. viridifolia*, with deep green unimbricate leaves from 6 inches to a foot long, arranged in a vaseform manner. The flower-spike, which reaches a height of 12 inches to 18 inches, is terminated by a spike of tubular flowers, which in shape and arrangement suggest some of the *Kniphofias*, but the colour is a kind of reddish-rose. *Hypoxis stellata* forms a tuft of hairy Grass-like leaves and starry bluish-white flowers. *Hesperanthe falcata* is nearly related to the *Ixias*, with flowers brownish outside and white in the interior. We cannot find *Antholyza nervosa*, but the *Antholyza* are a good deal in the way of *Montbretias*, but bolder growing. Most of them have flowers of some shade of scarlet or yellow.

None of the above-named bulbs are hardy, but all require the temperature of a greenhouse—that is to say, during the winter a minimum of 45 degs. As your bulbs have been out of the ground for some time they should all be potted without further delay. With the exception of the *Satyrium* the same kind of soil will do for the whole of them. Equal parts of good yellow loam and well-decayed leaf-mould or peat, with half a part of sand, all well mixed together, will form a suitable compost. If the loam is of a lighter nature, less peat or leaf-mould must be used. The pots employed will, of course, depend upon the size or number of the bulbs, but in any case they must be effectually drained, and when the potting is done a little water may be given to settle the soil in its place, after which the soil should be kept slightly moist till the bulbs begin to grow, when an increased supply must be given. After the bulbs flower and show signs of going to rest, less water must, of course, be supplied, and when thoroughly dormant they should have a period of absolute rest. The *Satyrium* needs a more open soil, such as good fibrous loam and peat in equal parts, with a liberal sprinkling of sand. During the resting period they must be kept on the dry side, but not too much probed. For these the soil should be broken up into small nodules by hand.]

THE GREAT INDIAN DODDER (*CUSCUTA REFLEXA*).

All the Dodders, including four British species, are leafless, twining parasites, nearly related to the Morning Glory or Convolvulus family. The kind we now illustrate in flower as growing on a variegated form of Ivy is *C. reflexa*, or *C. verucosa*, as it is sometimes called, having been figured in Sweet's "British Flower Garden" under that name many years ago. The plant is not quite hardy, but grows most luxuriantly during the summer months in the open air on such host plants as Ivy, Jasmine, Forsythia, Zonal Pelargoniums, and *Cytisus fragrans*. All the kinds are easily raised by sowing ripe seeds in earth near to the plants on which they like to grow. The seeds send up a long, slender stem, which gyrates until it touches some succulent portion of the host plant, into which it thrusts its aerial roots, after which it severs its connection with the ground for ever, and exists as a parasite on the host plant. One of our native species—viz., *C. trifolia*—often does considerable damage to Clover crops, and it is difficult to exterminate, as its ripe seeds are often distributed along with those of the Clover plant. In Ireland, however, the seeds of the Dodder rarely ripen, and so its ravages are confined to the effects of imported seeds. *C. reflexa* is a rampant grower, covering Ivy or Forsythia bushes with a dense web of its wiry-looking growths. Its flowers are borne in dense clusters at the nodes of the stem, and are in shape not unlike those of Lily of the Valley, only smaller, and on warm and sunny days they have the odour of Aponogeton. The illustration was made from specimens grown in the College Botanical Garden at Dublin, and gives an excellent idea of the way in which it attacks the petioles and stems of Ivy in its straggling for food.

F. W. B.



East Indian Dodder (*Cuscuta reflexa*).

sented by Champion of the World, Duc d'Aumale, Jupiter, Mme. Brunt, Mrs. F. G. Hill, Vasta, Duchess of Edinburgh, and Frau Rama Topfer.

CROMER.

CENTROPOGON LUCYANUS.

This is a very showy stove-flowering plant during the winter months, and to have it fit for this purpose cuttings should now be put in. Select young flowerless shoots about 3 inches in length, with a heel if possible, and insert in 3-inch pots filled with sandy soil, and place in a close propagating-box having a bottom heat of 70 degs. to 80 degs. In about three weeks they should be ready to pot up singly into the same six pot, using loam and leaf soil, with a dash of fine peat and sand. Keep in a temperature of 60 degs. to 70 degs., and near the glass roof, and as soon as the little plants have laid hold of the soil nip out the point of the shoot, repotting when necessary, and using similar soil but more lumpy. Nice servicable stuff can be had in 5-inch pots, and the plant is at home grown in a basket, and allowed to droop naturally, as in the case of an Ivy-leaf Geranium. Grown in pots the plants require a neat stake betimes, for they make strong growths 15 inches to 18 inches in length. One-year-old plants can also be grown another season if cut fairly hard back and partly shaken out when nicely breaking into new growth and treated similar to young plants. Towards the middle of June they can be placed in cold frames, if lightly shaded during bright weather and closed about 3.30 p.m., with a good syringing, working it well underneath the foliage, as the plant is liable to be infested with thrips if grown in too dry an atmosphere. A little weak manure-water, or a pinch of some artificial manure once a week when the pots are full of roots, will keep the foliage good in colour and assist the plants to throw up strong suckers from the bottom, which should not be pinched, as these will yield good trusses of rosy-carmine flowers early in December if the plants are placed in the stove at the end of September.

J. M. B.

THE CHINESE PRIMULA (*PRIMULA SINENSIS*).

The beautiful varieties of *Primula sinensis* are favourites with everyone, and the fact of their flowering during the dullest months of the year greatly enhances their value. The seed may be sown in March, April, and May, but the earlier it is sown the larger and better the plants will be. Pans 3 inches in depth are the best receptacles for the seed, and the most suitable compost is one consisting of finely-sifted loamy soil and leaf-mould in equal quantities. Fill the pans with the soil to within $\frac{1}{2}$ inch of the top, and press it in firmly, afterwards giving a gentle watering with a can to which a fine rose has been attached. Let the pans drain for a short time, then sow the seed thinly, covering it thinly with silver-sand, and press down the surface firmly. Cover the pan with a pane of glass, and on the glass lay a little clean Moss. Place in a temperature of from 60 degs. to 65 degs., and shade from the sun till the plants are up. Water cautiously, and always with chilled water, as watering with cold water is courting failure. When the young plants are $\frac{1}{2}$ inch high pot them off into small pots, in a mixture of light, fibrous loam three parts, and one part cow-manure which has lain long enough to assume the consistency of fine mould, leaf-mould, and silver or river-sand. Press the soil firmly, but not hard, round the roots, and give a gentle watering. Place them near the glass in a temperature of 50 degs. to 55 degs., and lightly shade them during the hottest part of the day. All being well they will be ready for shifting into $4\frac{1}{2}$ -inch pots in May, when similar soil should be employed, but in a rather rougher state. Powdered fowls' or pigeons'-manure is excellent for *Primula*, but it must be used in strict moderation. I have known it mixed with very fine soil and used as a surface-dressing with very good results. At the beginning of June the plants should be placed on a layer of coarse ashes in a drip-proof frame facing south, and shaded from the sun with tiffany, or by dressing the glass with a mixture of whitening and milk. *Primulas* require more sun than many imagine, and growing them entirely in the shade is a mistake. The plants should be syringed twice daily and plenty of air given,

FUCHSIAS.

Few plants surpass Fuchsias for gracefulness and beauty, and few are more useful. They are essentially amateurs' plants, as they may be grown to perfection without the aid of artificial heat. To ensure success in their propagation, however, a little heat is necessary, and if a gentle bottom heat can be afforded, so much the better. A few old plants should be pruned and placed in a light house or pit during this month for the production of cuttings. Syringe them twice daily and keep a moist atmosphere, and when the young shoots have grown a couple of inches detach them with a heel or portion of the older wood. Insert them not too thickly in 4 inch pots in fine loamy and leafy soil and silver-sand. Water them well and cover them with a handlight or bell-glass in a temperature of 60 degs. Keep them shaded from the sun, and fairly moist till rooted, admitting a little air to handlight or bell-glass to allow of the escape of superfluous moisture. When well rooted pot them carefully into $2\frac{1}{2}$ -inch pots, using a compost of three parts good rich loam and one part well decomposed cow-manure free from worms, leaf-mould, and coarse sand or grit, well mixed. Pot firmly, and give a gentle watering with tepid water. Keep the plants in heat till established, then remove them to a sunny house and give a temperature of 50 degs. When the plants are 4 inches or 6 inches high

as the case may be. Previous to potting remove a little of the old soil from the roots and shorten large, straggling roots. Use the soil in as rough a condition as possible, and pot firmly. Afford a temperature of from 50 degs. to 52 degs. till the weather gets warm, when artificial heat may be dispensed with. Abundance of light, air, and moisture, and frequent syringings in order to ward off red-spider and thrip, are what the plants require in summer. They should also be assisted occasionally with an approved fertiliser. Where artificial heat cannot be given, the plants should be pruned and started in March, and otherwise treated as advised for earlier-started plants.

The following are a few of the freest-flowering and handsomest varieties: Beauty of Exeter, Countess of Aberdeen, Earl of Beaconsfield, Mrs. Poysine, Princess May, Gertrude Pearson, Queen. Double varieties are best

the frame being closed tolerably early in the afternoon to husband sun-heat, and a little air given at night.

The plants sometimes produce flower-trusses in summer, but these must be removed in order to strengthen the plants. Weak liquid-manure or some other approved fertiliser should be given at each alternate watering, and the plants should be potted into 6-inch, and afterwards into 8-inch, pots before they become root-bound. As the autumn approaches less shade and more air will be necessary, and the plants must be removed to a light, airy house at the beginning of October, a temperature of 50 degs. during winter being a suitable one. C.

THE CULTURE OF ANNUALS IN POTS.

WHETHER on account of the beautiful display they afford in beds and borders, or regarded in the light of the little expense annuals are, one cannot but recognise the fact that every year they are becoming more popular, and perhaps this is not surprising when one takes into consideration what quantities of blossoms they yield in a season. In this connection one thinks of blue Poppies, Sweet Peas, and Asters; but how few, comparatively, make use of annuals in pots, some, at any rate, only looking upon them as garden subjects. As we have entered upon that period of the year when the question of sowing seeds has to be faced, I wish to set before readers the value of certain annuals for pot culture, both for greenhouse and general indoor growing. At the outset, therefore, it is easy to have, at no very great outlay, a house of flowers, and to maintain such by sowing in succession. I would bring before any who have not given annuals a fair trial in pots the value of pretty things like *Rhodanthea*, seed of which may be sown at once to flower in May and June, according to the heat of the house, not that they need any great amount of warmth. One may sow the seed in shallow boxes or pans of very light soil thinly, just covering them, then prick them off into pots (5-inch or 6 inch), from fifteen to twenty in a pot, and these will give charming blossoms which last a considerable time. *R. Manglesi* has pink flowers, and *maculata alba* white. Balsams I would also strongly recommend to those who want a show of flowers at little cost; a packet of good seed may be bought for a shilling, and this will produce a quantity of plants. Balsams pay well for good culture and attention. You may get them to bloom in 3½-inch pots in ordinary soil devoid of much sustenance, but if one increases the size of the pot, say, to 6 inches or even 8 inches, and provides for them old turf, soil and leaf-mould, with a good proportion of cow-manure, and, as they grow, remove them until that sized pot is reached—for Balsams like plenty of root room—feeding them with liquid-manure, one will be able to get stout, stiff plants carrying large numbers of blossoms that will far exceed those grown in small pots and under half-starved conditions. Some people I know do not view Cockscombs with very much favour, thinking they are too set and formal, but there is something unique about them, and even if formal they have a beauty which no one can ignore who has once grown them with anything like success, and this means the raising of the seed in a brisk heat, and keeping the plants in a humid atmosphere so as to encourage growth. A 5-inch or 6-inch pot is a useful size into which to finally pot them, and as soon as the roots begin to feel the sides of the pot the combs soon commence to form. Good light loam suits them.

Nemesia would be grown more outside as well as in pots did people only realise what beautiful plants they are and how easily they may be raised. Now is the time to sow the seed indoors, and fibrous loam with a little wood-ashes is all they require in the matter of compost. An outdoor sowing may be made in May. Embracing whites and pinks, oranges, yellows, and crimson, they give a most charming appearance to a house, whilst for beds and borders few annuals can surpass them.

The *Schizanthus* is another annual that is not widely known, and it deserves to be, for cultivated in pots it provides one with innumerable frail-looking blossoms, and the habit of the plant, though straggling, is very beautiful when covered with flowers each year.

Seeds may be sown in heat now in pans of light soil.

Rightly cultivated, *Coleuses* should be treated as annuals, for it is scarcely worth the trouble of wintering when by sowing in a brisk heat in March and April one may raise sufficient plants for decoration during the summer either for the house or table. For giving a gay appearance to a greenhouse in winter what can one have half so pretty as *Cinerarias* and *Primulas*, the seed of which may be got in between now and the end of May, and it is admitted that by far the best method of dealing with them is to raise from seed the plants one requires each year. Annuals for indoors are, I submit, worth the consideration of all lovers of flowers at the present moment. W. F.

FREESIAS.

THERE are few plants that more readily repay the minimum of trouble that is necessary for their well-being by grace of form, refinement of colour, and delicacy of fragrance than do the *Freessias*. The one desideratum is that the bulbs should be well ripened. Some years ago this was not so well understood as it is to-day, and in those times there were many failures evidently attributable to that cause. When once a stock has been procured, if care be taken that the yearly ripening is adequate, little difficulty will be experienced in bringing to perfection a good show of blossom. The bulbs should be potted not later than the end of August, eight being a good number for a 5½-inch pot, and fourteen for a 6½-inch, a compost of two-thirds fibrous loam and one-third leaf-mould, with some silver-sand, being well suited to their requirements. They should then be placed in a cold-frame under 6 inches of Cocoa-nut-fibre, which must be removed as soon as the growths push through the soil, which will generally be in from two weeks to a month. In this position they should remain, air being given when possible, till the flower-spikes can be felt, when they may be brought into the greenhouse. By this system they come into bloom naturally about the middle or end of March, and are stronger and more free-flowering than when subjected to greater heat. If, however, they are required to be in bloom by the new year, forcing is imperative, but in this case the plants are rarely so ornamental as when grown under cooler conditions. As the pots become full of roots, and until the flowers are fully formed, weak liquid-manure should be given two or three times a week. When the blooms have faded the plants should still receive water until the leaves begin to show signs of turning yellow, when the pots should be placed in the hottest and sunniest position in the glass-house and kept absolutely dry. After being roasted in this manner until the end of July or beginning of August the bulbs can be turned out of the pots, the large ones being potted again for the next season's blooming and the bulbets, of which many will doubtless be found, grown on in boxes until they reach a flowering size. For supports to the stems of the pot-plants, nothing will be found better than lengths of stiff galvanised wire painted a similar colour to the leaves.

SALVIAS.

Few plants brighten up our conservatories and greenhouses more throughout the winter months than do the varieties of *Salvia*, when well grown and flowered. Now is a good time to insert cuttings of a few for earliest flowering, continuing this well into May for later batches. I prefer keeping the whole stock in pots throughout the year. Having tried the planting out system for two or three years I gave it up, finding that the growth got so broken about, even when given all the care possible when lifting and getting them into their pots. There is probably more labour required as to watering, but the returns are better. I grow some nine different varieties, all of which will soon root if placed in sandy soil in 4-inch pots, watered, and placed under a glass case in a temperature of about 60 degs. during the night. No bottom-heat is necessary, though rooting takes place sooner if a little is given. Pot off singly when fit, and give a gentle warmth up to the end of April, when a cold-frame will suffice until frost is past, when outdoor treatment as afforded the

Chrysanthemum will meet the requirements of these. Keep the points of the shoots nipped out occasionally, and the syringe plied among the plants, or red-spider will soon attack them. Shift on as the plants fill their pots with roots into sizes varying from 5½-inch up to 12-inch, according to variety, using similar soil as for the *Chrysanthemum*. Stake the plants before the wind has a chance to break them, as most of the varieties are brittle. Give them a sunny position, and as soon as the pots are full of roots, weak manure-water once a week will greatly benefit them. A piece of slate should be placed at the bottom of the pot when outdoors, so as to prevent the plant rooting through, and during the warmest days a good syringing should be given all the plants towards 6 p.m., this refreshing the plants and assisting to ward off the greatest pest to *Salvia*, red-spider. Early in October, or before frost can harm them, place the plants in a cool-house and near the glass, giving abundance of air for a few weeks until they get accustomed to the change. As the day gets some avoid too wet a condition of the soil, or the foliage will drop.

The earliest to flower is *Bethelli*, a large pink or amaranth and very showy, closely followed by the lovely hino *Pitcheri*, synonymous with *exarea grandiflora*. Unfortunately, neither of these two varieties continues in bloom long, and both are past their best by the middle of November, as a rule. Both are so lovely that one cannot afford to be without them. It should here be stated that *S. Pitcheri* must not be stopped more than twice during summer, or the recemas will be very poor. This comes away from the bottom each spring. It is also quite hardy in Devon and Cornwall. *S. splendens grandiflora*, *splendens Braanti*, *Ingenieur Clavenad*, *Glory of Stuttgart*, *rutilans*, *Heeri*, and *generosiflora* are all worthy of culture, and succeed each other in the order named as to flowering. J. M. B.

GREENHOUSE BOILERS.

TO THE EDITOR OF "GARDENING ILLUSTRATED."

SIR,—Permit me to warn your readers against the purchase of boilers for heating greenhouses with the flow and return pipes less than 3 inches in diameter, starting from the boiler itself. I speak from experience. They are bound to go wrong, and are much more expensive in the long run, as it takes double the fuel to get up the proper heat at starting. A cold boiler should get up heat in less than an hour to be considered good and efficient. Anything contracting the egress and ingress of the hot water must make it slower to heat and more difficult to keep up a fixed heat, especially in cold weather. Apart from this, there is always the possibility of furring up either with lime or rust. Rain water will, of course, obviate this to a great extent if one can get it. Once the pipes get choked there is the danger of explosion. I have two boilers and manage them myself. One is a very small upright horse-shoe, built into the end of the small hot-house, and heats about 50 feet of 4 inch piping, and the other heats 120 feet of 4-inch. For the former I find the best fuel is the house cinders passed twice through a cinder sifter. They are stored for me and the clinkers picked out. These boilers are all the better for a screen in iron put in front of them to keep them from the effects of the weather, if in the open and with no shed to protect them. My other boiler is an upright, independent, cylindrical one, and has a spigot to cover it. In the case of the little boiler, I stoke the last thing at 10 p.m., and the fire is going at 10 a.m. The heat averages 70 degs. on mild nights down to 55 degs. on very cold ones. From my cylindrical boiler I get even better results. The fuel for this is small coke. When I had it first the makers sent it out with too small a chimney pipe—namely, 4 inches, and it used to go out. The grating at the bottom was also too small, only 6 inches, so that the ashes were soon choked it. Now I have a 5 inch chimney pipe and a 12-inch grating. On some nights if the wind rose, the fire used to burn out before morning, so I had a rising feeder added. This adjunct has been such an improvement that one day this winter the fire kept alight and gave good heat for twenty-four hours without attention or stoking. I happened to be ill, and had to have a gardener to attend to it for me, and he was simply astonished. As a rule, I prefer

to attend to it at a fixed time, and do not let it run more than twelve hours without attention. It is by far the best boiler for the amateur, as there is no trouble with it. I believe it is known in the trade as the "Star Independent" boiler. Its only drawback, if it can be considered so, is that it must have a shed built over it, whereas the other one can be huilt into one end of the greenhouse. I notice the makers send the "Star" out with 2 inch pipes at the boiler, and charge 5s. extra for 4-inch connections. It is quite worth the extra for the addition. One thing I need scarcely impress on all who have to do with boilers is, that all hard-worked boilers should have the flues and fire-box cleaned out at least once a week, and the fire relighted.

C. G. V.

LACHENALIAS.

It is pleasing to find that these useful spring flowers are receiving more attention than formerly. No flower pays better for good culture, and their value is enhanced by the length of time they last when cut and placed in water. I know of no other flower that equals them in

the bulbs firmly, just covering them with soil, and leave a good margin for water. Potting completed, stand them in a frame and keep them as cool as possible, drawing the lights off on fine days, but tilting them up during heavy rains, as if the soil becomes solidened before the bulbs form new roots, failure may be apprehended. Keep them in the frame till the end of October, then remove them to a warm greenhouse, giving them a position near the glass. The cooler they are kept the finer will the flowers be. As growth advances assist it with weak liquid-manure at each alternate watering, and syringe the plants lightly on fine days till the flowers commence to expand. If wanted to flower early, the plants may be subjected to a temperature of 55 degs. or 60 degs. in January. The best varieties for pot culture are Nelsoni, pendula, Causton Gem, and Vicar of Canster.

CROMER.

NOTES AND REPLIES.

Hedychium coronarium.—I have a *Hedychium* which was given me in July, 1900. In March, 1901, I divided it and made three of it. The plants made fair growth last summer, but did not flower. In the winter I kept them cool and rather dry, and the foliage

hardy plants some of the handsomest flowers are the Peonies, but these in their flowering would certainly disappoint you if you plant them now. As much depends on your views as to what is a handsome flower, we think you had better make the case more clear by repeating the query with explanations.]

Plants with fragrant flowers and leaves.—Kindly tell me the names of twenty-four plants with sweet-scented flowers and fragrant leaves.—T. R. R.

[The scented *Pelargoniums* are far in advance of all else, and in their varied character of leaf and blossom, as well as much varied fragrance, are quite unique. Of other plants possessing fragrance are many species of *Primula*, particularly the double forms of *P. acaulis*, also *P. cashmeriana*, *P. viscoso-nivea*, and many more. The Sweet-scented *Verbena* is always a favourite, and equally so the *Violet* and *Bignonette*. The *Bergamot* (*Monarda didyma*) has beautifully fragrant leaves and showy flowers. Then there are some species of *Daphne*, as—*e.g.*, *D. indica* and its variety *rubra*, *D. mezereon*, *D. onocrum*. Some *Acacias* are pleasantly fragrant, and *Hyacintha* yield quite a host in the same way. Then, if you turn to *Liliums*, you find some of the most powerfully fragrant of all flowers; particularly may we mention *auratum*, *longifolium* var. as among the strongest, and the forms of *L. speciosum* as representing the more delicately scented kinds. Other plants are *Jasmines*, *Gardenias*, *Fre-sias*, *Himes* *slagans*, and, of course, many *Pinks* and *Carnations*.]

Bulb-growing without soil and water.—In your issue of March 22 I see that in "Short Replies" "Arum" asks about a Lily, which you say cannot be grown without soil or water. I know for a fact, having seen the bulb in process of growing, that such a plant exists, but, unfortunately, do not know its name. All that is necessary is to place the bulb in a dry saucer in a warm room, and day by day the bulb sprouts and grows, and eventually flowers. I believe the colour of the flower is red or orange.—If. DE YARBURGH-BATESON.

In your "Short Replies" in your issue of March 22, page 54, you mention that "you cannot grow a plant without both soil and water." Permit me to say that Messrs. Carter, High Holborn, are sending out a tuber which they call "The Monarch of the East," and for which, so far, I have not learned the botanical name. I had two given me as a Christmas present, and at once placed them "in fancy saucers," as directed, one in a warm, sunny south window and the other in a kitchen north window, without an atom of soil, nor have they had a single drop of water. Both are growing well—the first now $\frac{3}{4}$ inch per day, and now 16 inches high. It is evidently of the *Arum* family, and I should be glad to know the botanical name.—SALF.

[It is only growing from stored up energy, as in the case of the *Hyacynth* or *Onion*, which will grow in the way you say, but will, as soon as this energy is exhausted, at once collapse.—Ed.]

Tropaeolum Jarrattii.—This pretty greenhouse climber is now making rapid growth, and the tender shoots must be trained to a wire trellis or a small Larch branch. It is a good plan to insert a few thin sticks in the pot, and to let the shoots run up them, nutwining them when they reach the top and tying them to the trellis. If this is not done they soon get entangled, and cannot then be separated. It succeeds best in a moist atmosphere, and must be shaded from bright sun. Weak liquid-manure may be given at each alternate watering, and the plants should be syringed on fine afternoons. The scarlet, yellow, and black flowers are extremely handsome and last a long time.—C.

TREES AND SHRUBS.

CYTISUS PRÆCOX.

CYTISUS PRÆCOX is generally in flower by the middle of April, and continues from that time well into May. In habit it is free and graceful, when in good health making annually shoots 1 foot or 1½ feet long, these being clothed from end to end with a wealth of soft sulphur-yellow blossoms. So abundant, indeed, are they that there is little else to be seen when the



Cytisus præcox. From a photograph by Miss Willmott, Warley, Essex.

this respect. *Lachenalias* are often neglected after flowering, being crowded together in a dark house or pit, and deprived entirely of water all at once. After flowering they should be placed in a light position in a cool house and be assisted with weak manure-water until the foliage turns yellow. Water should then be withheld. Treated thus the bulbs will swell to their normal size, without which flowers of the finest size and quality cannot be expected. At the end of May they should be placed at the foot of a south or west wall, where they will ripen thoroughly. In August, just as growth is commencing, they should be repotted. Turn the bulbs out of the pots, and separate the small from the large ones. The former, if placed in good soil in pans, will make good flowering bulbs for next season. The large bulbs should be potted in 6 inch or 8 inch pots, allowing them plenty of room, as if crowded the growth is sure to be weak and the flowers poor. Drain the pots well, as the *Lachenalias* are free rooters and require abundance of water. A compost of three parts turfy loam and one part well decomposed cow or horse-manure, leaf-mould, and coarse sand suits them best. I

fell away close to the crowns. I am trying to move them on, but they are very slow. They are in 7-inch pots. When they move I intend to put them into 10 inch pots.—A. C. T.

[*Hedychiums* do best when planted out, and to ensure flowering when grown in pots they must be divided from time to time before they get too much crowded, otherwise they do not make growth strong enough for flowering. They may be potted or planted out in good rich loam, with leaf-mould and manure added, and during the time they are making their growth they should be liberally supplied with water. They should be kept cool, and dry during the winter. When given a period of rest the plants flower better than when kept in heat throughout the year. The flowers, though very short-lived, are very beautiful.]

Plants to flower this year.—I should be much obliged if you will kindly let me know the names of about two dozen plants with handsome blooms which, when planted in the spring, will flower this year.—T. R. R.

[Your query is very vague, and we do not know what you require. This and may be best obtained perhaps by planting *Dahlias*; but whether you require permanent subjects as perennials or the like we have no guide. In the

plants are in flower. It produces a thick mass of shoots, which, although almost destitute of leaves even in summer, are of a lively green, and give the shrub quite the value and character of an evergreen. The odour of the flowers is rather too heavy to be pleasing, especially when the plants are grown in a large group. On this account it should not be planted close to dwelling-room windows and such places. As in the case of many of the Brooms, it is liable to become bare and leggy at the base. This is often due to neglecting the plants when young—st any rate, it may be prevented by careful attention to them at that time. The plants simply require to be topped occasionally from the time they are a few inches high till they have attained a height of about 18 inches. By doing this, a thick crop of branches near the ground is obtained, as seen in the illustration. The best way to increase it is by cuttings dibbled firmly into sandy soil in some sheltered, shady corner under a bell-glass or hand-light. Seed ripens freely, but only very few of the seedlings come true.

NOTES AND REPLIES.

An early-leaving Pear-tree (*Pyrus sinensis*).—This is known as the Sandy Pear or the Snow Pear, and does not appear to be very common in collections of ornamental trees. It is now in full leafage (March 20th), and the glossy bronzy red hue is very fresh and effective as seen amongst other Apples and Pears, which are so far only in the bud stage. Our tree is about 30 feet in height, and is very effective in the March sunshine, and a nice companion to the pink-blossomed, but so far leafless, Almonds. Now and then its flowers are produced, and a sparse crop of small sandy or gritty Pears follows, but the chief interest and beauty of the plant consist in its early-leaving habit. Speaking of Pear-trees, I may say that the noble old specimen of the Jargonelle on the front of No. 11, Merrion-square, Dublin, is now very densely set with blossom-buds, and promises to be very beautiful in a fortnight's time. It was planted in 1814 by the late Sir Philip Crampton, and is one of the finest of town-grown Pear-trees I have ever seen.—DUBLINERIAN.

Treatment of Myrtle.—My Myrtle, about which you gave me advice, is doing beautifully now, and budding after having lost all its leaves. Is that natural to it every spring, and how long ought it to remain untouched in its big tub, as it has no drainage?

[The Myrtle is naturally of an evergreen character, and, though some of the oldest leaves drop just as the young ones push forth in spring, it should certainly not lose all its leaves as yours has done. Two reasons for the leaves dropping may be suggested—firstly, exposure to frosts sufficiently severe to injure the foliage but not enough to kill the shoots; and, secondly, extreme drought at the roots during the winter months. When once established in a large pot or tub the Myrtle will keep in health for years without being disturbed at the roots. You mention that the tub in which your plant is growing has no drainage, hence we should advise you to bore three or four holes in the bottom, so stagnant moisture is very injurious to all classes of plants. If at any time you decide to repot or retub it, place some broken crocks in the bottom, and these in conjunction with the holes will ensure drainage. In the case of Myrtles that have been standing in the same pot or tub for years, and which it is undesirable to disturb at the roots, a little weak manure-water in which some soot has been dissolved will, if given about once a fortnight during the summer months, be of great service.]

Rivina humilis.—Few berried plants are so useful in winter as this, especially for dinner-table decoration and mixing with fine-foliaged plants and Ferns in a warm conservatory. Its culture is comparatively easy, and by sowing seed at various times it may be had all the year round. To ensure well-berried plants in autumn and winter the seed should be sown in March or early in April. Sow it in a pan of finely-sifted loamy and leafy soil, and place it in a temperature of 60 degs. to 65 degs. Cover the seed pan with a piece of glass to help in keeping the soil moist and also to ward off mice, as these pests are very fond of the seed. As soon as the seedlings can be handled put them into small pots in a mixture of loam, peat, and

leaf-mould, in equal portions, with sufficient silver-sand to keep it open. Give them a position near the glass and shade from the sun for a short time; syringe them daily and keep the atmosphere moist, as in an arid atmosphere the foliage soon turns yellow. Give them a shift into 4½ inch pots before they become root-bound, and assist them with weak liquid-manure at each alternate watering. Standard plants, from a foot to 15 inches high, are the most useful, especially for table-decoration, and the best way to procure them is to remove all lateral growths until the plants are of the desired height. The point of the leading shoot should then be pinched out, a sufficient number of buds to form a bushy head being retained. For the production of later plants seed may be sown in a sunny greenhouse or pit in April, and the plants grown there during summer, but they must be removed to rather warmer quarters in October, or the foliage will turn yellow and the appearance of the plants be spoiled.—SCOFFER.

CHRYSANTHEMUMS.

CHRYSANTHEMUMS—STOPPING AND TIMING.

(REPLY TO J. FULLER.)

THE chief reason for stopping or pinching Chrysanthemum plants is that they may develop buds at the time best suited to their peculiarities, and that they may be had in flower during the period covered by the November shows. Yours is a comprehensive list, and embraces many fairly new and choice varieties. Treat your plants as follows:—

Name.	When to pinch the plants.	Which buds to retain.
Van den Heide	At once	Second crown
Chas. Davis	Natural break	Any buds and August
William Seward	Natural break	Second crown
Golden Gate	First week May	First crown
Mrs. Carnot	About April 15th	Second crown
Mrs. W. Mease	About April 15th	Second crown
G. J. Warren	About April 15th	Second crown
Lady Hingham	Natural break	Any buds and August
Viviant Morel	Natural break	August
Phloxia	Natural break	Second crown
Lady Lawrence	End April	First crown
Mrs. M. Reaid	Now	Second crown
Good Gracious	Now	Second crown
Joseph Chamberlain	Now	Second crown
Moderate	Now	Second crown
Rose Wynne	Natural break	Second crown
Waban	At once	Second crown
Le Grand Dragon	Now	Second crown
Eva Knowles	About May 15th	First crown
Eta Press	Now	Second crown
The Queen	First week May	First crown
Delightful	Try May 20th	First crown
Matthew Hodgson	Now	Second crown
Niveum	First week May	First crown
Australian Gold	Natural break	Second crown
Golden Wedding	About May 10th	First crown
Hairy Wonder	Second week April	Second crown
R. Hooper Pearson	May 21st	First crown
W. Adams	Early May	Second crown
Mrs. Berkeley	Now	Second crown
Queen of the Field	At once	Second crown
Victor of Bay	Now	Second crown
Chas. Bick	May 15th	First crown
Oriana	Natural break	First crown
H. Weeks	Now	Second crown
Mrs. White Popham	Natural break	First crown
Mrs. G. W. Palmer	Natural break	Second crown
J. R. Epton	Now	Second crown
John Hirdman	Natural break	Second crown
Graphic	Now	Second crown
Simply	Now	Second crown
Mrs. Chas. Bick	Now	Second crown
Chas. H. Curtis (Jr.)	Now	Second crown
Mrs. P. R. Hinton (Anem.)	Now	Second crown
Black Hawk (dec.)	Pinch plants two or three times, last time end June, securing first buds subsequently.	
Mrs. H. Weeks	Secure first buds developing in the point of the shoots.	

CHRYSANTHEMUMS TO FLOWER IN NOVEMBER AND DECEMBER.

WHAT you kindly give me the names of about a dozen Chrysanthemums for flowering during the latter half of November and early December? Those only which want slightly disbudding I prefer.—R. O.

[To secure free-flowering plants they must be grown on to the terminal buds, and to be seen at their best it would be wise to slightly thin out the more crowded and unshapely buds from the cluster which develops at the apex of each shoot. Some of the sorts flower freely without being unduly crowded, this fact being accounted for by reason of the splendid length of footstalk on which the individual blooms of the cluster are developed. This is the best type of plant

to cultivate, as there is no waste, and the culture is very simple. Procure rooted cuttings or established plants of the following:—

Mrs. JAMES CARTER.—This is one of the more robust of the spidery sorts, and although its habit leaves much to be desired, nice, bushy specimens may be obtained by pinching out the point of the growth two or three times during the growing season. Let the last pinching be done during the second week in July. The flowers are made up of numerous thread-like petals, and the colour is pale yellow. Height about 4 feet.

L. CANNING is a well-known pure white Japanese variety, which may be had in flower at any time between the end of November and January. The flowers do not possess as much substance as most growers would like, yet the blossoms are dainty and pleasing. Height about 3 feet.

Mrs. ALICE BYRON.—This is a lovely bloom of the purest white, and when obtained from terminal buds makes a handsome display. Height about 3½ feet.

Mrs. FELIX PERRIN.—This is the best of its colour in the Japanese section for late work, and may be had in good condition at any time between the early days of December and some weeks later. The colour is a pleasing shade of soft rose-pink, and it is now largely grown for market. Height about 4 feet.

CHILINGFORD.—This is one of the brightest flowers available for late November displays. The colour may be described as bright crimson with a golden reverse, and the plant is exceptionally free-flowering. The habit of the plant is erect and bushy, and it attains a height of about 3½ feet. The flowers belong to the reflexed type of the Chrysanthemum, and a decade since it was a very popular exhibition sort.

Mrs. GABRIELLE DEBBIE.—On account of its charming flesh-pink colour this Japanese variety should be grown. It is not generally regarded as useful for the purpose under notice, but by carefully disbudding the overcrowded terminal buds good results may be secured. The plant attains a height of about 5 feet, or rather more.

Mrs. PHILIPPE RIVIERE.—A very well-known late-flowering white Japanese, which may be had in blossom during November and December. Creamy-white well describes its colour, and it is a plant of fairly easy culture. Height about 5½ feet.

G. W. CHILDS.—This is another beautiful, velvety crimson flower of Japanese form, at its best during the period described by you. As the rich and brightly-coloured varieties are a limited quantity, full advantage should be taken of those included in this selection. In this instance the plant attains to a height of about 5 feet.

NIVEUM.—This is a well-known snow white Japanese sort of the highest value. To be seen at its best, however, the terminal buds should be liberally thinned out. The flowers are large, and the plant fairly free-flowering. Habit vigorous; height rather more than 4 feet.

PHILIPPE RIVIERE.—In this refined flower we have a charming primrose-yellow sport from Niveum. The plant possesses all the excellent characteristics of the parent, and should on this account receive similar treatment. Disbud rather freely.

Mrs. EDMOND PAYNE.—The only representative of the incurved section in this selection, and included in the list because of its pleasing colour, which may be described as white, with green centre. The plant should be grown freely, otherwise the blossoms are less attractive. Late November should see the plant at its best. Dwarf.

Mrs. COOMES.—For late November use this easily-grown kind should be flowered from terminal buds, taking care, however, to pinch the plants for the last time during the second week in July. Its lovely bright rosy-mauve colour has made this kind a great favourite. Splendid habit.

Mrs. CHARLES MOLIN.—This is another instance in which a mid-July pinching of the plants will give excellent results from terminal buds in late November. The colour on late buds is orange-red and very effective. The flowers are rather large, and, in consequence, the buds should be slightly thinned. Height 4 feet; vigorous habit.

MRS GREENFIELD.—This is rather new, but its beautiful rich glewing yellow colour places it in the front rank. The plants should be pinched two or three times during the season—the last time in mid-July—and the terminal buds slightly reduced in November. Good habit, and reliable.—E. G.]

NOTES AND REPLIES.

Chrysanthemums—stopping and timing (*Chrysanthemum*).—Assuming your plants were propagated during D. amber, or even rather later, they should be treated as described below:

Name	When to pinch or stop	Which bud to retain.
Calvat's 1899	April 2nd week	Second crown
Lady Hamham	Natural break	Second crown
Lord Hamphrey	April 1st week	Second crown
Lord Ludlow	April 1st week	Second crown
Mons. Chamon de Leche	Natural break	Any buds late August
M. Louis Remy	Natural break	Second crown
M. T. Carrington	Mar. last week	Second crown
Mrs. Coombes	Natural break	Second crown

The treatment suited to Le Grand Dragon, Mme. Caront, Mrs. Barkley, and Vivand Morel is given in reply to another correspondent in this issue.

Early-flowering Chrysanthemums—spring propagation.—At the present time old stools which were lifted from the open some time ago are bristling with shoots of a healthy character. There is no better material with which to increase these hardy outdoor sorts. The more genial weather of late has caused the growths to develop, and these may now be detached and made into cuttings about 3 inches in length, and inserted at once. These cuttings may be inserted in shallow boxes filled with equal parts of loam and leaf-mould, with a liberal addition of silver-sand, at a distance of about 2 inches between each cutting and rather more between the rows. From a healthy stock obtained at this season, far better results are generally obtained than by a mid-winter propagation. Those who have to procure cuttings from the trade specialists should now be able to purchase them very cheaply indeed, as a little later they will be thinking very likely of throwing the old stools away.—A. R.

VEGETABLES.

SOWING PEAS.

PEAS enjoy deeply-worked soil, well enriched with animal-manure. It is not necessary, as some advise, to trench 3 feet deep, putting a layer of manure in the bottom of the trenches at that depth, and two other layers between the succeeding spits. It is, however, well to remember that in preparing the ground for Peas, another succeeding crop, or, it may be, two, will derive benefit as well.

For small gardens I have come to the conclusion that dwarf Peas are more remunerative than tall ones. The Marrowfat section is that which affords the greater satisfaction, and now that there is such a wide range in this section, there is no necessity to cultivate the smaller round-seeded Peas. Fewer seeds of the Marrowfat section are necessary for sowing, on account of their freely branching habit, so that the cost, which is proportionately more in wrinkled Peas, is partly met in the less quantity needed. They are much more remunerative when their height is made by good culture to exceed that given in seed catalogues by, say, 9 inches to a foot. This I have proved can be done easily by deeper tillage, a little extra manure, and thiner sowing than is commonly practised. An ordinary selection of American Wonder I do not consider worth growing, compared to some of the later introductions. Yet this is often chosen, more perhaps because it is cheap, and better known by name. Little Marvel, Excelsior, Chelsea Gem, and Daisy grow with me to a height of 2 feet, and were freely podded from the ground. Earliest Dwarf Hardy and Dwarf Defiance are others that may be named. While deep digging or trenching is necessary for the early summer sorts, it is still more so for those that come in from July to September or October. When sowing, it is desirable to open the drills to a good width and depth, and when the seeds are disposed thinly along the drill I like to tread them in. In sowing early Peas it

is not usually necessary to provide for watering them, but later sowings should be attended to in this respect. If, in sowing, the drills are drawn out more deeply with the hoe, and the seeds trodden in, it is easily possible in covering to provide a depression efficiently deep to hold water when poured in later on. Even these dwarf Peas should have light stakes put to them to keep them upright, as they do much better kept off the ground. W. S.

MANURE FOR PEAS.

Of late much has been written as to which manure was the better—fermyard manure or artificial manure—for Peas, and up to the present the latter appears to be in favour with the majority of writers, though I doubt whether in the long run it will ever entirely oust stable or fermyard manure from being used for this crop. In the principal gardens of the United Kingdom this kind of manure has to be utilised for the production of vegetables, and often without one peck of artificial manure ever coming into the garden, and yet we find year after year good crops of Peas forthcoming, and should they fail it is usually the midseason crops right in the height of summer, when the ground is so parched that scarcely any vegetation is moving. If those cultivators who favour these made-up manures can assure us (who stick to the old utrogannous manure) that they are able to gather good dishes of Peas when, comparatively speaking, we have few, if any, to pluck, then I for one shall feel convinced that the sooner the old fallacy is exploded the better. In the meantime, having followed this practice during the past seventeen years, and with good results, I shall still continue to follow it up while good stable or cowyard manure can be had. A fair dressing of this, dug down a foot or 14 inches deep in December or early in January, and the ground ridged and allowed to remain uncropped until early in February and onwards, when petiole sowing have to be made, will stand all leguminous plants in good stead during long spells of drought. Where mistakes are often made with this crop is not watering freely enough, it causing far more harm than good to put on just a few pottles once a week or ten days and think the crop should be good. What is required during spells of drought is to pull up the soil on either side of the row and deluge the roots twice, if not thrice, each week, and a good doeing overhead with the garden engine or syringe of an evening will tend to ward off thrip—so destructive to the Pea family—and should mildew appear dust with flowers of sulphur after the syringing has been done.

Some prefer trenches for late Peas, prepared as for Coleby, but I prefer sowing on ground that has been deeply dug, as previously advised, considering that the roots are curtailed far too much when enclosed, as it were, between two walls, and should the supply of water fall short the plants soon succumb. If trenches are employed, let the surrounding ground be well worked so that the roots can extend right and left in search of food if necessary. In every well-ordered garden Peas do not entirely depend upon the manure placed underneath their roots, for what gardener does not at some period or other of their growth dust the plants with slaked lime, soot, or wood-ashes to ward off slugs, birds, etc., either one of which is of much value as a top-dressing, but not absolutely necessary for the welfare of the crop when nitrogenous manures are placed within the reach of the roots. J. M. B.

NOTES AND REPLIES.

Broccoli Spring White.—At the present time I am cutting nice white compact heads of this Broccoli, which are all that can be wished for when cooked. It is a useful sort for giving an early supply, and the stems being of medium height, and the curd well protected by an abundance of leaves, it is less susceptible to severe frost than some other early sorts. The present is the proper time to sow seed to obtain plants for yielding a supply in the corresponding period next year.—A. W.

Sowing Lettuces early under glass.—In some places it is difficult to keep young Lettuces through the winter in the open. Again, the crop often suffers from frost should the plants be too large. I sow three times in the autumn, and out of these, one sowing generally

pulls through. My first and second sowings this year have suffered, the major part having gone off by Christmas. Even with this provision I always sow a box of two sorts at the end of November, keeping those on a shelf in a cold Peach-house. I sow again early in the year, placing the seed in a close house till it begins to germinate, when it is put on the same shelf. I prefer sowing Lettuces and many other things in boxes to frames, as in boxes they can be moved and kept berdy, which is of much importance when required for planting in the open ground. Any quick-growing kind may be sown from now onward.—J. Crook.

Lettuces.—To maintain a constant supply of good Lettuces during the summer months often taxes the best capacities of the grower. To overcome this difficulty it is a good plan to make small sowings in a pen or pans, in shallow boxes, or under handlights, every fortnight, as then there is no lack of plants, and if sown thinly these will be sturdy and strong to transplant. The common defect in Lettuces growing is sowing the seeds so thickly that the little plants are crowded, weak, and poorly rooted when they are large enough to transplant. It is little wonder if then, under hot sunshin, they lieger on, presently make growth, then bolt off to flower because incapable of producing hearts. When Lettuces plants are sturdy and well rooted, then planted out into good soil, well watered, and for a few days shaded, they soon get hold of the ground, grow rapidly, and finally heart in well. To have them good the soil can hardly be too rich, as the more rapid the growth the crisper is the leafage.—A. D.

Shallots.—Where it has been needful to press the bulbs of Shallots somewhat firmly into the ground, they having been lifted by frosts if early planted, it is well, so soon as it is seen that roots have formed and growth has commenced, to draw away some of the soil from them, as there can be no doubt but that the best and cleanest clusters are found on the surface. It would be an excellent thing were classes at shows, and especially at cottage garden shows, to be for the best six or nine clusters of bulbs rather than for the best twenty five or so of picked bulbs. The average character of the cluster tells more as to the general excellence or otherwise of the crop than do selected bulbs. Shallots like well-manured soil, and where it is stiff some sharp sand should be added where the bulbs are planted. Large bulbs are less desired than are handsome, clean, glossy ones, even in size, and well matured. Shallots are grown apparently in all cottage gardens and on allotments.—A. D.

Vegetable Marrow.—Generally growers of this now almost universally grown vegetable like to have rather large fruits. The impression seems to be that so long as the rind is soft the larger the fruits, the better. It is just possible that as the fruits become large they comprise rather more of flesh and rather less of water, but in no case have even the very best of Merrows much of solidity in them. But whilst plants may be labouring to produce two or three large fruits, they are capable of producing others, hence there is little or no gain found in having big fruits. At exhibitions handsome smooth, white, long froite are most appreciated, if the pair be equal in size, fresh, tender, and free from abrasion. But all the same, they must not be too large or the skins will have hardened. To have Merrows presented at table in the most perfect condition, they should be cut young, be cooked whole, and unpeeled, and so served to table. At that time seeds will not have developed. It is time seeds of any varieties were sown under glass, so as to have strong plants to put out in May. A. D.

Carrot pests.—Carrots are often attacked by insects, the two worst being the Carrot-grub and Carrot-fly. Where the grub is troublesome the ground intended for Carrots should be ridged up to expose it to the frost. A liberal quantity of soot and gas-lime, also some burnt garden refuse, should be incorporated, these ingredients being obnoxious to the grub. After sowing the seed strow some wood ashes or burnt refuse over it before filling in the drills. As soon as the plants are up dust them over with soot and wood ashes in equal quantities, as it is then that the fly usually attacks them. The operation should be repeated every ten days till the plants are about 4 inches high. The grub

often attacks the plants after they have grown to a considerable size, and if not destroyed soon riddles the roots. To destroy it put a bushel of scot and one of fresh lime into bags and soak them for 24 hours in 100 gallons of water, then well water the Carrots overhead with the liquid.—J.

Transplanting Onions.—Many now raise their Onions under glass, harden off in frames, and transplant them early in spring. The plan is an excellent one, and should always be adopted where the soil is light or the Onion-maggot troublesome. April is the best time for transplanting, and great care is necessary, as the roots are easily damaged. The practice of planting with a dibber and thrusting the roots into a small hole cannot be too strongly condemned. A trowel should be used, and holes made sufficiently large to hold all the roots without crowding. They should be spread out evenly, and some fine soil placed on them and made very firm. If extra large bulbs are wanted, allow a space of 6 inches between the plants and 12 inches between the rows, and mulch with old Mushroom-mansure. If the growth is at all dry, give the plants a good watering immediately after planting.—SUFFOLK.

GARDEN WORK.

Conservatory.—Give Arum Lilies and Pelargoniums coming into flower liquid-mansure twice a week for a short time. The house will be gay with Azaleas, Spiraeas, and forced shrubs now. One gets tired of bulbs under glass after they come into blossom outside. Tea and other Roses will be in good condition now, as they will be coming on quietly without much forcing; these, also, should have liquid-mansure. Good-sized bushes of white and yellow Marguerites are useful, and are easily grown. The best plants for flowering now are cuttings struck rather late last spring, cut back rather late in summer, started a little till the new growth comes away, and shilled into 5-inch and 6-inch pots. These may be divided into two batches, the largest plants to flower in a light house in winter, and the others kept cool to come on early in spring. Canterbury Bells are bright and showy plants in a cool-house in April and May, and I am specially partial to Forget-me-nots and white Pinks. Of course, these, to flower early, must have special preparation. The Forget-me-nots must be potted up in autumn, kept in a cold-frame, freely ventilated in winter, and moved to the greenhouse as soon as the days begin to lengthen. To flower early cuttings of Pinks should be taken from forced plants in February or not later than March. When rooted and hardened off they should be planted in a well-prepared bed outside and potted up in September, the largest plants in 6 inch pots and smaller ones in pots 5 inches in diameter. Winter in cold-frame and move to greenhouse in January or February; they flower best when brought on quietly. The Bleeding Heart or Lyre-flower (*Dielytra*) gently forced, is charming just now in good-sized pots. The imported roots are cheap, but they flower best when established in pots. They are easily grown, and after flowering should be cooled down and then plunged outside, but not altogether neglected and forgotten. Plants in pots will require more water now; some plants, such as Hydrangeas and other strong-rooting plants, will require water twice a day. Spiraeas, to keep them in condition, should stand in pans containing water.

Stove.—Among the smaller kinds of plants which may be successfully grown in the amateur's small stove or forcing-house are Gloxinias, Streptocarpus, Gesneras, and Achimenes. All the above, except the Gesneras, may be grown in the greenhouse in summer. All they want is a moist, warm house to start them into growth and enable them to make healthy progress till the flowering period arrives, and then be moved to a cooler, freely-ventilated house. All may be easily raised from seeds or cuttings, and, of course, the bulbs have a permanent character, and, after flowering and a period of rest in a dry state, except the Streptocarpus, which are virtually evergreen, they start into growth at this season or earlier with renewed vigour. Gloxinias and Streptocarpus have been much improved lately, and come very good from seed. Achimenes and Ges-

neras have not been so much in demand of late years. If shifted on into large pots, Gloxinias and Streptocarpus will make very large, handsome plants. Place a strog bulb in a large pot, and deal liberally with it in the matter of compost and liquid-mansure, and the reward will come in the shape of grand plants a yard in diameter in 10-inch or 12-inch pots. At the last shift the drainage should be very free, and the compost richer and more turfy or fibrous in character, freely intermixed with crushed charcoal and coarse sand. The compost for all stove plants potted now should be in this condition.

Ventilation of fruit forcing-houses.

—This is very important work now. When the growth is young and tender air should be given in small quantities at a time. The character of the house has to be considered. Some glass-houses get hot much sooner than others, influenced by the aspect and the pitch or slope of the roof. In exposed or windy places I have found it necessary at this season to tack hexagon netting over the ventilators to filter the cold air through in March and April. Fresh air is not required on cold days, even when the sun is bright. Better use more moisture and avoid cold currents. See that there is no leakage from the gutters in front of the house, as many a crop of early Grapes has been seriously injured by a temporary overflow of a gutter or some such simple matter. When Grapes are in bloom the night temperature may be started at 65 degs.; a degree or two more or less will not make much difference. At 75 degs. the ridge ventilators should be opened an inch or so, not for the purpose of lowering the temperature, but to prevent a too rapid rise. More air will be required as the temperature increases. A man who watches the weather can tell when more air is required without continually running to look at the thermometer. Peaches all round will do with a lower temperature than Grapes during the time the trees are in blossom, 50 degs. at night will be high enough; air to be given at 60 degs. The art of forcing is to a considerable extent to imitate Nature—to commence at a rather low figure, and gradually work upwards as the season and the growth of the forced subject advances.

Thinning Grapes.—It is best not to handle the berries when thinning. Those who cannot do without handling the bunches should wear a soft, clean glove. Most men use a smooth bit of bone or wood to move the berries into position where the bunches are large. Personally, I do not care for large-shouldered bunches, and in thinning reduce them and trim them into shape generally to make the bunches compact and of a reasonable size. A crop of Hamburgs that will average 1 lb. or 1½ lb. per bunch is more useful than a few loose bunches of large size. Of course, the tyre in Grape-growing knows that the small berries should be cut out and the large ones which have taken the lead left, as nearly every kind of fruit, whether it be a Grape, a Peach, a Melon, or a Strawberry, which has got a slight lead will retain it.

Window gardening.—There is likely to be a larger demand this season than usual for plants for window-boxes, and the three colours—red, white, and blue—are likely to predominate. In towns the Carnation week will be the gay time, and the flowers then must be at their best. There is a wonderful easiness generally about window-boxes. I would suggest that the Tulle Pansies or Violas should have a turn. They will be well in bloom in June if planted now. Do not paint the boxes so glaringly green; choose a softer tint, and plant some kind of greenery to hang over to tone it down still further.

Outdoor garden.—Roses which have not been moved are breaking into growth, and, if not already pruned, attention should be given to them at once; but there is time enough for Teas and the late-planted Roses of all kinds. Roses which were planted in November are making roots freely. I have moved Tea Roses in April without loss. All recently-planted Roses should be cut rather hard back; the growth comes away stronger and the flowers are much finer. If the Roses budded last season have not been headed back, see to it at once, and the buds will start strongly, benefited by the long rest. Dormant buds make the best buds and produce the finest blooms. As soon as the

growth gets fairly started support should be given to prevent the wind blowing the shoots out. Rose pruning has been often discussed and is pretty well understood now. Weakly growers should be cut back to three buds; strong growers to 6 inches or 8 inches, in proportion to strength. The heads of standard should be thinned by the removal of weak shoots. Hollies and other evergreens will move well now. Water them well in and damp the foliage daily in dry weather. Mulch as soon as planting is finished, and stake or otherwise secure from wind all tall plants. Sow all kinds of hardy flower seeds. This is a good season to buy new hardy plants; plant these things in a reserve bed first season.

Fruit garden.—We have not had our average rainfall yet, and all newly-planted trees will probably require water. New beds of alpine Strawberries may be made now to bear in autumn. Other kinds of Strawberries may also be planted now, but, of course, no fruit should be expected this season; but we have had our best and healthiest runners from plants set out in March. The plants were strong and moved with good roots from the nursery bed, where they had been quietly preparing for the move during the winter. The grafts are going in well now, and all inferior kinds of Apples and Pears should be headed back and regrafted with better kinds. Those who wish for profitable market Apples should grow Cox's Orange Pippin and Bismarck in quantity. Lane's Prince Albert will also pay its way. One of the best dessert Apples now is Lord Burghley, and it bears better on the Paradise than the Creh. If the mite is among the Black Currants, cut hard back and burn all prunings, and mulch with manure rather heavily. Black Currants do best in a damp, rather rich soil. Newly-planted Raspberries should be cut down to within 6 inches of the ground the first season to secure good canes for next year's bearing. Never take your canes for planting from exhausted plantations.

Vegetable garden.—Among Spinach substitutes the best are Spinach Beet and New Zealand Spinach. The Beet may be sown now in drills 18 inches apart, and the New Zealand Spinach (which, of course, everyone knows is not a Spinach at all) is usually sown in heat, hardened off, and planted out in May or early in June. Sow the seeds in small pots, three seeds in each pot, and place them in the hotbed, moving to a cooler place when some progress has been made. A first sowing of Broccoli and Winter Greens should be made now. Brussels Sprouts for the first crop are either sown in autumn or in heat in spring, pricked off and encouraged to grow, ready for going out by the end of May or very early in June. Sow Lettices, Radishes, and Turnips often and in small quantities. What is termed Summee Spinach may be sown as a catch crop between early Peas or elsewhere. If plenty of Winter Spinach was sown in autumn, there will be a supply from then till June. I have prolonged the supply by cutting every alternate row down early in April. This prevents the plants running to flower and seed, as fresh young growth starts away from the bottom and gives very tender leaves. New plantations may be made of Horseradish. Plant the Chinese Artichoke. E. HODDAY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

April 7th.—Sowed main crop of Carrots and Long-rooted Beet. Sowed more Melon and Cucumber seeds; also New Zealand Spinach and Sweet Basil for planting out later. Put in cuttings of young shoots of Tarragon to raise young plants for planting out. Sowed Chervil. Placed a little warm earth round last lot of early Potatoes in frames after soaking with liquid-mansure. We are still putting in cuttings of various things.

April 8th.—Shilled 2nd lot Ceraniums into blooming pots. Some of these will be used to fill vases and tube about the terraces. Put in cuttings of Hydrangeas. We grow a lot of cut-back plants in 8-inch pots, which usually carry from six to nine large trusses of blooms each. Round the base of these plants are numerous young shoots, which make excellent cuttings, which strike immediately in a warm, shady

place. Pricked off seedlings of various kinds into boxes. Planted Potatoes.

April 2th.—Planted more Gladioli, Hollyhocks, and a few new Phloxes, which have just come to hand. We group our Phloxes in separate colours, such as a group of crimson, and next a group of white, a dozen plants or so in a group. Hollyhocks are treated in the same way. Moved several large green Hollies. Pruned and tied in several Irish Yews that were getting a bit loose from wind pressure.

April 10th.—All Peas are sown in good time so that the tendrils may have something near to cling to. Marrow Peas are sown very freely now. Antocrat was regard as one of the best kinds. Ne Plus Ultra has been a favourite as long as we can remember. It is rather too tall for a small garden. Dusted a little more Tobacco-powder among the young shoots of Peaches on walls. Pricked the longest shoots of Fuchsias to make them compact.

April 11th.—Pricked off early Celery into frames. A layer of manure is placed in the bottom and then 3 inches of good soil on top, into which the young plants are planted 4 inches apart. When more room is wanted they will be moved to trenches. The Leamington Broccoli when true is very distinct and hardy, and throws a close, white heart. Sowed Winter Greens of various kinds. Sowed Troieps in succession quantities.

April 12th.—Planted green Windsor Beans. Scattered a little soot on Onion beds. Made a successional sowing of Sweet Peas. The plants of Sweet Peas raised in pots have been planted, earthed up, and staked. A few are growing in baskets in the conservatory. In this position they flower freely. Transplanted Asparagus to make new plantation. The plants were 2 years old. Planted young Pentstemons from cold-frames. Sowed various hardy annuals.

POULTRY.

COMMENCING POULTRY KEEPING.

(REPLY TO "EAST SUSSEX.")

This is a good time to begin poultry keeping by purchasing pullets hatched early last season. They will now be laying, and so will cost a little more than if obtained in the winter. It would be advisable to start with a small number, and if only a small run can be given, the object should be to supply new-laid eggs, as rearing table poultry without a good range would be almost certain to end in failure. Andalusians would prove suitable, being hardy, and laying freely in confinement. Another breed that does well in a limited run is the Black Minorca, which is a non-sitter, and lays a quantity of good-sized eggs, besides being a handsome fowl. Where the soil is damp and cold, the poultry-run should be raised a foot or so by adding chalk, old mortar, or bricklayers' rubbish, while it is well to shelter the run from the north and east. About 5 square feet should be allowed per head. Galvanised wire-netting is the best material with which to enclose poultry-runs. The netting can be attached to iron standards or stout posts well fixed in the ground. The height of the netting must depend upon the kind of fowl kept. If, however, the top be wired in, 3 feet or 4 feet for the sides is sufficient. A shed for the hens to take shelter under in wet weather in addition to the roosting place always proves valuable, and if the ground be dry and well drained it may be left in its natural state for the fowls to scratch in, and be dug over from time to time to loosen it up. A heap of sifted coal-ashes should be provided in a sunny corner of the shed for the fowls to dust themselves in. This dusting is materially instrumental in preserving their health, and, to provide material for the egg-shells, a good supply of chalk, mortar-rubbish, or broken oyster-shells should be kept in a dry corner; otherwise, the hens will be liable to lay shell-less eggs. Fowls kept in a small run must be liberally provided with green food, besides being allowed a small quantity of animal food to take the place of insects and Grass they would obtain if at liberty. S. S. G.

Fowls for enclosed run (Wykenham).
—Your Buff Orpingtons ought to be laying by this time, although highly-bred fowls seldom lay so well as those that do not come from exhibition parents. The Black Minorca stands in confinement well, is a non-sitter, and lays a

quantity of good-sized eggs, although rather sensitive to cold winds. Another very good breed for a limited space is the Andalusian. It is very hardy and a free layer of large eggs. Leghorns, of which there are several varieties, are splendid layers, especially the white kind. If brown eggs are preferred, Langshans will be found satisfactory, being good winter layers, standing confinement well, and very hardy. Wyandottes are also excellent layers, and do well in a small space. These also lay a brown egg, and either the silver or golden variety would be found suitable, although the silver is generally considered the better layer. Buff Cochins are very suitable for a limited space, as they are naturally disinclined to roam, and although not such free layers as some of the above, still they give eggs at a time when they are very scarce.—S. S. G.

BIRDS.

Death of Canary (A. Burney).—You appear to have given your bird every care and attention, but, unfortunately, the mixed seed you have been feeding it on contains a quantity of Inga, which is most injurious and sure to bring on, sooner or later, liver disease and other internal complaints. In this case there was inflammation of the bowels. The plumage had not become thoroughly dried after the bird had taken its last bath, and this, no doubt, caused a chill which proved fatal, it being already in a low state. It was exceedingly thin, and had, doubtless, been ailing for some time. The "Hartz Mountain bread" is very good for helping Canaries over their molting and at breeding time. Unless you can obtain packets of mixed seeds that are free from Inga, it would be advisable to buy Canary seed and Rape and mix them yourself, adding a very small quantity of Hemp. Nothing could have saved your bird, for, unless the complaint it was suffering from is taken in hand at the very commencement, there is no cure.—S. S. G.

—(C. H. Angel).—Inflammation of the bowels caused the death of your bird. This is, unfortunately, a very common complaint of our feathered pets, and is brought about in many instances through a chill after bathing, and also through a sudden lowering of the temperature. Partaking of unsuitable food will also cause this disease. You do not say what this bird was fed upon, and so many complaints of cage-birds arise from errors in diet that it is important to furnish full particulars in this respect when sending a bird for examination. Many seeds, such as Hemp, Maw, and Flax, if partaken of freely, soon cause disease of the internal organs, while Inga seed proves fatal through bringing about liver disease. Egg food also proves injurious in many instances, although commonly supplied to birds put up for breeding. It was rather too early in the season to pair your Canaries. The earliest time to make a beginning should be at the end of March, and better still if April be first reached. Green food is an important item in the management of breeding birds, and may consist of young Dandelion, Watercress, or Lettuce.—S. S. G.

LAW AND CUSTOM.

Private tenant may not remove fruit-trees, etc.—The house in which I reside has been in my lease for nearly fifty years. There is a large garden attached, which was peacefully enjoyed when I first took it. I have gradually formed a valuable collection of halle, Roses, and herbaceous plants, and have now received notice to leave. Can I remove any of them to a new garden?—M. M.
[You cannot remove any of the plants that remain permanently in the ground. Anything taken up for the winter and not yet replanted may be removed.—K. C. T.]
A gardener's notice.—Is a head gardener, living off the premises and paid weekly, subject to one week's notice?—G. I. R.
[This is a doubtful question. Something depends upon the number of men he has under him. If the payment of a weekly wage is the only circumstance from which any indication of the duration can be drawn, a week's notice would probably be held sufficient, but the point is not free from doubt.—K. C. T.]
Mortgage and Income tax.—I have a small piece of land which is mortgaged. When paying the mortgagee's interest am I entitled to deduct income tax in respect of same?—ORCHARD.
[If you have paid Income tax to the amount of the tax on the mortgage interest, you may deduct it at the current rate when you pay the interest. It does not matter in respect of

what property Income tax was charged on you—so long as you paid Income tax in respect of anything you may make the deduction.—K. C. T.]

A question of contract.—I undertook to reseed some turf at the price of 2s. per grave, my employer offering to pay for the turf. When I went for the turf I had to cart and cart half a mile, and was charged for it at trade price. My employer now declines to pay for the carting and the cartage. Can I recover my charges?—S. J.
[If your charge for cutting and cartage is of reasonable amount you may recover it in the county court. In the absence of any express contract to the contrary, the undertaking of your employer to pay for the turf means the paying for it delivered at the graveyard.—K. C. T.]

Claim for Strawberry beds.—I occupy a house and garden at the annual rental of £10, and I am a Strawberry grower for market. The place has been sold, and I am under notice to quit on April 15th this year. My Strawberry beds have been down two years. Can I remove the plants, or claim compensation for them? If not, can I lawfully destroy the plants?—CARTON.
[You cannot lawfully destroy the plants, neither can you remove them; but as a market gardener you may claim compensation for them under the Market Gardeners' Compensation Act. You must make your claim upon your landlord before midnight on April 6, but you may make it as much earlier as you like—the day you read this, if you choose. No particular form of claim is necessary.—K. C. T.]

Wanted, a shelter.—I am not a tramp, but an enthusiastic outdoor gardener, and greatly object to being knocked about by rain or driven from my beloved plants by most inconsiderate hailstones. Can any of your clover northern readers (said to have the sharpest wits) tell me if it would be practicable to make a light shelter or tent that could be moved easily among flower-beds?—V. E. R.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in GARDENING free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF GARDENING, 17, PATERNOSTER-STREET, HOLBORN, LONDON, E.C. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation, as they desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruit for naming, these in many cases being unripe and of unattractive form. The difference between varieties of fruit are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Mildew on Roses (P. Fieian).—Strong soft-soap-water will remove mildew, but unless carefully removed the next day by syringing with soft water, the remedy does as much harm as the disease. Sulphide of potassium is also a good remedy. Use it at the rate of 1 lb. to 1 gallon of water. Apply it with an Abol syringe, and do not forget that the underside of the foliage is the chief part to syringe.

Carnations (Nemo).—The following are six fancy yellow ground varieties: George Druickbank, The Bey, Mrs. Seymour Bulverie, Cardinal Wolsey, Mogul, Brockbank. Of yellow ground Picotees, Mrs. Douglas, Mrs. Alfred Tate, Mrs. Oranfield, Voltaire, Mr. Nigel, and Golden Eagle. Good yellow bells are Britannia, Miss Audrey Campbell, Germania, Mrs. Patrick Campbell. Apply to Mr. Jas. Douglas, Great Hookham, Surrey.

Dwarf border plant from seed (P. S. C. Crumple).—There are the dwarf Tom Thumb forms of Nasturtium, these being more compact. No other plant is comparable with these in their profuse flowering. Double Sweet William, Antirrhinum, pink and red shades of Candytuft, Linum grandiflorum rubrum or red-flowered Flax, and Papaver umbrosum, may be regarded as approaches to what you require.

Salvia patens elba (R. N. Z.).—We have searched through several seed lists, both English and Continental, but cannot find seed of Salvia patens elba offered by anyone. Still, it is a well-known plant, and can be obtained (as plants, not seed) from nurserymen who make a speciality of such subjects, and that, too, at a moderate rate. It is except in colour a counterpart of the typical Salvia patens, which owes its popularity to the hue of its blossom, consequently a white-flowered form does not appear so strongly to growers as the better-known blue kind.
Chrysanthemum growing under glass (Edwin).—The number of flowers to a plant.—No; your

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VEGETABLES.

" VEGETABLES IN A SANDY SOIL.

SKILLY there is no place so barren that it cannot, with time and patience, be made into a profitable garden. Less than ten years ago the garden of which I write was an arid sunny patch, enclosed by straggling, untidy heiges and a tumble-down dry stone wall. Now I get from it an abundance of flowers and vegetables. So unfavourable did every condition seem at first, that only a determination to succeed carried me through the disappointments of the first few years. The climate of this part of South Glamorgan is peculiar. The winters are very mild, so that vegetation is often luxuriant all through the year, while in summer weeks of unbroken sunshine succeed each other, it being by no means unusual to have absolutely no rain for as much as six weeks at a time. The soil was pure sand as far down as one could dig, hot and dry; the aspect of the garden southerly, with a slope to east and south; no trees or shade of any kind. Yet the wild sun flowers luxuriated in spite of all, and if garden plants were few, weeds were many. The small-flowered Convolvulus overran everything, and has only yielded to deep digging and patient picking out, piece by piece. It is sometimes stated that in poor shallow soils deep digging is to be avoided, as thereby the thin top layer of soil is buried and only the hungry subsoil left for the crops to make their first roots in. Experience has proved this theory to be a mistaken one in this case. For some years, owing to the local preference for the long-handled shovel instead of the spade, I could not get my garden dug to my liking, and only the top spit was really turned over. However, two years ago I instituted a new regime, and had the whole garden dug two spits deep. It is true that by so doing the little soil on top was exhausted for a fresh layer of pure sand; still I gained a greater depth of soil with marked benefit to the crops, which stand the fierce heat so much better, as they are encouraged to root deeply. Another theory that has stood in the way of cultivation has been the local idea that to weed crops such as Potatoes is undesirable, as the weeds shelter the crops.

As expense has had to be carefully considered in the management of this garden, keenly manuring the ground has been impossible; so every scrap of vegetable waste, leaves, lucern-mowings, Cabbages, anything green, are collected carefully into a sunk pit and left to make leaf-mould for autumn and spring dressing the soil. This makes, without question, the dressing *par excellence* for hot soils. For this reason I grow specially early year an extra quantity of plants of the Cabbage tribe, as they are among the best plants for the purpose. On the same principle, any seed of Peas or Beans sown at the end of the season is sown, and if it fails to come into bearing in November, as the mildness of the climate often allows, they are turned, green, into the soil, and more than replace the nutriment they have taken out. For years it has been almost an

impossibility to grow any summer vegetables, except Glohe Artichokes, as everything—Peas, Beans, Lettuces, Spinach, were burnt crisp and hopeless as soon as the summer heat began. But in this last summer (1901) I have reaped the rewards of patience in excellent crops of Peas and Beans, and four Spinach. A race of Scarlet Runners has been incalculable, bearing profusely in spite of the unusually hot summer. In choosing varieties of Beans, etc., I find the older hardy kinds the best. For some time I tried expensive varieties of Broad Beans, always unsuccessfully, whereas I find the old French Windsor still in some years bear a very fair crop. Salads still remain impossible—Lettuces bolt almost in their seed bed. Still, if they can be watered daily before eight in the morning and mulched up if the wind blows the shifting sandy soil away from their roots, they do fairly well. Even with every care they can have, they are often so wilted by the heat and so flabby that they have to be cut some hours before they are used and put in water. The White Artichokes are incalculable. They get no protection in winter, no special care ever; their leaves flag utterly in the sun, yet they bear profusely. Asparagus, of course, is thoroughly at home, being within a stone's throw of the sea. It is dressed every year with Sea-weed, brought up after the autumn gales, and laid straight on the beds. Sea-kale, too, grows almost without any trouble, and is a reliable crop. These three last-named vegetables were for some time all that I could maintain. Among roots, Carrots are still the best growers, all others do but poorly. Turnips and Jerusalem Artichokes are beginning to be worth growing, but Beet, Turnips, and Parsify will not do any good. Potatoes I grow with fair success, treating them as they are necessarily grown here. A trench is dug and a layer of Sea-weed placed at the bottom, a layer of soil on that, and then the sets on the soil. Many of the cottagers here seem to get good crops, using no other manure, and growing Potatoes year after year in the same ground. Other vegetables grow with varying success, but the general outlines for management of all seem to be, to grow with the object of getting a moderate sized plant rather than a large sappy one; and never to let a crop stand a day after it is past bearing, but turn what is left of it into the ground, again to help to grow its successor.

Coner.

E. S. S.

SUMMER PEAS.

THOSE who trust to the scientific dogma that Pea plants can and do obtain an ample supply of nitroge from the atmosphere for their own requirements, and, therefore, need no application to them of nitrogenous manures, will do well to ignore such notion, especially for Peas that have to carry crops during hot, dry weather. Every gardener who has to maintain a large supply of Peas in the summer knows that his only hope of doing so lies in giving to his Peas not only a deeply-worked soil but an ample dressing of half-decayed manure. That dressing also should, and indeed must, be carried by hand, so as to encourage the roots

to go deep in search of the food and moisture the manure furnishes, and out of the reach of hot sunshine. Manure for summer Peas should be well prepared. It is folly to bury fresh, crude manure, as that is not sufficient decomposed for utilisation by the roots, and is thus, for that crop, practically wasted. Better by far prepare the manure a month beforehand by slaking out from it all long straw, then thoroughly moistening the remainder, using sewage for the purpose, then putting it into a heap to decay, turning it again and well mixing and cutting it some ten days later. A third turning and damping will assist to get the manure into a capital condition to enable it to become quickly soluble and plant-food, whilst its abundant moisture will prove of great help to the Peas when growing.

To apply manure properly, if the Peas be sown in trenches 2 feet wide, the top 12 inches should be thrown out on one side, and the next 12 inches of the bottom soil on the other side, the bottom being then broken up several inches deep with a fork. On to that should be thrown 6 inches of the top soil, and on to this a good dressing of manure, then other 6 inches of soil, some of the bottom soil being added, and a further dressing of manure. That should be well mixed with the soil by forking it in, then add other 6 inches of soil, including some from the sides, and some more manure also mixed with that. Then tread the whole fairly firm. Draw drills with a hoe 4 inches deep, close to each other down the centre of the trench, and sow the Peas in each drill fully 4 inches apart, then cover up. As the trench soil will be a little lower than the surrounding ground, heavy soakings of water may be given until the plants are flowering. Then add after the final watering some soil, and top up with a mulch or dressing of long manure. In that way really grand crops of summer Peas may be obtained in hot, dry weather. It is useless to expect crops when the soil is but merely dry, as roots cannot then go deep and find food or moisture. Such thin sowing as is thus advised proves also to be of exceeding value, as generally Peas suffer severely because of thick sowing, which results in their starvation later, and bloom becomes blim or eaten up by thrips. Milder commonly follows on excessive crowding and root dryness. The effect of the application of moist nitrogenous manures is seen in an early stage of growth, as the roots strike deep in search of it early, and there is a robust leafy growth seen on the plants that is not in evidence when this manure is absent. The early feeding and strong start given to the plants enable them to resist drought all the more freely later in life. Good Marrow Peas, especially such as Prizewinner, Magnolia Bonum, Sharpe's Queen, and The Gladstone, repay this sowing by becoming vigorously branched. Of course, all such Peas should be well stacked, as then they crop so much longer. The few varieties named are all of excellent quality.

A. D.

Burning clay.—I have been burning clay according to the method advocated by "W. S." in last week's GARDENING. I devised a means

of ensuring a sufficient supply of air to the burning mass, while using every available particle of heat generated. When building up the cone I inserted two old earthenware drain-pipes at the bottom of the stack, so that their ends just projected inside the wall of clay, and by this means the air is fed in sufficient quantity to the fire, and also the fire can be stirred up portions of the burnt clay removed. My pipes are about 5 inches inside diameter. The clay may be piled 3 inches or 4 inches over the top of the fire when combustion is over, well started, as the smoke readily finds its way out through the interstices between the lumps, and sufficient air is admitted by the pipes to keep the fire at a bright red heat.—C. M. R.

GROWING EARLY TOMATOES.

In the majority of gardens the first Tomatoes are obtained from plants raised early in the season. In the case of other plants which have been producing fruit throughout the winter, fresh growths can be laid in to provide a serviceable lot of fruit until far on in the season; but it is best not to rely upon these unless they are perfectly clean and healthy and worth keeping. By judicious management fresh plants raised at the time mentioned are not long, under good treatment, in growing to a fruiting size. Very often early Tomatoes are grown in a high and moist temperature; but the growth is so weak that what flowers do form fail to set. There is no danger of the plants becoming ruined through early fruiting, as the earlier fruits induced to form assist in checking exuberant growth and the succeeding blooms set better. What is needed is a strong matured growth, built up by free exposure to sunshine with a warm buoyant atmosphere. It is very annoying to have strong plants capable of carrying a good weight of fruit in a barren state through the blooms failing to set, and with early Tomatoes this is a very frequent occurrence.

It is not during the very early stages that a warm and moist temperature is injurious. The only precaution taken is to keep them from becoming drawn, which is easily prevented by exposing the seedlings to the light on a shelf near the glass. When the plants are allowed to stand pot to pot, even in a light structure, they are very apt to become much etiolated, and the lower leaves, instead of becoming fully developed, are puny with a very yellow cast. In most gardens the earliest fruits are produced from plants growing in pots and boxes, as these can be removed to other available places later on. In those gardens where space is limited sunny places have to be resorted to, to ensure their fruiting satisfactorily. Early Ruby and Conference are admirably adapted for growing in pots and boxes, the growth not being so vigorous as in some of the other sorts.

After having been potted into the 6-inch pots and they have become established, it will have to be decided whether they are to be grown as single stems or with two or three. The single cordon plant will commence to fruit the earliest, and if there is room this system may be adopted. Even with two or three shoots the method is the same. If the plants are repotted into 12-inch pots and other plants are coming in for succession, the leaders should be stopped after two or three bunches of fruit to a shoot unforced. It must not be thought that keeping the plants in the 6-inch pots is an aid to early fruiting, as in this respect they are not in the least more precocious; in fact, in the end they are behind others which have been early potted or boxed. A very dry atmosphere is as much against a free set as an over-moist and close one. By keeping the atmosphere fairly moist the pollen is more potent, and sharply tapping the shoots in the middle of the day is generally sufficient. The two extremes of atmospheric conditions must be guarded against.

The soil can easily be too rich and light and also loose. Where the soil is known to be poor, a little Kamit and superphosphate mixed with

it will greatly assist the plants. On the other hand, good crops may be produced with sound loam and a fourth of pulprised horse manure. The plants delight in a firm root-run, this imparting a fruitful growth, as later on when they need assistance rather late in the form of dilute liquid will prove beneficial. In the early stages of growth Tomatoes should not receive nor do they need an over-rich soil or a poverty-stricken one, both extremes proving injurious to the well-being of the plants.

BROAD BEANS.

BROAD BEANS often receive indifferent culture, some seeming to think almost any position and kind of soil good enough for them. If, however, Beans worth eating are desired, they must be grown in rich, deeply-dug, well-manned soil. Where the soil is poor or shallow, hairy deep-trenches should be formed,



Early Tomatoes.

and a good layer of well rotted manure (placed in the bottom, the soil being then replaced and well trodden. Where the soil is strong and retentive, old Mushroom-bed-manure, with a little artificial manure mixed, is preferable to farmyard-manure, being warmer. Broad Beans are not now often sown in autumn, as, owing to the introduction of earlier varieties, the seed may be sown early in spring, and Beans fit for use obtained at the end of June. Broad Beans are often grown too thickly, with the result that the growth is weak and the produce inferior. The plants should be 6 inches apart in rows 18 inches apart. Isolated rows invariably yield best. Plants raised under glass should be planted in shallow drills and sown

from cold winds by evergreen branches. Where only a limited quantity is grown, it is an easy matter to mulch them with short manure. When the plants are 6 inches high draw a little soil up to them with a hoe to steady them, and when a sufficient number of Beans has formed pinch the points of the growths out, as black-fly often attacks these first. To kill the pest, dip the tops of the plants in Quassia-extract. No vegetable responds so quickly to applications of diluted liquid-manure. Where a constant supply of Beans is required, a sowing should be made every three weeks till the beginning of July, though, where the soil is very light or warm, it is no unwise to sow in the open later than the beginning of June. A north border is then the best place, as there the soil is cool and the plants are easily kept moist. Broad Beans should be gathered when young. If allowed to attain the normal size they become tough and lose quality. Improved Longpod is probably the best early variety; it is very free bearing and of excellent quality. Beck's Gem, a dwarf variety, is indispensable, especially for small gardens. It is a prodigious cropper, and of a beautiful deep green colour. Where ground is scarce this variety may be grown between rows of Gooseberry-trees. Green Windsor, though an old variety, is still very popular, its deep green colour and rich flavour bring much appreciation at table. Johnson's Wonderful Longpod is a heavy cropper, and of good all-round quality. Green Longpod is also an excellent variety.

NON-FUK.

Summer Spinach.—This is in very limited demand generally, yet it is a valuable hot weather salad, because of its antiscorbatic and healthy tendencies. Those who prefer the old Flinders—seed of which is usually sown somewhat thickly in drills, and the plants are not thinned—should sow but a small quantity once a week, as then they have a constant succession for cutting. Those who prefer ample and fine leafage to an upright stem as thickly sown plants give should get seed of the Long Flinders, and sow that on deeply-dug, well-manned soil in drills 15 inches apart. Where the soil is stiff it is wise to sow the seed in shallow drills drawn on slight ridges, as then the plants have natural drainage because thus elevated, yet have all the greater depth of soil to root into. The variety grows strong, and carries large, thick leaves; hence it is useful to thin out the plants to from 6 inches to 9 inches apart in the rows.—A. D.

Spinach Beet.—When a difficulty is experienced in growing the Winter or Prickly-seeded Spinach, a good breadth of the above should be sown in the autumn. This is not only hardy, but is not in the least affected by the damp weather of the winter months; consequently, the plants are vigorous and afford a fair supply of leaves early in the year, when the true or Winter Spinach is making a hard struggle for existence. A warm border or sheltered piece of ground should be selected for the autumn sowing; not that the plants will suffer if raised in a more exposed position, but because they may experience all the warmth possible, in order that growth may be as continuous as circumstances will permit. The large fleshy leaves go much further in cooking than do those of the ordinary Spinach, consequently more produce can be taken from a given piece of ground. With regard to the cooking qualities of Spinach Beet, some hold the opinion that it is inferior to Spinach proper, while others assert that it is equally as good. However this may be, the fact remains that it is a hardy and easily-grown substitute for Spinach, and I recommend those who fail in wintering the latter successfully to give it a trial if they have not hitherto done so. Two things are essential in its culture: the one is to well manure the ground previous to sowing, and the other is to see that the seed-bed is made firm by treading the surface evenly previous to sowing. The drills may be drawn from 15 inches to 18 inches asunder and about 2 inches deep. Drop two or three seeds at intervals, or about 1 foot apart, and close in the drills with the fret and rake the surface smooth. Should the seed germinate irregularly, the gaps may be made good by sowing in the "clommings," as Spinach Beet transplants easily.—A. W.

PLANTS AND FLOWERS.

ACHIMENES.

AMONGST tuberous-rooted plants none are more beautiful for growing in baskets or pans than are the Achimenes, the richness of the blossoms and their freedom making them useful for the warm greenhouse, needing, however, less heat than many imagine—indeed, one may say that their summer treatment is identical with that given an all-round greenhouse collection of plants, except that they will not stand exposure to draughts. The numerous hybrid sorts embrace many shades of crimson and blue, white and scarlet, orange and purple, and when seen to advantage—i.e., hanging from the rafters in a warm house—are a sight not soon forgotten, as they are somewhat out of the ordinary line of basket plants. By a little arrangement in starting the tubers at different intervals, one may have a continuance of

and pots, or growing them in pans. Being of a pendulous habit, they look well hanging from shelves, and make charming subjects for blooming in early autumn. Associated with Achimenes and other plants of a like character in a house, *Torencias* are very beautiful when in bloom, and embrace several colours, as will be seen, including *T. Fournieri* (violet and lilac), *T. F. grandiflora alba* (white), *T. Baillonii* (yellow and purple).—LEAUCRST.

BOUVDARIAS.

ONE of the prettiest flowering plants for greenhouse and table decoration is the Bouvardia. These who have old specimens will find on them in the half ripened wood plenty of material for propagating. Cuttings should be selected a few inches long, and planted firmly in pans of loam, with which have been mixed leaf-mould and sand, placing the pans in a propagator. If it is not convenient to do this

plant is it, I think, more essential that this should be observed, for if the wood be not ripe flowering shoots will not be numerous. Knowing this, one must see that for two or three months at least the plants enjoy as much sun shine and air as possible, and, bearing this in mind, it is advisable to remove them to a frame outside towards July, keeping the sashes off, but taking care that the aspect is a sunny one. As the best flowers proceed from the ripened wood, so every opportunity should be taken to ensure this during the period they are in the open frames. This may also be further helped by giving each plant plenty of room, rather standing them on the garden walk than attempting to crowd a dozen plants into a frame where half that number could be better accommodated.

FEEDING.—One must also not forget stimulants, and whatever is used should be given in a weak condition and often. Whilst one must make much of air and sunshine in the maturing of the wood, Bouvardias must not be left out-of-doors too long, and accordingly in September their transfer to the house again will become needful. In the warmth of the house one should be able to have blooms in November, and for winter flowering, that popular sort *B. leirantha*, whose scarlet blooms make a house bright, must not be forgotten. President Garfield (double pink) and Alfred Neuner (double white) are varieties, too, that are worth the attention of those who are on the look-out for winter-flowering plants. As Bouvardias are practically in flower all the winter, notably *B. leirantha*, and afford sprays of blossoms that may be used for personal adornment, attention to them now is specially recommended.

DEBRY.

POT MIGNONETTE.

MIGNONETTE is always acceptable, but never more so than in the winter and spring months, when it cannot be had out-of-doors. Only rarely and in dry weather does Mignonette smell so sweet out-of-doors as it does when well-grown under glass, where the flowers can be kept dry and grossness of growth is checked. To have a good stock for cutting all through the winter and spring months requires some forethought and care, for though the plants must be kept growing, very little fire-heat checks the development of the flower-spikes and causes them to become blind, while it forces new shoots to develop from just under the spikes, only to become blind in their turn. Any attempt to force the plants on is sure to result in failure, but if grown along steadily fine spikes may be had all through the dull season.

Growers for market bear the palm for producing good pot Mignonette all the year round, and only in rare cases do we see anything at all equal to their productions in private gardens. This, no doubt, is partly owing to the unsuitability of the large houses common in private gardens and the mixed collections of plants which have usually to be grown in them. Fancy triennial specimen plants, such as standards or trellis-trained, are of very little use for producing spikes for cutting, the best plants for this purpose being grown three in a 6-inch or one in a 4½-inch pot. Sow the seed directly into the pots in which the plants are to flower, as repotting, unless done with great care, often gives the plants a check from which they never recover. If the proper soil is used, the pots well drained, and watering carefully carried out, there is no fear of the soil becoming sour or stagnant. The best soil is half loam and a quarter each of well-dried and decayed cow-manure and lime-rubble from some old hair plaster if possible. The loam should be at least six months stacked, free from common worms, which would soon block the drainage, and from wireworms and other grubs. Lime in some form is an absolute necessity, and no kind seems so acceptable to the plants as that from old plaster. Two sowings—one made about the third week in July and the other a month later—will be sufficient for winter and early spring flowering. Of varieties, I like Miles' Hybrid Spiral best of all, though Garraway's White is also an excellent kind. These two branch out and give useful spikes in addition to the main growths. Much of the credit of this article is due to all who like



Achimenes growing in pot.

loom. In commencing with them one or two joints are worth enjoining, and the first is as to time. February is soon enough to put the tubers in heat, and if it is decided to grow them in pots or pans, one should recollect that perfect drainage is essential, and so are clean pots and crocks. Soil made up of well-rotted kaim, sharp sand, brown fibrous peat, or, failing the latter, leaf-mould, with a little decayed cow-manure added, will suit Achimenes admirably, placing immediately around the tubers a portion of sand. After potting, or placing in baskets, let them be put in a house where a minimum heat of 65 degs. is maintained, and encourage a humid atmosphere. W. F.

Torencias.—*Torencias* can be reckoned among the best of our greenhouse annuals, and those who are in doubt as to what to grow in their hanging baskets cannot do better than at once sow seed in heat in pans of light soil, transplanting the young seedlings into baskets

then cuttings should be inserted round the edges of a pot, covering it with a bell-glass, letting it have the advantage of the warmest position in the house. Some bottom-heat, if at all possible, should be given, as this will aid matters considerably. As soon as the cuttings have struck and growth is proceeding they should be potted off singly, using a similar compost to that just described, keeping the surroundings moist, and so pushing them on until ready again for a further shift, until the blooming pots are reached, for which size 6-inch pots will be found ample. When the young plants have reached a height of several inches the leader should be stopped, as this will induce side shoots to form, and so result in a bushy habit. A second pinching of the shoots should, if needed, be made a little later.

RIPENING THE WOOD.—One of the points that requires watching in connection with the propagation of Bouvardias for winter and spring flowering is the ripening of the wood. This is

very large spikes, but it is not nearly so useful as the others, as it does not branch freely, and is practically over when the leading spikes are just their best.

When the plants are flowering freely a little weak manure-water will be helpful to them, but it requires more care in its application to *Mignonette* than to most things. Soot is sometimes recommended for mixing with the soil, but is scarcely necessary, and should be left out unless it has been formed from good coals and stood for some considerable time before using. New or limed soot burns the roots and injures the plants. —T.

NOTES AND REPLIES.

Cyclamen.—Of all our winter blossoms, none are more service to the small grower than *Cyclamens*. To see to what a high standard of perfection these have been brought, one has only to compare present day varieties with those grown a decade or two ago to realise what progress has been made. —W. F.

Sauromatum guttatum.—The botanical name of the tuber sold under the name of "Monarch of the East," which is referred to in your issue of April 5th under the heading of "Notes and Replies," is *Sauromatum guttatum*. It is an arbol. I have one which is growing very rapidly without either soil or water. —GEORGE ARMSTRONG BARNETT.

Cyclamens from seed.—As in your issue of March 13th you rather seem to imply that you do not expect *Cyclamens* to flower in a year from seed, I send you a photo of some *Cyclamens* from seed, sown Feb., 1901, first flower open Jan. 15th, 1902. One of these plants has two pure white flowers, two pink, and two white with pink stripes. —R. B. BARNES, *Launceston*.

[The photograph sent showed five plants, carrying on an average seven flowers and buds each. Two plants had as many as eleven flowers, the foliage strong and healthy, and quite biding the tops of the pots.—Ed.]

Growing bulbs without soil and water.—A question was recently asked in GARDENING about the *Arum cornutum*. I have grown it for years, and at this moment have a root or bulb in flower on my table. It has had neither soil nor water, but in January it was put near the glass in my Orchid house. The bloom is about 10 inches high, and the spathe is spotted yellow and purple. It has a very offensive smell when first expanded. The bulb has no roots; it sends up spotted foliage after the flower is withered, in shape like the wild *Arum*. —MRS. TAYLOR.

Double Chinese Primulas.—Some of the most successful growers of these plants I have seen of late are in the Leatherhead district, Surrey. I have seen noble plants in 7-inch pots measuring 15 inches over in full bloom in November, the varieties being chiefly *Marehioness of Exeter*, white; *A. F. Barron*, pink; *Lucy Hillier*, and others. One grower increases his plants by dropping the pots in early spring into others a size larger, placing fine sandy soil about the base of the leaves, then slightly layering the side-growths into it, and soon has well-rooted plants. These were then severed from the parent plants with a sharp knife, got into large 60-sized pots, stood in a gentle warmth to establish them, then shifted on until they were finally got into 7-inch pots, in which they flowered nicely all the winter. Good plants gave a wealth of bloom, which could be gathered and wired freely. —A. D.

Tuberose.—These chaste and fragrant flowers are not so difficult to grow as many imagine. Many failures in their culture are due to giving them too much heat in the early stages of growth; this causes the plants to go blind. I wanted to flower in winter, the bulbs must be potted as early in autumn as possible. Use 6-inch pots and a light, rich compost, and place one bulb in each pot. Pot firmly—the firmer the better. Place them in a temperature of from 55 degs. to 60 degs., and plunge the pots in the rim in a bed of Cocoa-nut-fibre or leaves, and give a bottom-heat of 70 degs. to 75 degs. Give no water till growth commences, then water liberally till the flower-buds are formed, when they may be removed to a warm greenhouse or conservatory, and less water given. For autumn blooming pot the bulbs in 6-inch pots in March or April, and plunge the pots 6 inches above their rims in Cocoa-nut-fibre, leaf-mould, or fine ashes, in a cool pit or frame. When the foliage makes its appearance remove them and plunge them under a south wall, keeping them well supplied with water, also well syringed to ward off red-spider. Remove them to the greenhouse as the flower-buds appear. Dry roots may also be started

in light, rich soil, in warm positions out-of-doors. These, if taken up in autumn, potted, and placed in a temperature of 50 degs., will afford a supply of bloom for several months. The double American Pearl is the best variety. —C.

Repotting greenhouse Ferns.—Where greenhouse Ferns need repotting, and the matter has been put off, no further delay should take place, but as new growth has now commenced the work should be taken in hand. Maidenhairs, for instance, that are so frequently in demand, should be repotted at once, shaking away any superfluous compost and replanting them in leaf-mould and mellow loam, with a small portion of coarse silver-sand. After the shift it will greatly help their progress if for a few weeks they can be placed in a pit, where additional warmth and moisture will make up for lost time. March, as a rule, is the best time for the work to be done, but carried out in the way proposed at once they will soon "pick up." —W. F.

Freessias.—Will you kindly give a hint on the cultivation of these? Also say if the bulbs are of any use for another year? I have had two pots in an unheated conservatory, but only one good bloom out of about 12 bulbs. —A. H., *Bournemouth*.

[Keep your bulbs in a light place until the foliage begins to show signs of decay, then gradually withhold water, eventually laying the pots on their sides, either at the foot of a wall or under the greenhouse stage. During the last week in August shake the bulbs out, potting the smaller ones, seven or eight, into a pot 3 inches in diameter, or, where there is a quantity, into small pans. The large flowering bulbs should be put, five in a pot, into a pot 5 inches in diameter, or larger masses may be formed by using a larger pot, with, of course, a greater number of bulbs. A suitable compost is two parts loam to one part each of decayed manure and leaf-mould, adding to this a liberal sprinkling of silver-sand. The upper part of the bulb should be about 3-inch below the surface of the soil, and when potted they may be covered with Cocoa-fibre and placed in a cold-frame. As autumn advances, remove to the greenhouse and place in a good light position. When growing freely occasional doses of liquid-manure will be very beneficial.]

Schizanthus Wisetonensis.—This is a wonderfully free-blooming variety of this beautiful class of annual, among which that named *S. retusa* has for so many years been cultivated in pots for greenhouse and conservatory decoration by many growers. It is of easy culture, and anyone possessing a greenhouse would experience no difficulty whatever in growing it if the following details are observed. The best time to sow the seed to have plants in flower at this date is the third week in August. The seed will then germinate without the aid of any warmth beyond that afforded by a cold-frame, and if sown thinly, nice dwarf plants will result. When large enough, pot them into small 60-sized pots, these being quite large enough, and place them close up to the light. By the end of September or early in October they should be removed to a shelf in the greenhouse, and be afforded just sufficient water to keep them in a healthy condition without unduly promoting growth. Early in January give them a shift into 48-sized pots, using a compost of two-thirds loam, one-third leaf-mould, with enough silver-sand added to keep the whole open, and return them again to the shelf or a similar light and airy position. This latter is very essential, otherwise once the plants begin to grow freely they will draw and become lanky and be spoiled if far away from the light. About the end of February the plants will, if all has gone well, be about a foot or 15 inches in height, and showing an abundance of flower-buds. If there is room for them to stand on the shelf until the flowers are about to open, all the better, but as soon as the blossoms begin to develop stand the plants on the stage among the other plants, or in the conservatory, when they will make a fine show for several weeks. As soon as the flower-buds become prominent, a little weak manure-water will prove of the greatest assistance, for the flowers being produced, as they are, in such great profusion, a very great strain on the energies of the plants is a natural result, and should therefore be guarded against. —A. W.

WHAT TO DO WITH PERENNIALS. (REPLY TO "ENQUIRER.")

You open up a question of very considerable, as well as general importance, the gist of which is: What is the best means of reviving old-established perennials that are now re-appearing through the soil? The enquiry comes from the Thames Valley district, a district, by the way, we are well acquainted with, and just as well do we know of the many vicissitudes ever going on in such a district, with all the ill-consequences of a low-lying area, and of fog or other such undesirable things. Frequently too much of the soil is very light, and the surface soil being shallow and overlying a deep bed of good gravel and sand, the drainage is excessive, thus leaving the soil dry beyond all conception. It is in circumstances such as these that many perennials require to be replanted much more frequently than would otherwise be the case, for the soil itself is generally poor and hungry in the extreme. No doubt this is much of the trouble in which "Enquirer" finds himself at the present moment, and we deal with the subject freely because of its general import to many readers; secondly, by reason of its seasonableness; and, thirdly, because we know full well that by continued neglect the plants dwindle down to very small flowerless scraps. "Enquirer" particularises such things as *Panicles*, *Phloxes*, *Hollyhocks*, *Doronicums*, *Irises*, *Asters*, *Rudbeckias*, and *Clematis*, but, without knowing what kind the last is, we are unable to supply the required information. Taking the others as they stand, the *Panicles* and *Hollyhocks* can only be lightly forked around and well mulched with rotten dung, or a good dressing may be dug lightly in between the plants. The *Phloxes* and *Asters* require to be treated similarly, or divided and replanted at once. Avoid large pieces, and select the outer, stronger portions for replanting. In both instances a far better result is secured by planting single stems, such usually having three or four eyes at the base. Three or five such pieces planted back will give an effect in the coming autumn far finer than the original old clump, and all the spikes will be good because of the ample room for development. A clump of five pieces should be set out with a diameter, roughly, of 2 feet. Such *Asters* as *Amellus* and *acris* would require more space by reason of a more bushy growth. *Rudbeckias* and *Doronicums* may be treated in the same way. *Irises* that have flowered twice in the same position should be lifted, pulled to pieces, retaining only the current year's (that is, that of 1901) rhizome, and discard all the old back ones as worthless. The young rhizome with growth attached is the flowering piece, and these make goodly patches like the *Phloxes*, etc. *Pyrethrums* and *Delphiniums* that have made about 4 inches of new foliage may be lifted, broken up very carefully by inserting the prong of a small hand-fork into the root stock, and giving a gentle outward wrench to separate them. Both groups require some care, and frequently it is best to wash the clumps free of soil before attempting the division. This will show the direction of the crown tuft and chief roots, then by inserting the prong about the centre of the clump, piercing it to half way through, you will soon find the working. If the halves are too large divide again. In these more difficult plants you should start operations on a less valuable sort and note the result. In neither case should division be necessary unless the plants have flowered two seasons in the same position. Up to this age a good mulch and light forking over of the border should suffice. All *Sundflowers* of the *H. multiflorus* class and those belonging to *H. rigidus* should be replanted each year to get the finest flowers. In the *H. rigidus* set only the growing point of the rhizome and its few roots are required to be retained. *Tritomas* or *Red-hot Pokers* need not be replanted but every third year, while any plants producing many stems, like *Phloxes*, and numerous crowns too, are subjects for frequent replanting, or, at least, every two years. Deep digging and free manuring with firm planting should go hand-in-hand. March and April are excellent for the purpose. *Spiraeas* and *Day Lilies* should not be disturbed, but dig in plenty of manure around them, and afford water in plenty.

SNOWDROPS AT DUNBOYNE.

Airborne frequently naturalised in England and in Scotland, Hooker says it is hardly so in Ireland, adding that it is possible wild in Hereford and Denbigh. Its general distribution in Europe is from Holland southwards, and in Western Asia. It is a matter of history that Snowdrops are very abundant in the Crimea, as a good many roots were found in the trenches dug there in 1854, and sent or brought home by the officers on active service there at or after that time. The Crimean Snowdrop (*Galanthus plicatus*) is a very large and distinct kind, but some fine forms of the common Snowdrop (*G. nivalis*) are also found here. One of the most robust and handsome of these is the Strathin Snowdrop (*G. n. grandis*), the original roots of this having been found by the late Lord Clrinn in the Tehermag Valley, and it has luxuriated beside the silver Liffey at Strathin ever since, or for

which our present example is one of the most beautiful. The illustration is an object lesson as to bulb planting near to the trunks or holes of deciduous trees, and shows that a regular dotting of bulbs at equal distances over large areas of lawn is not the best, the most economical, or the most picturesque way of arranging them. The view here given shows clearly and effectively that a focus spot or principal group is necessary in every picture, and that a few bulbs grouped irregularly near dark and velvety-green tree-roots gain immensely by the force of contrast, and finally that all due sense of a right and natural perspective is thus preserved. E. W. B.

GOOD GARDEN LILIES.

THE Lily that is generally the first to expand its blossoms is *L. pyrenaicum*. Its chrome-yellow petals, spotted with purple-black, are set off with orange-scarle anthers that give

beautiful flower than this exists when in perfect health and freshness. In many cases, however, it is, unfortunately, attacked by an insidious disease, which renders it a pitiable sight. Where the disease is bad it is best to lift the bulbs and place them in flowers of sulphur, leaving them a month in the sulphur until they are thoroughly dry, and then replanting, with a sprinkling of kailit around the bulbs at a few inches' distance. The Orange Lily (*L. croceum*) is an old cottage favourite, though perhaps not so extensively grown in these gardens as is the last-named. It is of hardy constitution, and often attains a height of over 6 feet when left alone for several years. *L. excelsum* or *testaceum* is a beautiful Lily of a soft buff shade, said to be a cross between *L. exaltatum* and *L. chalcidonicum*. It is of easy culture, and is rarely troubled with disease. *L. chalcidonicum* is the brightest of all Lilies, its flowers being of a vivid vermilion hue, while they remain in beauty for a considerable time owing to the



Snowdrops at the Grove, Dunboyne. From a photograph by Miss Mabel Gaisford.

nearly fifty years. The Snowdrop may not be a real native of Ireland, not even naturalised there to the same extent as in England, but the fact remains that it luxuriates in Irish gardens by the thousand, and is more often found near to dismantled walls "where once a garden smiled." Our present illustration is from a very beautiful photograph taken in The Grove at Dunboyne, Co. Meath. It shows how charmingly the Snowdrops grow there clustered among the velvety bushes on the old tree-roots, their snowy whiteness contrasted with grass and other herbage, and with the lichen-covered boles of the trees. Our picture is by Miss Gaisford, a lady who to a love of horticulture adds great artistic skill in plant portraiture with the camera. Residing, as Miss Gaisford does, at The Grove, Dunboyne, Co. Meath, and being in close proximity to the noblest gardens at Carton, to Binnwood, Strathin, and many other good gardens, we have received from her some very welcome and excellent garden pictures from time to time of

the flower a handsome appearance. The blooms are, however, possessed of a most disagreeable odour, and if grown in any quantity render the part of the garden they inhabit almost unbearable. *L. pyrenaicum* is generally closely followed by *L. Thunbergianum* or *elegans*, of which a fine lot of varieties is now in commerce, amongst the best being Alice Wilson, lemon-yellow; Orange Queen, bright orange; Wilsoni, apricot-yellow; Horsmanni, mahogany-crimson; and *marinorum aureum*, deep yellow with crimson spots. Some of these varieties are far later in flowering than the type. *L. flavum* or *umbellatum* is also represented by many varieties, some of which have been raised by crossing with *L. Thunbergianum*. The following are good: *aurantiacum*, orange; *Clith* of Gohl, golden-yellow; *platinum*, orange-amber with yellow band up each petal; *Sensation*, pure yellow with scarlet spots; and *incomparable*, dark crimson spotted black. The peerless *Muldoan* Lily (*L. vanthoureni*) is well known to all, and no more

solidity of the petals. *L. Szovitzianum* is a most attractive Lily, being clear yellow in colour, the petals in some cases spotted with numerous tiny black specks and in others free from them. *L. Martagon* is best known by its white variety, *L. Martagon album*, which is a charming flower. Two dark-flowered varieties are *L. M. dalmaticum* and *L. M. d. Cutoni*, the latter of which is almost black. *Martagens* resent disturbance, and rarely flower well for a year or two after removal. The new *L. sulphureum*, formerly called *Wallichianum superbum*, gives promise of being of easy culture. It is a most elegant and refined Lily, with large, widespreading, white flowers tinted yellow inside, and grows about 6 feet in height. *L. Henryi*, sometimes styled the yellow *scicoum*, is another new introduction, and has already proved its hardiness and value. It is an exceptionally robust grower, reaching a height of 10 feet, and bearing twenty or more flowers of a rich orange-yellow. *L. giganteum* is a noble Lily from the Himalayas, that under favour-

able conditions attains a height of from 10 feet to 14 feet. It should be planted in a bed rich in humus, at least 3 feet in depth, and should receive a mulching of thoroughly rotten hot-bed manure every autumn. A slanted position is preferable for this Lily, but if well looked after it will also succeed in the open border. In procuring bulbs of *L. giganteum*, medium-sized ones should be ordered in preference to the largest, since if the latter flower the first year they will not have time to become established before the flower-stalk is thrown up, and this will be a relatively poor one, probably not more than 6 feet in height. In wintering smaller bulbs, the time of wintering will necessarily be lengthened, but the flower-stems when they are at length thrown up will be typical. Seed sown will produce flowering bulbs in eight years. After flowering, the main bulb of *L. giganteum* entirely disappears, leaving around the base of the stalk a few off-sets, which usually take from three to four years to attain flowering size. *L. Hansonii* is a pretty Lily of deep yellow tint, heavily spotted with black. It rarely exceeds 3 feet in height. *L. tigrinum* is the latest of the Lilies to bloom, flowering in August and September. The two best varieties are *L. tigrinum Fortunei* and *L. l. splendens*. The former sometimes attains a height of 7 feet, and bears forty to fifty flowers of an orange-pink hue, spotted with deep purple. The latter is of deeper colour and bears larger flowers, but is of less vigorous habit.

All the foregoing Lilies, except *L. giganteum*, whose wants have been detailed, do well in ordinary garden soil mixed with road-grit and leaf-mould. *L. Ifualobotti*, a very handsome Lily, with upright-tinted flowers blushed with lake, likes a compost of fibrous manure and leaf-mould in equal parts, and the Swamp Lilies (*L. cyathense*, *L. parviflorum*, and *L. superbum*) succeed best in peat, which should be kept moist during hot weather. The three last are very graceful Lilies, and well repay any trouble taken in studying their wants in the matters of soil and water. The charming little *L. rubellum*, with deep pink flowers, does best in a bank of light soil where the drainage is perfect. *L. unicum*, *L. speciosum*, *L. Brownii*, and *L. longiflorum*, in their numerous varieties, do well in some gardens, but refuse to become established in others. All have remarkably handsome blooms, and, should they fail to succeed, the display may be kept up by annual purchases, for they rarely fail to flower their first season. In planting Lilies care should be taken to group them naturally. Partial shade is beneficial, and a site where this is provided by large trees, at a sufficient distance to prevent the soil of the Lily bed being robbed by their roots, is an ideal one, since the surrounding trees provide adequate shade and shelter from strong winds, both of which are beneficial in Lily culture. S. W. F.

BEGONIAS IN THE FLOWER GARDEN.
(Reply to "Sera.")

BEGONIAS intended for the flower garden are often started too early in the year and in too much heat, and if not potted into large pots they become root-bound and stunted. Consider April the best time for starting the bulbs, and a temperature of 55 degs. quite high enough. They may be potted in small pots, in good loamy soil and a little manure and leaf-mould, or placed in shallow boxes in Cocoanut-fibre or leaf-mould. It is astonishing how quickly the bulbs root into these. Those in boxes must have plenty of room for the plants will become drawn and wanky. A light position is also essential, and as soon as growth commences as much air as the state of the weather will allow must be given. A close atmosphere soon draws the plants up. The more sun the plants have the better, and this should be husbanded by closing the house early on fine afternoons. When growing freely the plants may be assisted with weak liquid-manure, and the foliage should be syringed twice daily. Should any flowers appear when the plants are small they must be picked off. At the end of May place them in a frame, hardening them by gradual exposure to the air. Begonias require a fairly rich loamy soil, but beware of digging in rich farmyard manure, as it encourages the plants to grow too strongly. If animal manure is used it should be dug in

deeply early in the year. The best stimulant consists of old Mushroom bed manure, with a small quantity of artificial manure added. Leaf-mould and wood-ashes are also excellent. The beginning of June is a good time to plant out Begonias, and a fairly sunny position should be chosen. If the plants are strong allow a distance of 9 inches between them, and after planting mulch them with Cocoanut-fibre or short manure. Begonias delight in abundance of moisture at the roots, and in dry summers a good watering every ten days will not be too much. Weak liquid-manure may also be freely given. J.

NOTES AND REPLIES.

Alum-water for Hydrangeas.—Some time back you said in your paper that alum and water would cause Hydrangeas to come blue. I should be obliged if you would kindly tell me how much alum to the water and how much and how often to water? In my flower garden, just opposite, the same Hydrangea was a lovely blue, here it has been pink. J. Smalley, Saltwood, Hants, Kent.

Dwarf pink Nasturtium.—Will someone give me the name of a dwarf Nasturtium of a pink or rose shade suitable for growing in a border? Must bloom all summer.—CENTURY.

[Ruby King is the nearest approach in colour to what you require, but we cannot answer for its flowering all the summer. Much of this depends upon treatment, soil, and other things. Many kinds, however, are quite profuse in their flowering.]

Water Lilies in tubs. Will you kindly answer the following questions in the next issue of GARDENING? 1. Where can I get the new hardy tubed Water Lilies? 2. How can I grow them in barrels sunk in the ground—how deep should the barrel be, will the ordinary wooden bottom do, and how should the barrel be planted? 3. Has this method of growing them been successful? I have no pond, so it is the only way I could manage.—J. M. M. K.

[Water Lilies do well in half tubs buried in the turf and half filled with heavy soil and water. On lawns the tub or half tub might be sunk level with the surface, thus giving the leaves and flowers of the Water Lilies the appearance of growing out of the ground. Of course the strong-growing varieties of the *Mylæna* type are too vigorous for this mode of culture, but there are many of the less strong-growing kinds that answer well treated thus. Apply to Amos Perry, Winchmore-hill, London, N.]

Cheapsness of spring flowers.—To-day is the first day of spring as I write, and I have been buying out-flowers. Bunches of double *Daffodils*, of "Butter-and-eggs," twelve blooms to the bunch, fresh and beautiful, are retailed at one penny per bunch, *Anemones* likewise, and sprays of fragrant *Freesias* at the same price. Violets for many a day have been hawked in our streets at the same modest sum. What would be without flowers in their rooms? I look around mine, and forget for the moment that winter has only just left us.—LEADER.

Annual Larkspurs.—Where facilities do not exist for growing perennial Larkspurs, then some of the annual sorts should be given a trial. The seed should be sown during the present month in some sheltered border, subsequently transplanting them to the places where they are wanted to bloom. Anyone having experienced a difficulty in getting other plants to flower on dry borders will, I am sure, be pleased with Larkspurs. There are several distinct sorts of varying heights and colours—the Stock-flowered, Ranunculus-flowered, and dwarf Rock-rose-flowered being amongst the best.—W. F.

Tall dwarf Wallflowers for early flowering.—If Mr. Cook would procure and sow seed of all variety of Wallflowers named Earliest of All early in June, he would, I venture to think, experience no difficulty in having an abundance of these delightfully fragrant flowers for cutting from the autumn and onwards through the winter months, should such prove mild. This variety has not failed to yield great quantities of flowers with us since the autumn. They are now going over, but the fact of its being such an early blossoming and free-flowering variety cannot be too widely known.—A. W.

A pair of Tropæolums.—*Tropæolums* as distinct in point of culture as it is possible to be, but both possessing flowers that are decidedly pretty and freely borne, are *T. speciosum* and *T. Jarratti*. The first named has certain peruliarities which have to be taken into account, and one of them is that, as a rule, it will not grow in places where much sun can

reach it, but where other climbers sometimes refuse to grow at all—viz., on an east or north east wall—there *speciosum* will often thrive and bloom most profusely. *Jarratti*, though a tuberous-rooted *Tropæolum* like *speciosum*, is best seen in a greenhouse, where one may count on its scarlet and yellow blossoms in early summer. *Jarratti* may be planted at once in the house, and *speciosum* out-of-doors in April. Both are handsome climbers in their respective positions.—DERBY.

Salvia patens alba.—I am surprised to learn that in one catalogue seed of this plant. Possibly its existence is too little known generally. A few years since, when at Malvern, I saw it growing freely, and sowing about West Malvern, and Mr. Fidler kindly gave me some seeds. These I gave to a friend and asked him to raise plants, with the view, first, of testing adherence to character and, second, if favourable, of raising a stock of seed. He found all the plants flowered white, as the parents did, and was enabled to send the *Salvia* fresh. Where the blue form and the white one are planted together the effect is very pleasing. All the plants have tuberous or fleshy roots, and these can be wintered, then induced to break freely in the spring, and furnish a plentiful stock of cuttings.—A. D.

The French Marigold.—In April, exhibitors of this favorite flower generally sow their seed, and prepare the beds for the plants. In many cases out of ten these beds are dressed with manure, which, I consider, from an exhibitor's point of view, so much waste of time, many of the blooms, owing to the rich soil, coming of a dark brown colour, which, of course, is useless for a show stand. A poor soil suits the French Marigold admirably, because it induces the plants to throw yellow flowers, and what is better than to feed gradually until the blooms become perfectly striped and of the proper depth. The finest French Marigolds I ever had were grown on an old Strawberry-bed which had been trenched deeply, and which had got up manure of any kind. The Marigolds were given liquid cow-manure when coming into bloom.—D. G. McIVER, *Bridge of Weir, N.B.*

The Night-scented Stock (*Hesperis tristis*).—In reply to your remark on my inquiry about *Malthida*, I have been put off by seedsmen with seeds of *Malthida bicoloris*, which is not the plant I seek. I was advised to apply to Messrs. Thomson and Morgan, of Ipswich, as a firm likely to supply old-fashioned flowers. In a reply I received from Mr. Thomson, he said the *Malthida odoratissima* was the plant I was seeking, and that he only knew it from an illustration in a book, and would gladly learn where he could get it. Probably he thought it might be obtained from some historical garden. The plant I seek was common fifty years or so ago in good gardens. It had long, very narrow glaucous leaves about 2 inches to 3 inches long, and a hoary-green plant, which grew in sprays, and began to smell almost punctually at 3 o'clock p.m. I found a plant in a nursery at Dovercourt, but cannot now learn the name and address. I kept it till in a change of residence in 1896 it was lost. SALE.

[We think it is *Hesperis tristis* you are seeking. Try for it under that name.—Ed.]

The Eastern Christmas Rose (*Helianthus orientalis* var.).—The old and true Christmas Rose was always vastly more popular in gardens than this, the later-flowering and more varietal Christmas Rose. But this is a very beautiful plant, less capricious, hardier, and more rigorous in nearly all its ways than *H. viger*. Flowering early in spring, and often, as we see this year, at the end of winter, it has a little more chance of a fine hour now and then, and it comes with all those delightful things that make the spring so charming to those who cultivate the early flowers. On the coast and sheltered spots everywhere better results are obtained. There are a great number of names given to forms of this species, but they may be all grouped under the general name. There is a striking family likeness between them, the most distinct being the white, which are very pretty at this time of year. The plant does not seem so particular about soil as the Christmas Rose, and we have had strong examples in ground where the Christmas Rose is very slow

and doubtful. These are ground plants forming evergreen borders, and they never show their great beauty and value until they are several years undisturbed. They are admirable for borders near walls and places we want to keep quiet, and yet fresh and furnished at all times—that is to say, where the ground is not broken up twice a year for bedding out.

What to do with old Hyacinth bulbs.—Many gardeners, myself included, have always been in the habit, after these have finished blooming, of planting them in a border, there to furnish a supply of bloom for a few years. This is a very good plan, and should always be done by those who require an abundance of cut bloom, but a few may be used otherwise. Last December I took several thousands of the bulbs which had flowered the previous spring, and planted them thickly in a back pit, just covering the bulbs with fine soil. In the pit I had a hot-water pipe along the back, which, however, I did not use unless in severe frost. After planting, I spread a few mats on the glass until some growth had been made, afterwards giving them all the light and air possible. The result has exceeded my

expectations. Every bulb has thrown a good spike, and in many cases two, and I have been cutting sheaves of bloom since March 5. The only attention given was in ventilation, no water having been required since the bulbs were put in. The aspect of the pit was due south. D. H. McI., *Beddy of Blair, N.B.*

Plants for north border (A. W.).—There are many things suitable for such a border; indeed, the shade would be helpful to a few things, particularly to *Spiraea vanuta*, *S. palmata*, *S. Aruncus*. These are moisture-loving subjects usually considered, but with strong soil and partial shade do quite well. Among other things you could now plant are Oriental Poppies, *Alstroemeria aurea*, *Galtonia canalicata*, Irises of the Flag section, *Lathyrus latifolius* and *albus*, *Tritonias*, Day Lilies, *Helianthus pumilus* (2 feet), *H. autumnale* (3 feet), *H. nudiflorum*, *crispum* flaked (5 feet); *Aster Amellus*, *A. aeris*, *A. brigitulatus*, and a set of *A. Nova-Anglie*; *Delphinium formosum*, and say half a dozen others in variety. Peonies would be excellent, and you had best make a note of these for planting in September. It is far too late to plant them now. *Stenactis scariosa*, *Rudbeckia purpurea*, *R. Newmanni*, *Sunflowers*, *Lilium tigrinum*, *L. t. E. P.*

ETHIONEMAS.

This genus comprises some half-dozen or more species, though it is, perhaps, doubtful whether all could be found under cultivation in England at the present time. In general habit of growth there are a certain sub-shrubby character of the more important kinds, and a rather woolly stem at base. In cultivation these

plants in it or upon it. I have only tried two species of this genus in walls of any kind, and the behaviour of the plants was an experience well worth gaining, albeit it is now some years since.

In all cases where possible these plants must be raised from seed. For the rock garden the seeds may be sown a few in a pot, the seedlings being afterwards transferred bodily to the required position. For the wall garden there is nothing to equal sowing the seeds in the chinks of the brickwork or stonework. Small seedling plants may be inserted in the joints also, but there is a fear of injuring the roots, and in this instance it is important to avoid this. In the accompanying picture is given one of the most important kinds—viz.,

E. carmiflorum. As may be gathered from the illustration, there is much of the ordinary Camlytist in the round-headed racemes and not a little in the growth. The blossoms are rosy-lilac, and the linear and glaucous leaves are each about an inch long. This is a true perennial in the positions indicated, but on level ground in rich soil it is not so permanent. A native of Asia Minor, flowering in early summer.

E. grandiflorum.—This is also an important species, and differs from the above chiefly in the elongated racemes, that incline to columnar in outline, and in the ovate-oblong glaucous leaves. The warm rose flowers are freely produced and rather crowded upon the racemes, the flowering beginning in May and continuing for some weeks, when strong examples are found. Native of Mount Lebanon.

E. pychellum is also showy and good, and though counted a distinct species comes very close to *E. cordifolium*.

The other species which are more strictly annual are *E. saxatile*, *E. monospermum*, and *E. Busbaumii*. E. J.

CHRYSANTHEMUMS.

HOW TO TREAT PLANTS TO FLOWER LATE.

(REPLY TO "AN AMATEUR, BIRMINGHAM.")

To reply satisfactorily to your questions is no easy matter, as you desire to have all your plants in flower over a period of three months. You cannot do better however than allow the plants of the early and semi-early sorts to flower from terminal buds. Mme. C. Desgrange, G. Wernig, Mme. Marie Masse, Rycroft Glory, and La Vierge are five popular sorts which will give a free display of blossoms in October if the plants are grown on to the terminal buds. As you specially state you want plenty of flowers of the five sorts already named, the plants should be left to develop their branching shoots naturally. All you need do when the terminal-buds appear is to slightly thin them out, leaving a goodly number of the larger and better shaped buds. In the case of November-flowering plants, the treatment must be different, as you say you want from eight to fifteen flowers on each plant, and the individual blooms are to be about 8 inches across. We very much doubt whether you will be successful in getting so many large blooms as the number named above. In any case, you should adopt the following method of culture. Assuming that your plants are now well grown and sturdy, pinch out the point of each growth, and as the resulting shoots form in the axils of the leaves grow on three or four of the strongest. About the end of June pinch these shoots in turn and again take up three or four of the best-looking of the resulting shoots, and secure the first buds subsequently developing. By these means you should have no difficulty in obtaining at least a dozen good blooms on each plant. Of the varieties in your list suited to this method the following may be relied on:



Ethionema cordifolium.

plants must have ample drainage. Anything tending to the opposite conditions will quickly show itself, and the falling of the leaves is a sure sign of this over-wetness or of root inactivity in some form. The best position one can give is one fully exposed to the sun, and, if possible, situated upon a slope or trailing over some ledge of rock where warmth and ample dryness at the root exist. Where these conditions prevail the plants may be given quite a deep bed of earth to root into. Loamy soil, freely intermingled with old mortar, limestone chippings, or the like, will assist in the direction indicated, and, provided no manure of a crude nature enters into the composition of the soil, there is no reason for failure, with the best kinds at least. Not a few have endeavoured to grow these elegant little plants mainly in peaty soils, but success is rarely assured by these means. At the same time, I would prefer to employ peat rather freely if the soil were inclined to be heavy. Light, sandy, and therefore, poor soils are the best for this class as a whole. Such is the dry-loving nature of these plants that I would unhesitatingly plant any of them in the chinks of rockwork, in any old crumbling or newly-built wall, provided this latter had been erected with a view to growing

the terminal buds. As you specially state you want plenty of flowers of the five sorts already named, the plants should be left to develop their branching shoots naturally. All you need do when the terminal-buds appear is to slightly thin them out, leaving a goodly number of the larger and better shaped buds. In the case of November-flowering plants, the treatment must be different, as you say you want from eight to fifteen flowers on each plant, and the individual blooms are to be about 8 inches across. We very much doubt whether you will be successful in getting so many large blooms as the number named above. In any case, you should adopt the following method of culture. Assuming that your plants are now well grown and sturdy, pinch out the point of each growth, and as the resulting shoots form in the axils of the leaves grow on three or four of the strongest. About the end of June pinch these shoots in turn and again take up three or four of the best-looking of the resulting shoots, and secure the first buds subsequently developing. By these means you should have no difficulty in obtaining at least a dozen good blooms on each plant. Of the varieties in your list suited to this method the following may be relied on:

Vivian Morel, Chas. Davis, Lady Hanham, Mrs. J. Ritsen (the foregoing are all members of one family), Modesto, Souvenir le Petite Amie, Pride of Ryecroft, Mrs. J. Bryant, Lord Cromer, Nicom, and Phoebe. The following three sorts should be grown freely and flowered from terminal buds: Ryecroft Glory (Jap.), Miss Mary Anderson, and Miss Rose (singles). They should be pinched at once, and each succeeding 8 inches of growth treated in like manner, giving the last pinching at the end of June. For those to flower in December you should pinch the plants at once, taking up three shoots from this point, pinch again in the early days of June, and for the last time pinch the plants about the middle to the third week in July. The resulting shoots should give you the number of buds you desire, and the subsequent blooms should be in good form by the middle of December or earlier. Vivian Morel and Chas. Davis being the earliest of those in your late list, should be pinched last, say about July 20th.

STOPPING AND TIMING.

(REPLY TO "DULLY" AND "J. A.")

For exhibition, the following dates for pinching the points out of your plants should interest:

Name.	When to pinch the plant.	Which bud to retain.
Miss Alice Byron	April 10th	Second crown
Calcutta No.	April 10th	Second crown
Mrs. Barkley	Now	Second crown
Mrs. Lombard	Natural break	Second crown
Anabelle	Natural break	First crown
Le Grand Dragon	Now	Second crown
Miss. Carrot	2nd week April	Second crown
Mr. T. Carrington	Now	Second crown
Mrs. J. Lewis	Natural break	Second crown
Phoebe	Natural break	Second crown
Sou. de Petite Amie	Natural break	Any buds in late August
Rose Wynne	2nd week April	Second crown
Elthorne Beauty	2nd week April	Second crown
Henry Stone	May 21st	First crown
Golden Mate	May 10th	First crown
W. H. Lincoln	Natural break	Any buds in late August
Good Gracious	May 21st	First crown
Mons. Chonon de Lecke	Natural break	Any buds in late August
Florence Davis	May 21st	First crown
Bonnie Dimple (inc.)	Now	Second crown
Miss. Ed. Boyer (inc.)	Now	Second crown
J. Bunyat (Jap. Amie)	Now	Second crown
Sou. des Negros (Jap. Amie)	About April 10th	Second crown

(REPLY TO "AMATEUR.")

You do not say whether you are growing your plants with the object of exhibiting the blooms next autumn, but in giving our reply we have assumed that such is the case. Birmingham being a good representative Midland centre, we have timed the following varieties for the show held in that town at the usual period in November:—

Japanese.

Name.	When to pinch.	Which bud to retain.
Cecil Wray	1st week April	Second crown
Sou. de Petite Amie	Mid-April	Second crown
Mons. G. Molin	Mid-April	Second crown
Boule d'Or (Cult. No.)	April 10th	Second crown
Robt. Powell	April, 1st crown	Second crown
N.C.S. Jubilee	Mid-April	Second crown
Lord Brooke	May 7th	First crown
Hon. W. F. D. Smith	At once	Second crown
Lady Ridgway	At once	Second crown
La Triumphant	Mid-April	Second crown
Nicom	May 12th	First crown
Anabelle	May 20th	First crown
Maryot	Natural break	Terminal buds
Miss. Hicon	April 10th	Second crown
Source d'Or	Natural break	Terminal buds
W. H. Lincoln	Natural break	Any buds in late August
President Nonin	1st week April	Second crown
Edith Tabor	May 20th	First crown
President Borel	At once	Second crown
Sunstone	At once	Second crown
Rose Wynne	April 10th	Second crown
Royal Sovereign	May 15th	First crown
Phoebe	April 10th	Second crown
Mrs. E. A. Hill	At once	Second crown
Mons. W. Holmes	Natural break	Terminal buds
Fashion	Natural break	Terminal buds

Incurved.

Chas. H. Curtis	May 20th	First crown
Golden Empress of India	April 10th	Second crown
Empress of India	April 10th	Second crown
J. Agate	At once	Second crown
Globe d'Or	1st week April	Second crown
Queen of England	April 10th	Second crown
Beverly	Natural break	Terminal buds

The other varieties in your list being early-

flowering and decorative varieties, should be grown freely, and terminal buds retained. You ought to read the general article dealing with "Stopping and Bud-retaining," in our issue of Feb. 8, p. 649.

OUTDOOR CHRYSANTHEMUMS.

REPLY to a paragraph in GARDENING ILLUSTRATED from "Townsmen" on outdoor Chrysanthemums, which he says he leaves out in his garden all winter, etc. I should be very much obliged by his giving me further particulars as to treatment of the old plants in April? Are they divided up, or the suckers only taken to form new plants? Also what is then done with the young or ill-bred stock? Any information on this subject will be appreciated.—M. WATSON.

[Already I have begun to divide my old plants, and the practice I adopt is to lift them, cut away as many of the most promising suckers with roots attached as I can, and plant them by themselves. Any suckers that may get broken I trim, put them in pots of sand and loam, and keep them in a cold-frame near the glass until roots have formed. Other plants that have several stems are pulled to pieces and each inserted in a fresh place in the border, and these seldom fail to do well. Suckers, of course, have more vitality, and are to be preferred to old stumps. After what has been written about outdoor Chrysanthemums and the simple culture they entail to secure quantities of flowers, one would think that everyone would grow them; but this is not so, for comparatively few have them in their gardens. With many, Chrysanthemums are still associated with glasshouses, and they overlook altogether varieties that for weeks, and even months, precede the November, or show sorts. Last October I cut a clothes-basket full of blooms and sent them to a side of work; they were quickly disposed of, and several who purchased them expressed surprise that flowers so beautiful could have been grown out-of-doors, inclining to the belief that a greenhouse for Chrysanthemums was indispensable.

As mentioned in my previous note on this subject, early-flowering Chrysanthemums need no glass protection whatever, as, with a little straw, manure, or Bracken, they pass through the severest winters. I cut away the old stems as soon as they have died down, and earth up the soil with a little manure round the crowns and seldom lose any. Any who have not as yet grown the early-flowering sorts should purchase plants next month, bed them out in the borders, stop them once or twice in the season, feed them a little in August and September, and expect to have flowers. They will bloom, and well, too. For the benefit of new growers I give a list of varieties for supplying a succession of flowers, and would add that, for a town garden where other herbarious things sometimes die off after a few years, Chrysanthemums are sure to give the greatest amount of satisfaction. Where early autumn flowers are wanted in quantity for cutting, few can compare with those under notice, for the lasting propensity of the Chrysanthemums is admitted by all who grow them. Two of my breeders serve me well. One, being on the south side of the garden, consequently supplies the earliest bloom; and the other on the north side furnishes blossoms of the same varieties ten days or a fortnight later. It is, however, on my south borders where my stock plants are wintered for the most part.

LARGE FLOWERING VARIETIES.—Mrs. Bartoll, pale primrose, August; Sam Barlow, pink, August; Harvest Home, bronzy-red, tipped gold, August. Louis Lenoire, rosy-bronze, Mme. Musse, lilac-mauve, Mme. Desgrange, white, tinted blush, bloom from August to October. The following are at their best in September: Alfred Fleuret, rosy-lilac, Lady Fitzwygram, white, Edie Wright, white, shaded mauve, Annie Bowman, rose, Coval Queen, coral, De la Tuille, variegated, Mons. Dupuis, orange, Mrs. Geo. Hill, primrose, Mrs. Squire, white, A. Lejeune, rosy-lilac, Claret Bell, claret-crimson, A. Chausson, orange and yellow. October sees these in full bloom: James Salter, pink, Lady Selborne, white, Mme. de Gabarier, crimson, Medusa, old gold, Mme. E. Povrette, rose, Hortulanus, rosy-salmon, Ivonne Miref, carnine, Crimson Queen, crimson, Mons. W. Holmes, crimson, Golden reverse, Roi de Precoce, crimson, King

globe, deepest crimson, Pride of the Market, yellow.

EARLY-FLOWERING POMROSE.—Flowering in September: L'Ami Comberchet, primrose, La Vierge, white, Mrs. Selby, blush, Rose Wells, pink, Little Boh, crimson, and Fred Felt, red-lilac. August and September: St. Crouts, lilac, Canari, pale yellow, Blushing Bride, rosy-lilac, Anastasia, purple, Mr. Selby, blush, Piercy's Seedling, orange-yellow, Lyon, rosy-purple, Crimson Precoce, crimson, Mrs. Childingford, white, Precoce, yellow, Alice Butcher, red, flower in October. Strathmeath, rosy-pink, blooms during September and October.

I never dislike the early-flowering sorts, choosing rather to have a profusion of blossoms to the few, as with me the object is to grow for cutting, and a few sprays, on which I can count a dozen or so blossoms, can be taken from each plant and scarcely missed; whereas, if depending to any extent were practised, this could not be. Some of my old plants, especially Piercy's Seedling, Mme. Musse, Mme. Desgrange, Gustave Gimmerwall, Harvest Home, Crimson Queen, Mons. W. Holmes, etc., were almost 3 feet across and carried hundreds of blossoms. Nearly all of them have been propagated in the open. TOWNSMAN.

Pinching early-flowering Chrysanthemums.—I had a few of the earliest summer-flowering Chrysanthemums. If I pinch them, does it make them flower earlier, or are they later than if they were allowed to break away naturally?—A. H.

[If we understand you rightly, you wish to know whether by pinching your plants of the earliest summer-flowering kinds they are made to blossom earlier or later than they would if left to make a "break" naturally. If the plants be pinched before they make a natural break—i.e., while they are small plants represented by a single stem—their period of flowering may be expedited thereby. The object of pinching these plants is to make them branch or "break" out into new shoots, and the earlier this branching takes place the earlier will the plants come into blossom, because their buds are developed earlier in consequence. So far north as Dunblavin, N.B., we know that many of the sorts which bloom in the south quite satisfactorily in October are of little use to growers situated as you are, and for this reason pinching some of the slightly later sorts may bring them within the period you desire.]

ROOM AND WINDOW.

WALLFLOWERS IN WINDOW-BOXES AND POTS.

Few plants are more suitable for window-boxes in spring or for growing in pots for the decoration of the conservatory than Wallflowers; but in order to ensure dwarf, bushy plants good culture must be given. In the first place, the young plants must be well thinned out in the seed-bed, and, as soon as large enough, transplanted 9 inches apart into deeply dug ground, well enriched with thoroughly decomposed cow or horse-manure. If the soil is rather heavy, so much the better, as then the plants can be taken up with good balls of soil in autumn. It is a good plan to water them with soft manure in summer. Copious waterings will be necessary from time to time. In October the plants should be taken up carefully and potted or placed in window-boxes, as the case may be. Some well rotted manure should be placed on the drainage in the boxes, and the latter nearly filled with good leamy soil. The Wallflowers may be planted fairly close together, and the soil made firm round the roots. Planting completed, give a good watering, and apply a mulch of old Mushroom-bed-manure. If the weather is dry, the plants will require several good waterings. Eight-inch pots are best for Wallflowers. When potting them, ram the soil fairly round the roots, and leave a good margin for water, as they require a plentiful supply of it in spring. When potted, place the plants in a cold-frame, plunging the pots to the rims in ashes, Cocoa-tin-lime, or leaf-mould. Protection can then be given in severe weather. If the plants are removed to a light, airy house or pit in January, and a temperature of 50 degs. given, they will flower in March. Keep them

near the glass, and assist them frequently with weak liquid manure. Harbinger, Bellevue, Castle Yellow, and Blood Red are good varieties for pots. J.

LILIES OF THE VALLEY LOOSELY ARRANGED.

SAFETY in arrangement as it pertains to flowers is not nearly enough adopted. Some would be horrified if they had to depend upon such a common thing as a tumbler wherein to arrange Lilies of the Valley. If, however, the tumbler be a plain one and not too wide at the top, it will make an excellent receptacle for them. In its use there is one most essential advantage that often escapes notice. It is that of being able to employ plenty of water, without which it is next to impossible to keep the spikes fresh for any length of time, more particularly in the case of forced ones. These latter, having been brought on so rapidly,

but not so much as to injure the foot-stalks, and then to bind damp Moss around the stems, these afterwards being dipped in tepid water before packing is finally completed. By taking these precautions the flowers will be found much fresher. It ought also to be said that it is not merely the time taken in transit, but there is also the time lost between arrival and arrangement, and that possibly after the flowers have been unpacked and then left exposed. I am led to make these remarks now, as it is the season when more forced flowers are used than at any other time. It is simply waste all round to spoil flowers at such times after their production has cost considerably trouble to the gardener. S.

EVERLASTING BLOSSOMS IN THE HOUSE.

AMONG some of the blossoms which we are accustomed to call "everlastings," are beautiful

how, after blooming, the peculiar Thistle-like heads may be cut for mixing with Grasses, etc. Xeranthemums are not grown so frequently as one would expect them to be, considering that they are hardy annuals, and are useful for making up winter bouquets. I have mentioned Gypsophila paniculata—the other member of the family is deserving of special mention—viz., G. elegans, which being a hardy annual is easily raised from seed sown in the open. Statice Suworowi has flowers of a rose colour, keeps well when cut, but is, I think, being gradually superseded by the white form—viz., meana, or, as it is commonly called, Silver Cloud—a variety which bears branching stems of what are tritely termed "cloud-like blossoms." It is a perennial which should be in all collections of hardy plants. Globe Thistles (Echinops) are, I imagine, fairly well known, their round heads of prickly light being blue in colour, and forming fit companions to the Eryngiums for making up for winter baskets and bouquets. Acaelinums are most effective hardy annuals. They are not much grown by amateurs, but having in view their use for winter they are worth more attention. Perhaps it is left to a half hardy annual to be regarded as the most popular "everlasting." I refer, of course, to the Helichrysums. One knows how by sowing seed in boxes in March or April in a greenhouse or frame, then jerking them off, and subsequently planting them out of doors about the end of May, or sowing in the open air in April, it is easy to obtain great quantities of rose-looking blossoms of white, yellow, crimson, and rose. Like other similar everlasting flowers, Helichrysums should be cut when partly expanded, as with drying they open further, and if not cut until fully matured the seedy centres will drop. Amongst greenhouse annuals, one of the prettiest of the early-flowering varieties is the Rhodanthe. Most people who know little of flowers, or their names, recognize each spring the pots of delicate looking rosy-pink and white blossoms, which find such a ready sale, and are called by the not inappropriate title of "Everlasting Daisies." The culture of the Rhodanthes is exceedingly simple. Sow the seed now and during the next few weeks for succession, in shallow pans or boxes of light soil in a warm house, transplant them into pots when well into their second leaf in batches of fifteen to twenty in a 5-inch or 6-inch pot, in soil of light loam, with which finely sifted leaf-mould and coarse sand have been incorporated, well draining the pots and keeping them on a shelf near the light, watering only when needed. They are charming for a house-window or for table decoration. They may be grown by anyone who can raise them in heat, but do not require a heated structure afterwards; in fact, a cooler temperature will suit them better. Liable to damp off when young from over much moisture, it is wiser to err on the side of dryness than to use the water-pot too frequently. These, too, tender annuals though they be, may be gathered when partly opened, and add interest to baskets or vases of dried flowers and trusses in winter days, when other blossoms are scarce. WOODS-STWICK.



Lilies of the Valley arranged loosely in a glass

require a deal of sustenance. When, therefore, a good depth of water can be had it is all the better for them, this being further improved upon by using the stems at full length. In the case of the forced single crowns it is even possible to take the crowns and a few roots also. Thus employed, there is every prospect of the spikes continuing much fresher than would otherwise be the case. If looked at in a sensible light it will at once be seen that forced flowers of any kind require more water to keep them fresh than those which open naturally. This, therefore, should be the aim of all who have to arrange forced flowers. Another essential point to observe is not to expose forced flowers to the draught. For instance, if stood near to an open window the inevitable must soon follow as a matter of course.

When sending forced Lilies of the Valley any distance, the time taken in transit being sufficiently long to cause them to suffer, by far the best plan is to tie them up in bunches tightly,

when growing in the borders in July and August, it is really on account of their value in the house in the darkest days of the winter that they are most appreciated. To my mind it matters little whether the garden is large or small, as in every place where flowers are regarded with favour, a corner should be set apart for those that add a little brightness to rooms at this time of the year, and the one who has no greenhouse especially will do well to hear in mind flowers that may be dried off, so to speak, and yet retain their colours months after the plants themselves have died. Some blossoms possess a delicate gauze-like appearance, like Gypsophila paniculata and Statice, that are worth the little trouble they demand for the lightness and grace they add when freshly gathered to mix with Sweet Peas and Poppies and other fragile flowers, to say nothing of their use now when quite dry. The origin, everyone knows the value of the Sea Bonnet (Eryngium) for winter decoration

GARDEN PESTS AND FRIENDS.

Worms at roots of Lettuces.—I shall be glad to know the name of the worms enclosed in tin sent herewith? They are in great numbers among the roots of Lettuces, some of which they have wholly destroyed in this way. I suppose there is no remedy but hand-picking? —DREA.

[The grubs injuring your Lettuces are those of a fly, probably the St. Mark's fly. See answer to Miss Holt, in this week's issue.—G. S. S.]

Chrysalis in soil.—Enclosed in the box herewith you will find a chrysalis which I picked out of some ground which I was turning over this morning. I shall be glad if you will tell me the name of it.—DARFORD.

[The caterpillar that you found in the ground is that, I believe, of the "Dart-moth" (Agrotis segetum), but it was in such a shrivelled condition when it reached me that I cannot be certain. These caterpillars are most injurious to the roots of many different kinds of plants, and when met with should always be destroyed. They have an annoying habit of eating through the tap-root of one plant and then going on and treating another in the same way. Unfortunately, they are very common.—G. S. S.]

Insects in flower-border.—I would be obliged if you would tell me what the grubs in the accompanying box are? They were found just under the surface in flower-border, about fifty in one place.—M. ITOR.

[The grubs you sent are those of a two-winged fly belonging to the genus *Bibio*, probably *B. Marci*, the well-known St. Mark's-fly, so called from its generally making its appearance about St. Mark's-day (April 25); but they may be those of another species. The St. Mark's-fly is a black and very hairy fly, which does not fly very well. They may often be found in pairs settling on plants or on the ground. They generally appear in considerable numbers for a day or two, and then seem to vanish altogether. These grubs are undoubtedly injurious to the roots of plants, but I cannot recommend any other way of destroying them but picking them out of the soil. You cannot water the whole garden with an insecticide, and even if you could it is very doubtful if many would be killed.—(C. S. S.)

Woodlice in frames and houses.—My garden,inery, and frames have been infested with woodlice ever since I came here. I have tried boiling water, also dusting with quicklime, but they still increase. Is gas-lime (diluted) injurious? I can get it near here. Does it injure plants, even if washed off soon? Is there anything better, but not very dear? Some of my *Seakale* crowns have had the shoots eaten by lice and small grubs, so I have removed the pots, dusted with slaked lime, lightly covered again with stable-manure without pots, and propose to gradually cover as it grows. Is this right in the circumstances?—A. V. BYLER.

[I do not think that you would do any good by watering the soil with "gas-liquor," or any other insecticide, and I am uncertain what effect it would have on the plants. The boiling water should be poured down by the edge of the soil where it touches the wood or brick-work of the frame—it will kill any woodlice that it comes into contact with. If you lay down bricks, tiles, or pieces of shite on the earth, you will find that the pests will congregate under them, and in this way you may catch large numbers of them. They may be poisoned with phosphorus paste spread on pieces of bread or mixed with *Burley-meal*. They may sometimes be driven away by the free use of *Pyrethrum* insect-powder, or they may be caught by folding up strips of brown paper partly smeared inside with beer or treacle or sugar, and laying them about so that the woodlice can hide in them. You are doing quite right in dusting the lime round your *Seakale* crowns, this being the only available remedy.—(C. S. S.)

ROSES.

ROSE SOLEIL D'OR.

THOSE who do not already possess this fine novelty should make a point of doing so. I am much pleased with it, and consider it a great gain. In the forcing-house the variety has been very conspicuous, the golden-yellow of its medium-sized blossoms having a very cheerful effect during the dull months. In some respects it resembles one of the parents—*Persian Yellow*. The roundish buds are similar, but the flowers are larger, and, moreover, the reddish tint upon the centre petals gives this Rose a most unique appearance. Then, again, the perfume is delightful. The raiser claims for this Rose that it is perpetual. I hope it may be so. It will make an excellent garden variety, as the growths that produce the flowers are not straggling, but quite short and compact, so that every blossom is well displayed. Until we obtain a really good golden-yellow Tea Rose of a hardy nature *Soleil d'Or* will be in much demand, as it is just the colour wanting. There are very many golden-yellow Roses, but only one or two sturdy enough to plant in large quantities for massing. I hope Monsieur Pernet-Ducher will give us still more distinct breaks, such as he has obtained with *Soleil d'Or*. There is a danger, I think, now-a-days that we may get too many Teas and Hybrid Teas. Let us have another turn at the Hybrid Perpetuals, and endeavour to instil into this hardy tribe the autumn-blooming qualities of the true Teas. We want their rich crimson colours and their sweet fragrance. Far too many of recent inventions have no perfume whatever.

Rosa.

Rose Marechal Niel falling.—I bought a Marechal Niel Rose about two months ago. It was in a 7-inch pot when I bought it, and I made a bed formed with

bricks about 2 feet square. I placed some broken bones at the bottom, then some rough turf, and then filled it up with leaf-mould, with a small sprinkling of guano, and placed it in a lean-to, a new growth of canes, and all the new wood goes the same way. Would you kindly oblige by telling me the cause of it so doing? It is in greenhouse in temperature of from 55 degs. to 60 degs.—A. MATHER.

[It is not a good plan to use leaf-mould for Roses unless mixed with loam. There are various fungi lurking among the decayed leaves that might be the cause of the blackened growths enclosed. We are, however, rather inclined to believe that the guano is the cause. We do not know why you gave the plant guano in its present stage, when there were no active roots to utilise it. When planting out this fine Rose under glass good loam is the best soil for the purpose. Mix with it a little sand and short manure, and you will not improve in this mixture. When the plant shows its flower-buds is quite time enough to give artificial manure. We should advise you to remove some of the leaf-soil immediately around the ball of earth, taking care not to disturb any roots, then replace with some loam in which a handful or two of sand has been mixed. Before putting in the loam make sure the ball of earth containing the roots is well watered. Sometimes if this is dry when planted no amount of water given afterwards will penetrate it. It is always well to stand the plant in a vessel of water a few minutes prior to planting out. We mention this because this may be the cause of the blackened shoots.]

TREES AND SHRUBS.

FORCED SHRUBS.

SOME of these will now have gone out of flower, but, nevertheless, do not despise the plants or treat them badly, for with good care they will do a good turn again in one way or another. *Azalea mollis* and *A. pontica* also are valuable for forcing. This is well known, but the fact that the plants may be retained in pots from year to year does not appear to be understood. They will not, except in a few cases, be of any great service to force next spring, but in two years they will yield an abundant crop of bloom. They will flower in many cases as freely as newly-potted ones, with one distinct advantage—that the flowers do not drop before expanding; that is sometimes the case with those freshly potted. When the plants are well established the flowers are of greater substance and last longer; at the same time the wood is longer-jointed, which is another advantage, as longer stems are thereby secured. As soon as all the flower is out the plants are pruned a bit into shape and still kept in a growing atmosphere, getting them into a cool-house in a few weeks, and thence out of doors. Dwarf Charles X. Lilacs when cut are close pruned, but these will be put outside sooner than the Azaleas. *Guchler* Roses should be treated the same as the Lilacs. *Dentzia gracilis* when cut should be grown on us in the case of *Julian* Azaleas; thus treated this useful shrub will flower every year. *Spiraea confusa* should be treated the same as the foregoing *Dentzia*, save that it will do quite as well in a little less warmth.

The plants just named, to, if used in conservatory decoration, should be brought back again into warmth as soon as out of flower, the knife being used where essential to keep them within compass and also compact. In a few weeks sufficient growth will have been made for them to be shifted into cooler houses before being finally stood out-of-doors early in May. Whilst advising pot culture for *Azalea mollis*, I am driven to the fact that they can be successfully treated by the planting-out process, making better growth without doubt; but then those of us who are not fortunate enough to possess suitable soil will do much better by adhering to the pot system. After planting out, when again relifted, they will take much larger pots; this should be considered. *Pink Rhododendrons* (hardy kinds) can now be brought on into flower much more successfully than earlier in the season. As the buds swell they should be freely syringed, giving at the same time a liberal supply at the roots. *Hydrangea pinnatifida* (after last pruning) may now be started in batches in a moderate heat, keeping the plants as near the glass as possible.

FRUIT.

PROTECTING PEACHES WHILST IN BLOOM.

Most gardeners are aware of the advantages of protecting Peach and Nectarine-trees whilst in bloom, but the mode of doing this has to be gauged according to the ways and means at command. The worst form of protection is that where it has to be kept over the trees permanently the whole time they are in bloom, and very often much beyond this period if the weather should be cold and unseasonable. By far the least objectionable of fixed coverings is fish netting; light and air can penetrate through this, but not so those close-woven fabrics which are often used for the purpose. When these are fixed over the trees they are kept in a state of semi-darkness, and the flowers as they open, on account of the subdued light, are greatly weakened, and the fructifying organs correspondingly so. Under such treatment only weak flowers can be expected, and although a fair proportion of them may set, yet on account of the imperfect state of the fertilising, the small fruits fail to swell. Not only does this close covering conduce to the above evil, but it also tends to blister on the leaves. This cannot be termed a disease, but it is brought about by cold wind acting upon the young and tender foliage, and is accelerated more or less by sudden exposure after a lengthened period of close covering.

My Peach wall is surmounted with a glass coping, or rather a framework, into which are fixed squares of glass just previous to the trees coming into bloom. Some people look upon this as an expensive luxury, but it has paid for itself over and over again. Along the front are hung lengths of a warm, net-like covering. The strands are not close together, but sufficiently far enough apart to allow of a fair amount of light reaching the trees if the weather was so cold that they could not be drawn up. It is fixed to the outer edge of the coping, along which runs a strong wire, and on to which the covering is hung. When let down it is fixed in close to the wall at the bottom. It is astonishing the amount of cold it keeps out, and it has turned several degrees of frost whilst the trees were in bloom. The coping keeps the flowers dry, and with this assured, it takes a severe frost to cause the least injury. At the time the trees are in bloom, and if the day has been such that they could be uncovered, the blinds are pulled down about 5 p.m., and unless the night should be mild enough to allow of their being pulled up early in the morning, wait until about 9 a.m. before pulling the blinds up. During cold days the covering should be kept down.

To prevent blister, the same course of procedure is adopted if the weather is likely to be unfavourable. Trees which have been completely covered and which, after the petals are shed, are exposed are sure to suffer from blister. If it could be managed, the uncovering should be gradual, and if a cold spell is likely to intervene, the trees should be covered again for the time being.

II.

MULCHING FRUIT-TREES.

THE mulching of fruit-trees is not always carried out as it should be. Many persons put on a thick covering of manure over the surface of established trees in the autumn, leaving it there until decomposition has entirely taken place. This is a great mistake and a practice likely to lead to bad results in many cases. Mulching is really carried out to conserve the moisture in the soil. Another object in mulching is to encourage surface roots, it being an acknowledged fact that a cool, moist condition is the most favourable to this. When the soil is baked dry on the surface the roots seem to shrink from such unfavourable conditions, and dive deeper in quest of that moisture which is denied them on the surface. Those persons who practise mulching of established fruit-trees in the autumn and winter cannot have any other reason for so doing than that of adding stimulating food to the trees. Mulching is not the best way to carry this out; the process of absorption is too slow to be efficacious. The evil of autumn and winter mulchings is great; the presence the chief factor towards success

is absent—that of the sun warming the roots and soil in the early spring and summer. Established trees, such as Peaches on walls, or, indeed, any kind, do not need assistance from mulching until the crop of fruit is assured; then this addition of food is useful to help to swell the fruit. The

MATERIALS FOR MULCHING are not always well chosen. The constituent portions of the soil should determine in some measure the kind of manure that is best suited to give the greatest assistance to the tree. A heavy soil, which is naturally much colder than a light one owing to its greater retention of moisture, should not have the kind of manure laid on the surface that is calculated to render it still colder. I allude to cow-manure, which is heavy and "chuser" in its composition, therefore not calculated to suit heavy soil. Partly-decayed horse manure, with a fair amount of short straw amongst it, is the best kind of manure for strong land, especially if a good quantity of wood-ashes can be added to it. Light sandy soils are benefited by the addition of cow-manure. In the case of newly-planted trees it is the accepted rule in all well-managed gardens to apply some partly-decayed manure to the surface soil directly the trees are planted, the object being two-fold: to protect the roots from frost during winter, and to maintain the soil in a moist state during the summer months. This not only minimises the labour in applying water to the roots during very dry weather, but keeps the soil in a better state than when artificial watering is resorted to. The evil of mulching is that the manure robs the roots and soil of the benefit that should accrue from the sun shining upon them at a certain time of the year. Many persons do not think of this; if they do, they do not take the trouble to remedy the evil. If the mulching was removed the first week in May or earlier, according to the state of the weather, being simply drawn off to one side and then allowed to remain for at least three weeks, when it could be replaced provided hot and dry weather necessitated its employment for maintaining the soil in a moist state, better results would follow. Trees that are planted high—as they should be in soil which is not all heavy or wet—are much more likely to suffer from drought than those which have their roots deeper in the soil. If anyone will try the experiment of removing the mulching from newly-planted Apple-trees and allow it to remain on others all the year without a break, he will quickly see the difference in the growth of the trees under the two methods. Where the removal of the mulching is neglected the growth is poor as compared with the other plan.

NOTES AND REPLIES.

Manuring orchard.—I have an orchard facing S.E. Grass covered, light soil. I give it each year a good dressing of tarant manure, and the trees are out twice. Could you please tell me of a suitable artificial manure to use, weight to the rod, and probable cost? Thanking you in anticipation.—H. LAVINE.

[If yours is an old orchard, and roots are deep and far away, surface manuring does not render the trees and fruit the same good service that is done when the trees are lushy or dwarf, and on surface-rooting stocks, such as the Paradise for Apples, and Quince for Pears. Were not the orchard on Grass, so that you could deeply bury or fork in the manure, then the roots would more benefit. As it is, the Grass gets most of the manure feeding. Of artificial manure, a good dressing is basic slag, kainit, sulphate of ammonia, 2 lb. of each mixed per rod. These vary in price, but range from 12s. 6d. to 15s. per cwt.]

Disbudding and stopping Apricots.

In most instances the time has arrived for starting the work of disbudding and stopping. On old trees first thin out any thickets of shoots there may be, leaving only enough to just clothe the branches with fruiting spurs. Many of these reserved ought also to be stopped at the fourth or fifth leaf, but where there is good space for laying in young wood, reserve shoots, well placed for this purpose, to their full length. It is the younger branches that derive the greatest benefit from the warmth of the walls, and which also produce the heaviest crops of fine fruit. Young trees will also require to be attended to, thinning out the young shoots, stopping some of those reserved

in order to promote an early and strong growth of leading shoots, or any intended to be laid in between the leaders. Extra strong shoots are apt to develop at the expense of their weaker neighbours and become gross. It is advisable to pull off such robbers, their places being better filled with medium-sized growths.

Fruit-tree stocks.—"A. D." in his interesting communication in a recent issue of GARDENING, alludes to Bourré d'Annalis as being an excellent variety for serving as a medium for double grafting weak growing Pears upon. Having had but a little experience in the matter of the double grafting of Pears with the view of imparting a stronger constitution to varieties that are interiorly weak growers, but which possess good flavour, I can quite agree with all he says with regard to this particular variety as being one of the best on which to work scions, or to lay those kinds it is desired or necessary to improve. Bourré d'Annalis succeeds so well on the Quince that there is not the slightest fear of either bud or graft falling when worked upon it. It is, as "A. D." points out, just the few inches of the stem that are retained for either inserting the land or working the scion upon that exert such a wonderful influence on these constitutionally weak growing kinds, and it is only those who have experimented in this direction that can realise what a marked effect it has in imparting a more robust constitution to them. Double grafting also improves flavour in some cases, even when the matter of growth of the variety is not at fault, and from a series of trials made, and which covered a period of several years, I arrived at the conclusion that a very great deal may be done towards improving the flavour of many varieties that are not by any means first-rate. I would strongly urge those of your readers who may feel inclined to experiment to study "A. D.'s" notes, and to act accordingly.—A. W.

GARDEN WORK.

Conservatory.—The spring is the season when some extra attention must be given to training. In the old days gardeners often devoted a good deal of time and used up a large number of stakes in training their plants; but a different order of things prevails now, and less training is done, and fewer stakes are used. This is in every way an advantage, but it does not follow that my plants which require support should be altogether untrained. A good deal of training may be done during growth with the finger and thumb in pinching leading shoots to form natural bushes of such things as will readily yield to that treatment. The best way of training a Fuchsia is to have one central stake, and pinch during growth so as to obtain a pyramidal outline. A few stakes must be used for Pelargoniums; but what few are used should be placed in the plants in good time, so that foliage may have pretty well hidden the sticks before the plants come into bloom. The best hauls at training use the fewest sticks. The best stakes are the very thin Bamboo canes. We have had them about as thick as a lead pencil, and they last well for years. When wood sticks are used, unless the bottoms are charred or dipped in Stockholm tar, they soon decay. There is a great saving in using the Bamboos, and now, when labour of all kinds is getting scarce, one must study economy in the materials used. In cool conservatories fires may now be dispensed with, but where Orchids or other warm-house plants are introduced, fires at night will be necessary for a little time longer. Flowers will keep longer in a cool atmosphere than in a very high temperature, though, of course, nothing under 50 degs. could be called in this house a high temperature. On many nights during March the thermometers in our cool-houses have been very little below 50 degs. without fire heat. Of course, one has to study the outside thermometer and be prepared for a frost at short notice; but the plants are all the better for less fire up to a certain point. There is no doubt that a good deal of fuel is burnt wastefully in amateurs' houses.

Stake.—Repot my fine-folaged plants, such as Anthurium, Abensius, Caladium, Cissampelos, Dracenas, Pandanus Veitchi, etc.,

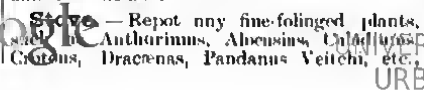
which may require more pot room. Most of the above require overhauling every spring. Young plants may require shifting into larger pots. Older ones will require fresh compost of a fibrous, porous character. When the stuff gets close and sour, a good deal of the old soil should be shaken away without injuring the roots, and the plant be placed in a smaller pot. After potting, be careful with the water pot till the roots become active. When Allumudas begin to grow freely train the young shoots up near the glass to get the wood ripened and the flower buds set, the shoots can then be taken down and tied round the trainer. If the plants are intended for exhibition, the flowering heads are usually brought round to a face, or at least the best flowers are so treated, though the other side should not be altogether denuded of blossoms. Bougainvillea glabra, Stephanotis floribunda, and Clerodendron Balfourii are useful, easily-grown exhibition stove plants. Madinilla magnifica, when well done, also makes a good specimen that carries weight in a collection, but it requires good culture and a good stove to do it well. Rondeletia speciosa major is a pretty stove shrub, an old thing, but none the worse for that.

Orchard-house.—Trees in pots will require more water now, and the syringe should be used daily as soon as the fruits are set. If the syringe and clear soft water do not suffice to keep out insects, vapourise with nicotine some calm evening, shutting up the house close for the purpose. It is necessary to keep the young growth thin enough to permit of a free circulation of air. It is often desirable, when the crop is fairly set and swelling, to shorten back a branch here and there, if by so doing the shape of the tree and the condition of the branches can be improved thereby. It is an advantage to give the trees a look after the fruits are set, with this object in view. Plums do very well in pots, and Plums grown under glass are superior to anything grown outside. Apricots are not so well adapted for pot culture as Peaches and Plums.

Early Peach-house.—See that the inside borders are moist. Liquid manure may be given freely when the fruits are swelling. Heavily laden trees will utilise a good deal of nourishment. I have used various forms of artificials. At this season something that will act promptly is best. The heaviness or otherwise of the crop is mainly a question of feeding. But to produce year after year first-class fruit, it is best to be content with a modest crop. A healthy, well-supported Peach-tree planted in a well-made border will carry two fruits to the square foot, or eighteen to the square yard. This is not nearly so heavy a crop as market growers generally take, though heavier than was considered desirable years ago in private gardens. Give plenty of space for the young wood to be properly laid in. The fruits should all appear on the upper side of the trellis now as soon as stoning is finished. The night temperature may be raised to 65 degs. to hasten the ripening.

Window gardening.—Those who have no permanent glass may easily improvise boxes that will do for striking cuttings or raising seedlings by laying on empty box or boxes and getting squares of glass that will cover them. The box may be of any size, but 18 inches long by 9 inches wide is a useful size, and 6 inches deep will take 5-inch pots. The glass may simply be laid on the box, and the box stood in the sunshine in the window, but when the sun gets very hot a sheet of paper should be laid over the glass if the cuttings are distressed by the sunshine. Ventilate the frame for half-an-hour every morning, and reverse the glass to prevent damping. A good general compost for repotting anything, except Heath and Azaleas, may be made by mixing 1 bushel of loam with half a bushel of very old manure, and a quarter of a peck of sand. It is a good plan to use sand rather freely to keep the compost open and sweet.

Outdoor garden.—Evergreens may be pruned now. Most things, such as Hollies, Arbor-vitæ, Yews, Evergreen Oaks, and Lawson's Cypress, may want a little help with the knife to keep them in condition. If cutting is done, be careful not to hold some of the branches and the outline is damaged. The



general planting season is drawing to a close for the time being. We have done planting up to the end of April, and in isolated cases have done it later, but late planting involves more labour and attention afterwards, especially as regards damping foliage and branches in dry weather. This is the best season for transplanting hardy Ferns, and rock plants may be moved with safety now. Seeds of summer climbing annuals may be sown now in heat. The most useful of these are *Cobaea scandens*, *Lophospermum scandens*, and *Thunbergia alata*. The last-named should have a sheltered sunny position and be syringed during growth to keep down red-spider. *Maurandya Barclayana* is rather a pretty climber. Finish Rose pruning and sow hardy annuals. Plant all kinds of hardy plants. The *Delphiniums* are very effective hardy plants. Plant *Holly-hocks* now to fill in background.

Fruit garden.—Look over Peaches on walls. Green or black-fly often attacks the young shoots before the blossoms fall, and, if neglected for only a short time, a lodgment is effected which becomes more difficult to deal with later. The best remedy is Tobacco-powder, and it may be used without injury to leaf or blossoms. The only necessity is to act promptly. Melons may be planted now in frames on manure beds substantially and carefully made. Cucumbers also may be planted under similar conditions. We never shade Melons, preferring to give more air to harden the foliage. It is important that the old main leaves should remain on Melons till the fruit ripens. With Cucumbers the presence of the old main leaves is not so important. Strawberries coming forward in cool-houses will get ventilation enough now to set the fruit without help from the brush. The blossoms may be thinned by cutting away all the small ones as soon as they can be distinguished. A dozen large fruits would be a heavy crop for a plant in a pot. There are various ways of feeding Strawberries without deluging the plants with strong liquid, plunging the pots in others one size larger, with rich compost in the bottom, has been used with advantage. Grape thinning should be done before the berries get very large. As soon as it can be seen which berries are taking the lead, thin at once.

Vegetable garden.—Seakale coming forward outside should be covered in ridges a foot or so deep with ashes or burnt earth for preference. Cuttings of Seakale roots, which were taken off in autumn and laid in damp sand or earth, will now be in suitable condition for planting to form forcing roots for next year. Asparagus seeds may also be sown to raise young plants, if not already in. There is not much gained by very early sowing unless the soil is naturally warm, as seeds will not germinate till the sun has warmed the soil. Where only a bed or so is made annually, if there is room under glass to raise the plants, time will be gained by sowing the seeds singly in 3-inch pots and giving them a little heat, afterwards hardening off and planting out in May. Two or three hundred small pots would not take up much room. Sow ridge Cucumbers and Vegetable Marrows for planting under hand-lights. Sow again in a fortnight's time to come on later. Tomatoes should be grown without check from the first, and kept sturdy by exposure to light near the glass. They are better without much heat for planting outside. Nitrate of soda will be useful on Asparagus-beds. French Beans may be sown in a warm position at the foot of a south wall or front of a forcing-house, where protection can be given.

E. HUBDAY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

April 7th. Finished pruning Tea Roses, and lightly forked over the surface, hurying the mulch. When the hot weather comes a further mulch of loam and old manure will be given to the Teas. We are planting Tomatoes in cool-houses. There is not much in Tomatoes now, but the houses must be filled with something. A range of span-roofed houses has been planted with early Nectarines, chiefly Early Rivers and Cardinal. Potted off *Petunias*, *Heliotropes*, *Ageratum*, etc. by

April 8th.—Pricked off Stocks, Asters, Zinnias, and other tender annuals into boxes and placed in cold-pits, kept close for a time. Planted a house with Cucumbers, chiefly Improved Telegraph. Looked over Vines under glass to stop sub-laterals. The simplest way of managing the sub-laterals is to rub off all below the bunches and stop all above to one leaf; this strengthens the base leaves and buds. Sowed French Breakfast Radishes. Sowed Ne Plus Ultra Peas and Green Windsor Beans.

April 9th.—Planted out a lot of hardy bulbs from the conservatory which have flowered. Shifted on a lot of *Clivias* and *Achimenes*. We had potted tops of *Achimenes* make useful table plants in 5-inch pots. Half a dozen cuttings are shifted when rooted into 3-inch pots, and are encouraged to grow freely in heat. Planted out more *Calliflowers*. Sowed seeds of *Dietonnis Fraxinella* in boxes. Prepared a small hot-bed for striking cuttings of Tree-Carnations. Divided white Everlasting Peas to increase stock.

April 10th.—Moved plants to cold-pits to make room in houses. Shifted on *Zonal Geraniums*. Sowed seeds of *Arabis Sieboldii* and *Grevillea robusta*. Repotted and basketed a few Orchids which are showing signs of growth. We have just fixed up the roller blind on the stove, but it is only used when absolutely necessary. Potted off Begonia cuttings. Shifted on young Ferns. Palms and Ferns are shaded during the heat of the day.

April 11th.—Rearranged conservatory to form special features of *Spiraea* and Ferns, mixed *Periploca*, *Azaleas*, *Erica Cavendishi* and *E. propinqua*. Good-sized clumps of *Diclytra* and Trumpet *Lilium* are elevated. Bamboos and Palms, chiefly *Kantias*, are used as centres and backgrounds. Made new plantation of Mint. This is easily done by severing the young stems underground with a knife. They then fit with roots, and are planted 6 inches apart.

April 12th.—Finished planting Potatoes. Tied up Lettuces. Young Cabbages are plentiful now on warm border, and new Potatoes in frames. Sowed Ne Plus Ultra French Beans on border in front of forcing-house. Sowed more Winter Greens of various kinds, also Leeks for late planting. Early Leeks were sown in a box and are ready to transplant. Spare time (if any) is devoted to surface stirring.

LAW AND CUSTOM.

Repudiation of verbal hiring of house (Perplexed).—You say that a verbal offer of the premises was made to your friend, and you imply that he verbally accepted the offer. He, however, has not received possession, and, in fact, the tenancy of the present occupiers has not yet expired. As your friend has reason to think those occupiers will not quit upon the expiration of their term, he has taken another house and repudiates this verbal hiring. In my opinion, I do not think any damages can be recovered from him—certainly not any rent—as the contract was not in writing.—K. C. T.

Nuisance from chimneys. During the last three years burning ashes from chimneys have been constantly deposited in my garden, destroying all my vegetables and trees. When I complain, I am insulted by the manager of the firm, although I have lived here thirty years. What is best to do?—R. J. J. J.

[You do not say how far away these chimneys are, nor with what work they are connected, nor how long they have been in existence. Apparently, the nuisance commenced three years ago, and, if so, you have a remedy by action for damages. But as the statement of facts is so vague, I must recommend you to consult a solicitor.—K. C. T.]

Carriage license.—I have bought a new spring cart. Shall I be obliged to take out a license for it? Must I have the nature of my business—marked gardening—set out along with my name on the cart? I do not wish to have the words "market garden" placed upon the cart if it will suffice to set out my name and the place of my residence.—MARKET GARDENER.

[If your cart is constructed and adapted for the conveyance of goods or burden in the course of trade or husbandry, and is used only for such purposes, you need not take out a license for it; but your name and place of abode must be legibly painted on the cart in letters of not less than 1 inch in length. The nature of your business need not be set out on the cart. If the cart is used for other purposes you must take out a license for it.—K. C. T.]

Assessment of greenhouses.—I hold a small farm as a market gardener. Date of entry, 1900. On taking possession I built five greenhouses, 75 feet by 12 feet, for Tomato growing. The overseers now want to assess me. The district is under a Rural District Council. Can they do so under the circumstances?—J. D.

[The greenhouses may be, and properly speaking, should be, separately assessed for the purposes of the poor-rate, and charged to the poor-rate at the full pound-rate payable in respect of buildings and other hereditaments which are not agricultural land. If any separate rate is made by the overseers to defray the special expenses of the rural council, the greenhouses should be rated to that separate rate at one-fourth of the rate in the pound charged upon houses.—K. C. T.]

Terms of tenancy. I think of taking a cottage and garden on a lease for three or five years. Is it usual to pay rent yearly and in advance, and for each party to hold a copy of the agreement? Would the lease be determined in the event of my death? If so, what notice would my wife be entitled to or expected to give? I should be grateful for advice on these matters.—CONSTANT READER (A. S.)

[It is not usual to pay rent yearly, nor yet to pay rent in advance, but both practices are often seen. Rent, where the premises are let for a term of years or by the year, is sometimes payable yearly at the end of each year; and occasionally, although very rarely, is payable yearly in advance. It is commonly payable half yearly or quarterly, sometimes in advance, and it is not uncommon to stipulate that the rent for the last half year (or the last quarter) of the tenancy shall be payable in advance. The agreement of tenancy should be in the custody of the tenant, but a copy signed by the landlord should be in the hands of the landlord. If the letting be for a period of more than three years, it must be in writing under seal, unless the landlord and yourself enter into an agreement for a lease, when sealing is not necessary. Unless there was an express stipulation to that effect in the agreement, the tenancy would not determine upon your death, but would devolve upon your executor or administrator, who would be entitled to receive the same notice, and would be required to give the same notice to determine the tenancy as you will have to give or receive if you survive. It may be well to point out that, where the letting is for a term of years only, and no provision is expressly made for a yearly or other tenancy upon the expiration of the term, no notice is necessary, and the tenancy ends without any notice from either party. All the matters about which you inquire are matters for mutual arrangement beforehand, and should be dealt with in the lease or agreement of tenancy.—K. C. T.]

POULTRY.

Death of hen (J. Brown).—This bird was excessively fat, and appears to have died in a fit of apoplexy. The crop was very full of corn. Obesity, or excessive fatness, is really a disease caused, as a rule, by partaking of food of too rich and stimulating a nature. Most poultry ailments are brought about by over-feeding or the use of unsuitable food, and the free use of Maize is sure to lead to the foundation of internal fat, and as this accumulates egg production ceases, and the hen falls a victim to disease. It would be well, in your case, to discontinue the Maize, and let the diet of all your Fowls be of the plainest, and restricted in quantity, at least, for a time, otherwise you will, in all probability, find many of your hens drop off in the same way. As liver disease is often caused by high feeding, it is very possible some of your hens may be found to be suffering from this complaint, the symptoms of which are a moping about on the part of the bird, an irregular appetite, while there is generally a yellowish hue on the comb, face, and wattles. If these symptoms are observed the best treatment is to give one grain of calomel per bird every other day for a week or so, mixed in the soft food, which should be given in a crumbly state. Give plenty of fresh vegetables, and having lessened the quantity of grain for a time (to allow the digestive organs to recoup their strength), add some sulphate of iron to the drinking water after the course of medicine has been gone through. The most profitable and satisfactory mode of general feeding is to give no more at a time than can be eaten readily and hungrily, and to frequently change the diet.—S. S. G.

CDRESPNDNDE.

Questions.—Queries and answers are inserted in GARDENING free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper, and addressed to the Editor of GARDENING, 15, Finsbury Avenue, Holborn, London, E.C.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of development, and also of the same kind grown in different soils, are essential. We have received from several correspondents single specimens of fruit or leaves, these in many cases being mixed and otherwise poor.

PLANTS AND FLOWERS.

Chrysanthemum Chas. Davis (H. C.).—This is a very early plant to grow, and any buds retained during the latter part of August will give flowers of excellent form and colour.

Roses shedding their foliage (An Old Subscriber).—The manner in which the leaves seem to be the cause of your plants shedding their foliage. Sometimes the leaves will do this when they are introduced into strong heat before they are established in their pots.

Cannas falling (Swindon).—It was a mistake to turn the soil so dry when you potted them. Very probably the soil even now is not moistened throughout. You may have been watering too freely, making the soil sour, and thus preventing the formation of roots.

Chrysanthemum for decorative uses (Widley).—Your plants represent four types, and, assuming you desire them to bloom from late October onwards, you should stop or pinch them three or four times during the growing season.

Renovating lawn (The Cedars).—If the Grass on your bare patches of lawn be quite dead, your best course will be to turn it over a few inches deep, make the surface fine and level, then sow properly sown Grass seeds, not from a seed-bank, but not too thickly, lest the density starves the whole of the Grass.

Rose-buds injured by insects (Calypso).—Probably in your country you have insects which prey on roses that are not known to us here. It is said there are over 100 species of insects that are injurious to roses. We should say that they have been at work, either the Rose-chalicer or one of the many species of fly that lay its white eggs beneath the bushes at night, and give a vigorous shake, you will probably obliterate some of the insects.

Pyrethrum Jubilee (A. R.).—This is regarded with great favour by all who have seen it when in blossom. The flowers are not so large as in many of those which are not in introduction, but they are quite large enough, and their form is all that could be desired.

Pruning Niphetos under glass (Canton).—You are quite right. These fine old plants need severe pruning now and then in order to encourage the production of new wood. You must wait until the blossom has faded, then you may cut back the plant.

Planting Ranunculus (Surrey).—It is one of the more favoured parts of these islands that the roots of

claws, as they are termed, can with safety be left in the soil all the year round. Where the soil is well drained, light, and warm, this may be done. In all others it is necessary to lift them each year in the month of July, and dry them thoroughly before re-planting them in October or November.

Treatment of Aloe (Lew).—The genus Aloe belongs to the order Liliaceae. Nearly all of them are natives of North Africa, and while some are low-growing, others attain quite a tree-like dimensions. They all need the protection of a greenhouse, but exposure to the sun throughout the year, a moderate amount of water when watering, but scarcely any during the winter, and for potting soil use two parts loam to one part of leaf-mould, and the same amount of rocks, or, better still, soft bricks broken about the size of horse beans, with half a part of sand.

Newly-sown lawn (J. G.).—You certainly sowed Grass and Clover seed on your lawn very early, as the usual time for so doing is in April. However, if we get no sharp frosts next month, the Grass will soon grow, and, being treated by the recent rains, should grow strong and dense. If you can, a week or two hence, give the lawn a heavy dressing of soot to wash in, it will do much good.

Mulching annuals (D. D.).—If you have treasured your border in which roses and herbaceous plants are now growing 3 feet deep, and well manured, it, such a position should not appreciably suffer from drought. Still, if the soil gets very dry in hot weather, you cannot do better than cover the surface all about the plants and roses with at least 2 inches thickness of manure, and especially, if you have it, run-manure, as that is best. If you dislike to see the manure, cast over it the lower part of your plants, leaving them objectionable, though soon drying up. If you can afford to water during dry weather, the manure elements will be washed in and do good.

Sweet Peas—planting out the earliest batch of plants (Tom).—Seeing that you commenced operations under glass so early as January last, and have been growing your plants steadily since, and assuming they are now nicely hardened out in the open air, you need not hesitate to commence planting into their flowering quarters as opportunity offers. Begin by planting in the warmer quarter of the garden first, as we are sure to have many unpleasant days of frosts besides experiencing cold and cutting winds, within the next week or two.

Marchal Niel and Homer in greenhouse (Poodle).—We presume these two roses, when planted in the large pots you refer to, had not previously been grown in pots, but were dug up from the open. It is such was the case, and they were given 60 days of heat at home, this may in some respects be the cause of the plants dying. But are you sure they are dead? Sometimes such plants will shed their foliage prematurely and yet not die.

Rose White Marchal Niel in cold greenhouse (E. H. Simpson).—The foliage received was covered with the excreta of the green-fly. The sticky substance of the foliage causes it to collect particles of dust floating in the air, which, unless dislodged off, will seriously injure a growing plant by blocking the pores of the leaf.

house secure against the too rapid escape of the smoke. A good syringing following the fumigating and on every occasion when sun is bright would soon cleanse your plants from dirt as well as aphid.

Tall-growing plants (Canton).—You ask for tall-growing scarlet or yellow-flowering plants for August and September. You would, however, to say whether tender plants or early perennials are desired. Of the former there is, perhaps, nothing more suitable than Cistus Dahlias, such, for instance, as Glare of the garden and many more possessing the same vital colour or approaching thereto. Of the hardy plants the Kniphofia come nearest in point of colour, and particularly such as 'L'aria, nobilis, grandis, all of these having tall spikes of orange-scarlet flowers and lasting a long time in profusion.

Plants to flower in spare room (R. J. H.).—If you have no other means of giving the plants their room in question, we fear you have little chance of success. It is one thing to flower many bulbous plants in such a place, but the flowers, already existing in embryo within the bulb, are prevented as the natural course of growth; but it is another matter when the plants are of the soft-wooded class and produce their flowers on the current wood or growth. You may, however, utilize all the light the windows will give you, and in this way grow and flower such plants as Zonal Pelargonium (Zonalans) in variety, Fuchsia, Campanula fragilis, C. isophylla, several of the Cistus family, Valeria pinnatifida, Galadivus in several sections and their varieties, Arum Lily, Saxifraga saxatilis, Tuberosa Begonia, that alone in our list afford a splendid variety of colour, and may now be purchased at very trifling and bettered at once. Another good thing is Hydrangea Hortensia, and all the more available because hardy and capable of standing outside in winter. Eucalyptus heterocera fol. var. and the Indian Montserrat would afford a couple of good trailing plants, apart from the Campanulas named above, that are well suited to the same purpose. To these may be added a few pots of Mignone, best grown on the window sill, and some pots of the further, both being easily grown from seed. These should at least afford you variety, and it is easy enough to purchase a plant now and again. You will need to exercise some care in the watering and general attention day by day.

Hyacinths falling (Aurora).—At the present month, two things per thousand bulbs would be of no probability for the second or third rate quality, from which it would be impossible to obtain first-class flowers, however grown. Still, from the description, we should say that yours have had insufficient light, and very possibly an excess of water at the roots, for though Hyacinth need to have the soil kept fairly moist—that is, when the roots are quite active, yet if kept too wet this causes an undue development of the foliage, often at the expense of the flowers. We should advise you next season to obtain better class bulbs, potting them in a good, open compost, such as a mixture of turfy soil and three parts of peat, and dung. Then stand them outside, give a good watering through a moderately fine rose to settle the soil thoroughly in its place, and cover with asters or Cocca-nut-ruff. This covering will tend to keep the soil in an even state of moisture and encourage the formation of roots, upon the ample production of which so much of the success or otherwise in the culture of the Hyacinth depends. Then, when the pots are filled with roots and the tops commence to push (which will be six weeks for the bulbs from the time of potting), the soil is raised about 2 to 3 inches, and a very reliable plan for them, in mixing the compost, some good rough sand is very essential to keep the soil open, and when the plants are placed in the window, if saucers are used to stand them in take care that no water is allowed to remain in the saucer, as this will cause the roots to decay, and failure result therefrom.

TREES AND SHRUBS.

Planting out Jasmine (H. S. Sweeney).—The Jasmine will succeed in any good garden soil. Planting may be carried out in the autumn, winter, or early spring months, before growth recommences—that is to say, when it is intended to remove a planted-out specimen from one spot to another. Should, however, the specimen be in a pot, it may be planted at any season, and in most nurseries Jasmines are kept in pots for that reason.

Gum-trees (Eucalypti) (A. W.). You will find that none of the Eucalypti are hardy unless in mild seashore gardens, and even then they are liable to be killed. Only in the more favoured districts take the Gum-trees any chance, and they never present the graceful and stately appearance which they show in countries which suit them. The common E. globulus is used in the London parks during the summer, but the trees will not stand the winter. If you wish to try any of them, you should write to T. Smith, Newry.

Pruning Prunus triloba (H. S. Sweeney).—If it is necessary to prune Prunus triloba at all, this should be done directly the flowering season is past, as it is the young wood produced after that period on which we have to depend for flowers the following season. This applies only to plants that are pruned hard, as unless special reasons exist for keeping the plant within its present bounds the greatest wealth of blossoms will be obtained if the pruning is strictly limited to the removal of any weak, old, or exhausted shoots. This may be carried out as soon as the flowers are over.

Planting out Rhododendron (S. C.).—There are so many kinds of Rhododendron that without knowing the name of yours it is difficult to advise. It is one of the hardy varieties that may be planted out of doors as soon as the spring frosts are over. In planting see that it is planted deep, and at such a depth that there is a saucer-shaped depression in the soil around the stem, in order to

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FRUIT.

THINNING APPLE BLOSSOM.

(Reply to "E. G.")

In the case of newly-planted, or even trees established three or four years, it is a decided advantage to thin the bloom buds where the trees are heavily laden. It is not always those trees that have a superabundance of blossoms that carry the heaviest crop of fruit. Take for instance a three-year planted bush tree of any of the large fruiting kinds, such as Warner's King or Pausgood's Nonsuch; in view of the regard to the quality of the Apples would think of allowing the trees to carry more than two dozen fruits, and this would be an exceptionally heavy crop for these large kinds. Trees of this size will most likely have at the present time ten times that number of bloom buds. My plan is to thin these before they develop. I find then I have many small fruit to take off in thinning the crop. The thinning of Apple blossoms may appear a trivial and a laborious waste of time, not justified by results, but it is surprising what a quantity of bloom buds can be rubbed off in an hour by simply giving each a sharp press with the forefinger in a downward direction. In thinning the buds I take off whole clusters in many cases, especially those situated under the branches, and those in a high position where the fruit would obtain but little sunlight, and consequently would be of poor colour. I aim at having the best placed fruit, and by removing some of the central buds in many clusters, retaining some of those less forward, I get two strings in my law in the matter of securing a crop of fruit, as seldom are all the blossoms on the tree open at one time, and by making certain of having the blooms expanded at various times the flowers are more likely to escape wholesale destruction by one visitation of frost. I find that trees are not nearly so liable to drop their fruit wholesale in the incipient stage of swelling when thinning the bloom has been practised. In the case of trees planted last autumn, I always remove all buds the first season, except in extreme cases of wishing to prove any particular variety, and then I only leave sufficient for the purpose. Newly-planted trees ought to be encouraged to make free growth the first year. Where trees are allowed to carry a full crop of fruit—varieties like Lord Grosvenor, Lane's Peuce Albert, and Stirling Castle will do, the growth is so weakened that it is visible in many instances for years after.

In the matter of standard-trained trees especially, I never allow them to fruit the first year. I remove all the flower-buds directly they are large enough to handle; the whole energy of the tree is thus concentrated into the growth of the branches and roots. The larger a tree becomes in the shortest possible space of time, the greater prospects are there of obtaining a full crop of fruit in years to come. I know there are many owners of trees who think they have made a poor bargain if the trees just planted do not give them a fair return the first season, but such persons do not remember the best

reward after a series of years. Trees in their weakened state, occasioned by the check given to the roots in replanting, cannot be expected to reasonably give adequate returns both in wood and fruit; one must suffer, and it is much better for the future prospect of the tree that the fruit crop should suffer. E.

PRUNING FILIBERTS.

In many gardens both Culi Nuts and Filiberts are very much neglected, seldom getting properly pruned, manured, or otherwise attended to. This may arise from a variety of causes, such as living in out-of-the-way situations, and therefore possibly forgotten in the press of work that must be done in the houses and kitchen garden, March and April being always a busy time, and which is the right season for pruning the trees. Experienced Nut growers never prune until after the flowering period, their contention being that it is desirable to have as many catkins as possible, so that plenty of pollen may be obtained to set the female flowers. That their theory is correct must be clear to all, for if the pruning were done early many of the male blossoms would of necessity be cut away, and there would be a danger of an insufficiency of pollen to secure a good set or crop.

In pruning Nuts, the centre of the bushes or trees should be cut out, leaving the main outside branches to grow on uncheckered for two or three years, and then heading them outwards and securing them to stakes, which gives a large and prolific bush in a few years from time of planting. The plan of bringing down the main branches in the manner described appears to me as a check on any grossness of habit, and induces the formation of plenty of small wood adapted to produce heavy crops of Nuts. No greater mistake in Nut culture could be made than to cut away the major portion of the fine, twiggy wood, leaving all the strong shoots, as it is the thin wood that really bears the crop, but if late summer pruning is done no strong shoots will be present in spring, as they will be either entirely removed or shortened back, according to the judgment of the grower. At the same time, while plenty of thin wood is desirable, care should be taken that it does not become too congested or too thick in the middle of the tree, thereby impeding light and air, and also inviting a harbour for insect foes. All suckers ought to be removed as they appear, unless required for increasing the stock; when allowed to grow they act as robbers to the trees, and do more or less injury to them. Immediately it is seen that a good crop of Nuts is assured, a mulch of good manure will be beneficial, causing the foliage and fruit to attain a large and healthy size, and assisting the trees to form bloom-buds for another year. No trees pay better for liberal treatment than Nuts, and yet few if any trees receive so little aid in that respect in many places. Even the common Hazel appreciates a dressing of manure, being almost unrecognisable after such an application. The Nuts acquiring a much improved appearance, also being produced in very large clusters.

NOTES AND REPLIES.

Muscat Vine not bearing.—That a black Hamburgh and a Muscat Vine in a greenhouse, the Muscat in the southern end of the house, both in outside borders, which were much enlarged and fresh drainage and soil given last winter to allow space for the surface roots, of which there was plenty. Now the black Grapes are ever promising, but the Muscat Vine, though apparently perfectly healthy and vigorous, has very little show of fruit, only a few little bunches. It is probably an old Vine, as it has been cut back some time, but my knowledge of it only dates from November, 1900, last year it was a failure. Will you tell me what is best to do with it? My lease may terminate in 1907.—H. M. T.

[This Grape never succeeds in a cold greenhouse, as it requires a warmer temperature and a drier atmosphere than most other Vines to set the fruit properly. Thus special care is required in setting, and a higher temperature must be given when the fruit is ripening. For all Muscat Grapes the borders are better if entirely inside. We should advise you to take up some pots from the B. Hamburgh to take the place of those belonging to the Muscat, which will never succeed with you, being, as it is, at the coldest end of the house.]

Mealy-bug on Vines.—Enclosed are two parasites from Vines. Are these Vines mealy-bug? Occasionally find one or two on the Vines, which are now in blossom, and use M. M. one to eight of water, with a small brush, which seems to kill them. Must I strip the Vines and wash them next winter?—F. POWELL, VINE.

[Unfortunately, the pest you send samples of is mealy-bug. In dealing with it when the Vines are at rest, avoid any emulsion containing petroleum. Methylated spirit is much safer and more destructive. Many gardeners use with great success a mixture of gas tar and clay for painting Vines attacked by mealy-bug, first clearing off the loose bark to facilitate the work of painting. The tar-paint is made by first mixing up the clay with water until it has the consistency of thin paint. Add the tar, about a pint to 1 gallon of the clay and water mixture, and keep well stirred. This is certainly not a pleasant paint to use, but it is very effective. It must not be forgotten that the house itself—walls, stages (if any), wire-trellis, and roof—must also be thoroughly cleaned. Nothing is better than painting all wood and iron-work. If this cannot be done with red-paint, then use petroleum, being careful that none touches the Vines. Point over the surface of the border if an inside one, and wear it off and burn it. A sharp watch must be kept on the growing Vines in the summer, as many stray insects appear. Methylated spirit applied with a feather is useful for the summer attack. Mealy-bug is such a troublesome insect that any means of getting rid of it, no matter at what trouble, is well repaid. Perseverance is the great factor.]

Planting out Strawberries in autumn.—Spring planting is to be recommended in some instances. This applies to small, late-rooted runners. When the season is very dry it is difficult to get runners of some kinds early, and frequently when runners are ordered from nurserymen in such seasons they are very small and arrive late in autumn, and sometimes it happens the ground cannot be cleared in time to plant early in autumn. I have had all these difficulties to contend with, and now, unless I can plant good strong

runners by the end of August, or early in September from pots, I prefer to plant them in spring. Years ago I used to pot these late runners into small pots for the winter. This caused much labour; but of late I have adopted the system of planting them in beds, some 4 inches or 5 inches apart, in a favourable position, keeping them moist when first planted, and allowing them to remain here during the winter. In this way they make nice plants, and can be lifted with a ball of soil to them. If the soil is in good condition they start into growth rapidly in spring, and there are no gaps in the rows, which frequently occurs when planted in autumn from frost lifting them out of the ground. I plant Lettuces or Onions between the rows of these spring-planted Strawberries with the best results.—J. Crook.

PLANTS AND FLOWERS.

ROOM AND WINDOW.

MARGUERITE CARNATIONS.

THESE Carnations have now been in cultivation some few years, but they are not at the

necessary to aid in maturing the growth. The seed should have been sown early in March, but it is not yet too late to do so. Do not, however, endeavour to make up for lost time by raising and growing the young plants in too much warmth. By the time the seedlings are pricked off a cold-pit or house will afford sufficient protection for them. Although there is in some instances a perceptible fragrance, this much appreciated merit of the Carnation is not a strong one in this strain. Where it is not convenient or practicable to grow a stock of the other Carnations in pots, there the Marguerite Carnation will be the most useful. As in the case of all seedlings, there will be a percentage of singles which should at once be destroyed. P.

WHITE FLOWERS FOR ALL SEASONS.

WHITE flowers are acceptable at any time of the year, and trade growers devote much room, both indoors and out, exclusively to their production. Many private growers fail to have the proportion of white blossoms in their gardens and glass-houses they might have, and it has occurred to me to consider those that will meet one's requirements throughout the

Lady Hall, Mrs. James Hall, and Progress. Later varieties give us a wider range, and I would draw from such sorts as Aphrodite, Mrs. Keynes, Lucy Genin, Niphotos, Venus, James Markay, and Mrs. E. H. Jenkins. Paeonies are bold and effective, and are now too well known to need commending. Snopdragons are of much use in a garden and about rock beds, etc., and both tall and dwarf varieties contain some of the purest white kinds. Irises should be grown by all who make a speciality of flowers for cutting, and those mentioned are suitable for this purpose: Alba, Ilorentina, and abbeas Princess of Wales. Varieties in which for the most part white predominates are: Victoria, Mme. Chereau, Mrs. H. Darwin, Herald, and Gazelle; Iris hispanica Blanchard, Antonia Johanna; Iris Kämpferi Snowbound, Snow White, Mrs. C. Saxton, Eclair. Lilies have always been popular for indoor cultivation; but, notwithstanding all that has been written with regard to them, there are still many who have a deal of misgiving as to the suitability of some varieties for outdoor growing. With few exceptions, Lilies may be grown in the open air; indeed, often better than under glass. White varieties that are thus fitted are: Giganteum, cordifolium, ramulatum, longiflorum Harrisii (one of the best for early forcing), insulare (a charming Lily, but needing to be better known), Martagon album, and speciosum album Kratzeri. A word must be said in favour of climbers bearing white blossoms. Reverting to



Marguerite Carnations in a Jar.

CLEMATISES, we have Flamula (sweet scented), Smith's Snow White, Andersen Henry, Imperatrice Eugenie, Mme. Van Houtte, Lucy Lemoine, and Duchess of Edinburgh. Jasminum officinale, Starworts, Chrysanthemums (early-flowering), and Christmas Roses are also useful. Among plants indoors we have the beautiful Clematis indivisa lobata, Plumbago capensis alba, Stephanotis, Solanum jasminoides, Cinerarias, Primulas, Azaleas, Zonal Pelargoniums, Cyclamens, Camellias, Begonias, Hyacinths, Tulips, Lily of the Valley, Snowdrops, Spireas, Chrysanthemums, and Peutzias.

ROSES provide us with numerous choice sorts. From them we select those that may fairly be termed white. Teas: White Manum Cochet, Souvenir de S. A. Prince, Marie Guillott, Mme. Bravy, Hon. Edith Gifford. Hybrid Teas: L'Innocence, Bessie Brown.

CLIMBERS: Souv. de la Malmaison, Niphotos, Devoniansis, and Aimee Vibert. Hybrid Perpetuals: Marchioness of Londonderry, Boule de Neige, and White Baroness.

LEAFYEST.

GLOXINIAS provide us with a superb display of colour, and the treatment to ensure a magnificent display of flowers is practically the same as that needed for Achimenes. Gloxinias may be bloomed the same season from seed, provided a start is made in January or February, and those who prefer raising their own plants to the less troublesome but more expensive mode of starting with tubers should obtain their seed from a good source, sowing it very thinly in well-drained pans, in loam, sand, peat, or, failing this, leaf-mould, in a good bottom-heat, watering with a fine rose, and keeping the surface moist until the young plants are up and ready for removal. By pricking them off into small pots and finally shifting them into blooming pots one may have flowers in July and August.—W. F.

Greenhouse climbers (Enquiries) — *Lonicera sempervirens* minor, *Plumbago capensis*, *P. c. alba*, *Heliotropium*, *Tropaeolum* (Ball of Fire, Rose Gloire de Dijon, and Colosa and many others), all these blooming greenhouse climbers have flowers that, first, having a violet flowers, is the best.

present time gaining in favour. For this there must be some cause, not necessarily the same in each particular instance, but none the less so. Being raised, as a rule, from seed rather than from cuttings, there is a predisposition to make a luxuriant growth, not altogether robust perhaps, but of rapid development and consequently sappy. This should be guarded against by not using too rich a compost from the very commencement. Under pot culture it will be better to employ chiefly loam and sand, with a little leaf-soil if the former be not all of a heavy character. It will be better, also, to err on the side of small pots rather than the opposite extreme. Some of the best flowers I have seen were from plants in quite small pots. Firm potting will also tend to better results, whilst no artificial feeding should be allowed until the plants are well advanced in the flowering stage. Another mode of culture is that of planting the seedlings out, but the same lines as regards soil and its firmness must be observed. If planted out the growth will be greater, whilst a more bushy habit will result. So far there is an advantage, but sufficient time must be allowed for fresh root action when lifted before cold weather again sets in, otherwise the plants will not be good. In any case plenty of light is absolutely

year. At the present moment a number of people are choosing seeds to sow within the next few weeks, and I would like to point out some half-hardy annuals, viz.: Sweet Peas Sadie Burpee and Blanche Burpee, Stocks, Galetia Duchess of Albany, Dianthus, single and double, Centaurea, Candytuft, Asters Caneet and Victoria, Clarkias, Convolvulus, and Verbenas.

CANTERBURY BELLS, and other members of the Campanula family, like *persicifolia grandiflora alba*, *pyramidalis alba*, and *virgatica alba*, afford a plentiful amount of blossoms. One remembers, too, some excellent sorts of Pinks that are of much value on account of their sweetness, such as Her Majesty, Mrs. Sinkins, and Albino. Turning to Carnations, mention may be made of Empress and Gloire de Nancy. Tufted Pansies flower freely and long, and white sorts, of which there are some good examples, come in useful for small bowls and specimen glasses. Niphotos, Mrs. Scott, and Mrs. Kinnaird are instances. Pyrethrums and Phloxes are both showy and popular for a garden, and of the former I select of the doubles: Mont Blanc, Penelope, Carl Voget. Singles are best represented by Princess Marie and Alsica. From Phloxes, of the early-flowering sorts, one cannot do better than select

ROSES.

ROSA RUGOSA MADAME GEORGES BRUANT.

It was a happy idea that led M. Bruant to hybridise Rosa rugosa with the fine old Tea Rose Sombreuil, and thus enable him to introduce to our gardens some fifteen years ago the first hybrid of this very hardy race of Roses.

A glance at the illustration will show in what manner this hybrid partakes of the Tea-scented characteristics, the fine clusters, containing from six to twelve buds and blossoms in each, being quite Tea-like in appearance, and the elongated buds may often be gathered nearly equal in refinement to the Tea Rose Niphetos. Mme. G. Bruant may be classed among the very best of our garden Roses, and the wonderful profusion of blossom gives the plant much value. It is an excellent variety for massing in bold groups, as at Tresserve, not

growths being more erect than in some of the other kinds. Upon standards this variety makes a splendid head of growth, typical of what a standard Rose should be. For planting in public parks or near large cities the Roses can equal the Rugosa forms. There is now a numerous collection of the flowers, ranging from purest white to delicate pink and from deep rose to dark purple. Atropurpurea is a great gain, and is probably the basis of some really good dark and brilliant colours. Hitherto many of the coloured kinds were "washy" and lacking in freshness. Some lovely hybrids of Continental and American origin may be seen in the Rose dell at Kew Gardens in June. One particularly pleasing hybrid between Rosa rugosa and R. Wichuriana had the creeping habit of the latter with the lustrous foliage of the former. Rosa microphylla x R. rugosa had large Clematis-like petals quite 2 inches wide and of a delicate bluish-pink colour, and another splendid hybrid R. rugosa x General

Mme. Berard, and Celine Forestier. It would not be a difficult matter to prepare the border for these Roses, removing half of the light soil, and mixing with remainder some turfy loam, if procurable, and well rotted manure. The soil should be removed to a depth of 2 feet 6 inches, and immediately on to the gravel place a good layer of cow-manure, and fill up with the compost mixed as advised. Being very porous, such a border would require water rather frequently during the summer. Half-standards on pliable stems would be the best to plant, but they could not be procured until next autumn. One reason for recommending half-standards is the fact that their stems would withstand frost better than the growths of the Rose, as you say you are about to plant the Roses outdoors and bring them into the house through holes prepared for them.]

Hardy plants for Rose-beds.—I have in the front of my house, facing the south, two large oval Rose-beds. Behind them against the house runs a narrow



Rose Mme. Georges Bruant at Tresserve. From a photograph by Miss Willmott, Wipley, Essex.

merely for a summer display, but also for late autumn. Last September a bed of this variety on the lawn was very beautiful, some of the current season's growths reaching 5 feet in length, and crowned with grand clusters of snow-white blossoms. The formidable-looking prickles on these new growths are as numerous as those on a hedgehog, and even in winter have a beauty that compels admiration. The individual flower of another lovely kind, Blanc Double de Courbet, is perhaps more attractive than the Rose under notice, and if only one variety could be grown I should not hesitate to recommend it in preference to Mme. G. Bruant, the dark foliage being much superior. This variety also fruits fairly well, whereas we obtain no fruit from Mme. G. Bruant.

For hedges, the Rugosa forms are of great value, not merely ornamental, but useful also, acting as a wind-break. In the above-mentioned relation, the Tea Roses, Mme. Georges Bruant is well adapted for this purpose, its

Jacqueminot was perhaps the most beautiful of all. The fine plant of this hybrid was a dense mass of single crimson blossom, each one with a distinct white eye. Rosa.

NOTES AND REPLIES.

Fragrant Roses amongst Teas (p. 79).—Wind about, Goulanit, Debonensis, Aurora, Besse, Brown, Peter, Viscountess Folkestone, Mme. Caroline Testoil, and Mrs. E. Mowley? There are many climbers very sweet. Mme. Alfred Carriere, Desprez à fleurs jaunes, Mme. Henriette de Beauvain, and Mme. Isaac Perriere.—FRAGRANCE LOVER.

Roses for lean-to house.—I have a lean-to glass-house outside sitting-room facing N. by W., and think of planting Roses or climbers outside, and passing stems through holes in frame. No sun is on the glass except about sunset in midsummer. Will you oblige me by saying what you recommend me to plant? The soil is a light one with gravel subsoil.—N. R. L.

[Two of the best Roses for your purpose would be Cle de Dijon and Cheshunt Hybrid. Should you have space for more than two they either of the following would do—namely, Mme. Alfred Carriere, W. A. Richardson,

1-foot border, in which are planted W. A. Richardson Rose and Jasmines. Both beds and border get very much scorched by the sun in summer, especially as I am lying on a gravel subsoil. Can you suggest any way to avoid the midwinter of the Roses in summer by keeping in the noisome, and semi rock plants and alpine do well in the narrow border? If so, what kinds would be best? I would rather not put on manure during the summer if I can avoid it, as the beds are just under the window. I am much obliged for your recent advice.—HALFCROFT.

[The best remedy would be a general deepening of the soil in the Rose-beds by excavating some of the subsoil, and filling in with soil and good cow-manure buried 18 inches deep. There is nothing like depth of soil and a cool root-run to remedy the evil of which you speak. You cannot engage in this work now, and must be content with the next best thing. If you plant rock or dwarf plants on the surface, to act as a mulch, so to speak, the soil below will be the poorer, though, as retainers of moisture in the best manner. Rose-beds do not know something of the value of such plants as Mossy Saxifragas, Ruffo Red example, S. S. C. p. noïdes, S. Staus-

field, S. Sternbergi, etc. S. Wallacei is also a good one. The great value of these plants is that they can be planted frequently. Any of the Aubrietias are good, and give a carpet of bloom in early spring; and so, too, the white Anthesis. Had the position not been so hot, we should have strongly recommended Tufted Pansies, and these may be best even now if you deepen the soil in the coming autumn. Another beautiful plant for carpeting the surface is *Campanula muralis*. It is dwarf, dense, and free-flowering. If you follow the lines suggested, we think the most useful plants for this year, considering time and other things, will be the Saxifragas named previously, as these may be dibbled in freely by lightly stirring the surface soil.]

Roses in the greenhouse. Kindly tell me in your next issue why my Roses in bud in the greenhouse throw back the petals of their calyx before they open properly? I have *Maréchal Niel*, *Climbing La France*, and *Fortune's Yellow*.—*QCEER*.

[A brief, yet a perfectly correct, reply to your inquiry would be, "That it is their nature so to do." If you look at the embryo bud you will note, provided it is a perfectly formed bud, that not only do the parts of the calyx completely overlap the top of the bud, but that a crown-like tuft overpreads and thereby protects the petals that at such time are just forming. With the latter function completed, the petals rapidly increase in size, and naturally the calyx, which is Nature's protective envelope up to this point in the developing buds, gives way. If this were otherwise nothing short of stragulation would ensue. You will note that not only is there a crown-like tuft of the calyx above the bud, but that the entire segments of the calyx are twisted into a screw-like pattern, and with the bud below really resolve into the same glass pattern, the centre being reduced to a minimum. In these circumstances the developing petals force the segments of the calyx asunder, and with still further development the calyx is divided in its natural parts, and presently expands, sometimes opening only with the petals of the flower and closely adhering thereto, at others flying back either horizontally or even reflexing. Long, tapering buds, as *The Bride*, *Bridesmaid*, etc., retain the calyx close to the reverse of the petals, the same thing happening in greater or less degree in *Roses of the "Verdier" group*—say *Mrs. J. Laing*, *S. M. Rodocanarhi*, and others of the short-petalled and cupped form. Then, again, in such excessively full flowers, as *La France*, *Maréchal Niel*, *Sou. de la Malmaison*, *Duchess of Albany*, etc., the calyx often spreads out horizontally, a natural result of the continued development and expansion that are steadily going on. It may not happen if the calyx and ovary increased *pro rata* with the number of petals, but this is not always the case. In short, in the early days and the bud stage the tapering flower and thin bloom spread open the calyx much less than do the fat buds over-crowded with petals. At the same time, a quickly expanding flower, like *Fortune's Yellow*, could hardly be expected to expand in its own delightfully characteristic fashion if the calyx remained rigid and erect. If you still further pursue the matter you will find at the ripening of the seed late in autumn that not a few kinds have completely reversed the original position by being reflexed and almost adhering to the stalk or the ovary. We imagine you have a desire to retain the calyx as it clings to the opening bud, and we know full well how much more dressy and beautiful the blooms appear when thus seen.]

Outdoor-sown Asters.—There is no doubted advantage in sowing annual Aster

seed outdoors where wanted to grow, just as ordinary annuals are, because such a sowing gives an excellent succession of flowers to those plants missed under glass and planted out in May. I have found Aster seed thus sown to germinate freely, and the plants bloom freely late. I have also found it grow remarkably well even in great dryness, but the seed was certainly saved the previous year, and English; yet from it came most perfect double flowers. The sowing should be thin—say a dozen seeds in a ring 10 inches in diameter, and one or two in the middle of it, for Asters will not bear crowding. The strains that produce flowers of medium size are best for outdoor sowing, such as the *Comet*, *Mignon*, *Dwarf Bouquet*, *Dwarf Chrysanthemum*, *Quilled*, etc., all really excellent for cutting. A good packet of mixed seed, resting a shilling, will give a wealth of beautiful flowers. A. D.

OUTDOOR PLANTS.

WOOD LILIES (TRILLIUMS).

THIS remarkable genus of North American plants includes a few of the most singular and striking of all hardy plants, but, with the exception of *T. grandiflorum*, all the varieties are considered difficult to manage, this in a large measure accounting for their scarcity in gardens. It is true they are difficult to cultivate if rare



The Large Wood Lily (*Trillium grandiflorum*). From a photograph of a plant by Miss Tait in the gardens at St. Malus, Glencarse, Perth.

not taken to choose the proper position and soil. For instance, to plant even the strong growing *T. grandiflorum* in the ordinary flower border would be a certain way of courting failure. If Trilliums are planted in a properly prepared soil in a somewhat shady situation no fear need be felt as to success. Trilliums require a peaty or vegetable soil, free, deep, and well-drained, as they are most averse to stagnant moisture about their roots. In an artificial bog or by the edge of a pond they thrive admirably when fairly established, and in such positions they are very effective. Their natural element, however, and the position in which we have found them always do best is in clings to such plants as *Andros*, dwarf *Rhododendrons*, *Kalmias*, and other evergreen shrubs, as they are thus efficiently protected from cold winds in early spring. Few plants indeed adapt themselves more readily to shady nooks, and, when once established, they require little or no attention. The stronger growing varieties might with advantage be naturalised in shady woods, and, if this could be managed properly, what a charming picture they would present through the spring months. The best and most useful of the group is the old

T. GRANDIFLORUM (here figured). It grows from 1 foot to 3 feet in height, the large, tri-lobed and handsome leaves being surmounted by large spotless white flowers, borne on short stalks and drooping conveniently so as to show to the best advantage. It blooms

April and May. There is a variety of this called *T. g. roseum*, in which the flowers are suffused with a rosy hue. The flowers are as large as those of *T. grandiflorum*, and the plant is quite as free-flowering.

T. SESSILE has broadly rhomboid leaves, the flowers purple brown.

T. CALIFORNICUM is a large, stately species, flowers pure white with purple blotch, each from 2 inches to 3 inches across. The plant grows to a height of 18 inches. This is a handsome species, and very easily managed.

T. RECURVATUM has oval leaves and small purple-brown flowers.

T. ERETICUM is a common species, with usually brown-purple flowers, varying to white or pink.

Others equally beautiful and desirable are *erythrocarpum*, a most beautiful species, *cernuum*, *ovatum*, *petiolatum*, and *nivale*.

* * * A ROCK GARDEN.

AS ideal rock garden should be sunk. A great mistake is to have a raised one, unless it can be well sheltered both from wind and mid-day sun by a belt of trees. There is one thing in favour of a raised rock garden, and that is, it looks so well looking up at it from below. There certainly should be trees or shrubs near, as a rock garden without a background is not to be tolerated. I am not speaking now so much of alpine gardening as a large rock garden, where shrubs, such as *Cistus*, *Azaleas*, *Ceanothus*, etc., the choicer bulbs and plants, may be massed together, and, with the aid of a well-arranged rockwork, made into a picturesque wilderness; for instance, a large bed, facing north, raised by rocks to some 18 feet, standing well above it, but not in the same bed. Yew-trees form the background of it, over these *Crimson Rambler* and *White Garland Roses* grow rampant, while masses of white *Foxgloves*, *Bocconia cordata*, tall-growing *Snapdragons*, to be followed later by sunny spikes of red *Gladioli*, fill the remainder of this bed. Below this, in a smaller space, is a *Wichuriana Rose*, more than filling its allotted place, its long branches spread upwards and downwards, and are always worth looking at, with their shiny, evergreen leaves in winter, and through the summer and autumn spangled with white fragrant flowers. *Jersey Beauty* and *Barbora*, *Wichuriana hybrids*, also do well, but they are in a more sunny position. Quite at the foot of this nestles a colony of *Oak Ferns*, and here also are the shade-loving *Narcissi Colleen Bawn*, *moschatius* of *Ilwath*, *cernuus*, *pallidus*, *præcox*, and spreading into the grass are *maximus* and *Johnstoni King and Queen* of Spain. In another part a dell leads down to the water garden, of which more another day. The sloping bed on the south-east side of the dell is given up chiefly to bulbs, *Liliums*, dwarf-growing *Bamboos*, *Japanese Impies*, *Enlalias*, *Spanish Iris*, and *Linum catharticum*. In the spring, large clumps of *Narcissus Golden Spar* and *Muscari "Heavenly Blue"* form bright patches, to be followed by *Campanula carpatia* and long-spurred *Aquilegias*, which here do very well and are true perennials, lasting several summers, *californica* especially remaining long in bloom. On the north-western side of this dell a large patch of *Cypripedium calceolus* flourishes in company with *Cyclamen neapolitanum*. Rather raised above this is a bed with rocks implanted in it; here grow the earnest *Saxifragas*, *longifolia*, *Cotyledon pyramidalis*, *Muenchiana*, *ligularis*, *Ajuga*, besides *Dentaria diphylla*, *Uvularia grandiflora*, *Dodecatheons*, and in the cinks of the rocks *Ranuncula pyrenica*. Down by the water a peat bed has been made, in which are grown *Lilium canaliculatum*, *L. pardalinum*, *Erythronium* (the large American sorts), and *E. Hendersoni*, *Vanconveria hexandra* (an *Epimedium*-like flower), *Cypripedium spectabile*, *Primula sikkimensis*. A small bed is given up to *Primula rosea*, the double-flowered *Saxifraga granulata* and *Trillium grandiflorum* forming a background to this, and where it joins a damp gravelly path *Mimulus cupreus* spreads itself in a deep orange glory. *Primula obconica*, in shade, does well grown from seed; the flowers grow in whorls 12 inches high, many of the flowers being single fringed, and lasting in bloom for quite a month. Out-of-doors the *Chamaejasme* much better colour than when

grown inside. In a very sheltered and hot corner (*Eurothera marginata* opens its large, Eucharis-like flowers all through the summer evenings; here also *Ixolirion intaricum* and the *Belladonna Lilies* grow; and from the rocks above first mentioned *Lithospermum prostratum* and *Veronica prostrata* hang in sheets of blue. Last spring a pretty group was made with iris reticulata and *Narcissus cyclamineus*, with a carpet of *Chionodoxa Lucilic-sardensis* was too deep a blue; these all flowered together. It soon mts bright, but in early spring brightness and clearness of colour are wanted. Annuals help to keep up a succession of bloom during the summer months. *Omphalodes luteifolia* and *Phacelia campanularia*, when sown in long drifts near each other, form a pretty combination of colour; whilst *Portulacas*, which here have to be sown in heat, flower well in hot, dry positions. A plant rarely seen now, but which is much to be recommended for the rock garden, is *Linaria repens*—Snowflake I think

niger and viridis, help to fill up the duller months, as in a well-arranged rock garden there should always be something in bloom—some flower to go and look at and enjoy.

ERLYN WHITEHEAD.

Drigh-ton-grove, York.

WHITE PINKS.

FEW flowers have such a well-deserved hold on public estimation as the white Pinks, for it can never be out of place. It is often styled the "common" Pink, but this epithet "common" is in no sense a term of reproach, but rather of honour, since it testifies that its fragrance and purity have earned it a place in the affections of rich and poor alike. It is the "common" things in life that we love rather than the unique and extraordinary. In June the white Pinks in the cottage gardens flood the winding village road with their delicious essence, sweeter than "all the perfumes of Arabia."

often resemble nothing so much as a cartload of clinkers or rough stones shot out on a heap of soil, can, in a short space of time, be transformed into objects of beauty by planting them with white Pinks, which soon shroud their imperfections with a hanging drapery of tender-coloured leafage, thickly set in summer days with numberless fragrant white blossoms.

White Pinks are amongst the most easily-propagated plants in cultivation. If old clumps are taken up and pulled abroad in August, and the sections placed in the ground in an upright position with the whole of the woody stem buried and only the upper tuft of leaves above the soil, they will almost invariably root if trodden in firmly at the time of planting, even if the ground be almost-dry and no rain should fall for weeks. Under such unfavourable conditions the foliage often becomes dry and apparently lifeless, but with the autumnal rains it gradually assumes a more healthy appearance, and the little plants flower the succeeding summer. Where water can be given at planting time, and if occasional welcome showers fall, the leaves show no signs of loss of vitality, and the buried portions rapidly push out roots. Of late years many varieties of the white Pink have been raised, all of which are larger than the old garden favorite. Of these, the best are: *Her Majesty*, a large bold flower; *Mrs. Sinkins*, another fine blossom, but in common with the former, apt to split the calyx; *Albino*, a smooth-petalled variety; *Mrs. Lakin*, also smoother than *Her Majesty* and *Mrs. Sinkins*, and not so constricted a calyx-splitter; *Mrs. Welsh*, large and good, and rather later than the rest; and *Purity*, a well-shaped flower which rarely splits the calyx. S. W. F.

NOTES AND REPLIES.

Hardy plants under glass.—I am very fond of Carnations, Lilies, Roses, Clematis, and other hardy plants, but this bleak and smoky district is a great enemy to successful growth in the open. I have come to the conclusion that something in the nature of an unheated structure will enable me to overcome the difficulties the locality imposes. The question is, what form of structure shall I get? My friends recommend the ordinary straight line greenhouses that joiners and others build. I do not very much fancy them in front of the house, and the elaborate and architectural-looking conservatories have lately, besides being costly, I remember some time ago seeing a greenhouse at York built without wood or putty, known as a "Curvilinear plant-house." It looked very graceful and light, and seemed as if it would not harbour much in the way of pests, and the curves were very charming in a garden. Mentioning this to my friends, one thought it would not be strong enough; another that it would be so light as to constantly need shading, and that it would be cold and draughty, and the glass would rattle in the wind. I shall be glad to know whether such houses are undesirable for my purpose, or whether a lean-to or, rather, a hip-span can be made on that principle?—HARDY PLANTS.

[The curvilinear iron house would, we think, best answer your purpose. If you can erect it against a south wall it will be all the better. Such a house is cheaply built, lasts well if kept painted, and owing to the amount of light is very suitable for plant growing. Take care, however, that you allow plenty of ventilation, this being very necessary in a house for hardy plants.]

Violets in frame. Please say why my double Violets, put into frame in September, are only now flowering well? I can get them out-of-doors now, and wanted the frame-Violets in December. I require the frame, but the plants are so full of bud I do not like turning them out.—G. ZAY.

[It is the outcome of propagation which is at fault. Not a few increase their stock of Violets by dividing the plants that have flowered through the winter or spring, and believe that somewhat larger pieces will make amends for lateness in propagation. It is not so, however. If you desire the flowers in winter, you must insert cuttings made of the single small crowns known as runners or offsets in October or November, and by planting these out in early April in well enriched soil the finest flowering crowns may be secured for frames in the early autumn. Cuttings as suggested develop into fine tufts when a year old, and teem with flower-buds that by reason of their youth and vigour produce high-class blooms. We may publish a short article on the subject in due course.]

Hardy Primulas.—I have been growing some of the better kinds, such as *Sieboldii*, *Japonica*, *lutcola*, *shikimensis*, *californiana*, etc., and as they don't seem to make very good progress in the house, I thought of planting out in May. In the garden there are two raised beds of good soil, with large stones in front and some laid on the top. One is in a very sunny, sheltered corner, facing south; the other has a hedge at the back and faces north. Will you kindly tell me which situation is best for those kinds, and also tell if I have no peas, but the beds are made up of rotted turf and leaf-mould.—CAUTION.

REPLY OF THE EDITOR:—The latter will succeed in the



An edging of Pink. From a photograph by Miss Willmott.

the name is, though no one is quite sure of it. It is a mass of small white flowers, growing in spikes, not unlike a Lily of the Valley, a foot high, flowers all through the summer. The blue variety is not so good as its name indicates; it spreads quickly, but is easily kept within bounds. The paths are edged with *Erysimum pulchellum*, yellow in the spring, and green the rest of the year, with grey *Cerastium tomentosum* for a contrast. Forget-me-nots, Welsh Poppies, and *Linaria alpina* spring up and grow where they will, as long as they do not smother choicer plants.

There are many interesting bulbs to grow in a rock garden, such as some of the Tulipa species—*rizzii*, *Greigii*, *Chusina*, *persici*, *orthanidea*, *saxatilis*, *sylvestris* (the English wild Tulip), *elegans*; and what more lovely than a mass of *Gesneriana* run against a dark background? a Tulip, too, which lasts so long in flower. Autumn Anemones, *Plumbago Lambertii*, *Erica carnea*, *Hellebores*, lch

In ideal pleasures the same fair flowers gleam in the still twilight hours, their scented breath stealing upward to the topmost turret. "Fragrance, as has been well said, is the song of the flowers," and surely few blossoms sound a sweeter music than the white Pink. For edging beds and borders, especially those along whose verge a path runs, the white Pink is invaluable. When blossoming in the summer its countless flowers form a wide snowy riband redolent of the most exquisite colour, and when the flowering season is past, for all the remaining months of the year its cool-coloured, blue-green foliage remains, composed of an infinity of daintily-spiked leaves, to rest the eye upon. When one shudders at the hideousness of the crude glazed tiles so often used in villa gardens to edge a path, one feels tempted to suggest to the proprietor the use of white Pinks which with their veil their ugly formality from the offended eye. So-called "rockeries," which

south bed, but many may do quite well in the shady one. All the kinds named are quite hardy, and would be most unhappy under glass. *Sikkimensis* is virtually a biennial and a bog plant, requiring its root-fibres within reach of moisture. *Japonica* only reaches its largest proportions with similar treatment, but will grow well in any constantly damp, shady place. This vigorous kind prefers rich soil. *Cashmeriana* will be at home in the shady bed anywhere, and any of the Sieboldi set are best in a slightly sunken colony where the surrounding moisture drains thereto. Good rotten manure may be also applied to the soil for these two kinds. *Luteola* should be planted on the higher part of the shady bed, placing a couple of stones to form two sides of a triangle, and planting it in the acute, wedge-shaped portion, slightly raising the plant above the surrounding soil. Plant all quite firmly and water freely all save the last, and this in less quantity. Peat is not at all a necessity, but you may add a good dressing of well decayed manure before planting and dig or fork it in rather deeply. Should you have any fear of the soil becoming dry it will be helpful to place stones around most of the plants, and if your bed is very high or sloping prepare a flat-table for each before planting. In this way the rainfall will settle about the plants and not run away.]

INDOOR PLANTS.

PROPAGATING CAMELLIAS.

Will you kindly tell me how to take cuttings of Camellias, and when is the best time to do so?—H. V. R.

[Camellias are best increased by grafting (Figs. 1 and 2) and inarching (Fig. 3). The months of September and October are best for grafting. Get the stocks into the house a fortnight before the operation. Cut the scion as in Fig. 1, and make the incision as in Fig. 2. Place the graft so that the bark of the scion and the graft will meet at the edges, then tie firmly with matting. If the stock and scion are selected as in Figs. 1 and 2, they will unite quickly and neatly. Put them into a close frame in the propagating house on a gentle bottom-heat. When they have been there for about a month the top of the stock may be shortened to throw the sap into the buds.

INARCHING may be performed in the greenhouse. In the case of a large plant of a good variety which it is desired to increase, erect a temporary stage on which to place the stocks, so that they may not be shaken about. Cut off the bark and a small piece of wood, as shown in Fig. 3, hold them closely together, and bind them tightly with matting or worsted.



Fig. 1.

Nearly three months must elapse before they are cut away, which must be done with a sharp knife. March or early April is the best time for inarching Camellias.]

BORONIA HETEROPHYLLA.

Would you kindly name the enclosed flower, and give me the proper cultivation of it?—CONSTANT READER.

[The name of the specimen is *Boronia heterophylla*, a native of the Swan River district of Western Australia. It first flowered in this country in the spring of 1885 at Kew. The flowers are produced in great profusion, and when in good condition it forms a very handsome specimen. The treatment given to the free-growing section of greenhouse Heaths will suit it well. Cuttings are not particularly difficult to strike if a few simple instructions are carefully carried out. They do best if covered with a bell-glass, therefore the size of

the pot or pan will depend upon the diameter of the glass that is available for covering them. Whatever receptacle is used must be well drained, leaving about 3 inches of space for the soil, which should consist of equal parts of peat and silver-sand, passed through a sieve with a quarter of an inch mesh, and pressed down very firmly, leaving just space at the top for a thin layer of clean silver-sand. The best cuttings are formed of the half-ripened shoots, taken off at a length of a couple of inches or a little more, which should have the leaves removed from the lower portion for about one-third of the total length of the cutting. Then dibble the cuttings in firmly, avoid overcrowding, and, when finished, give a good watering through a fine rose. After this, allow the pot or pan to stand and drain for a little time

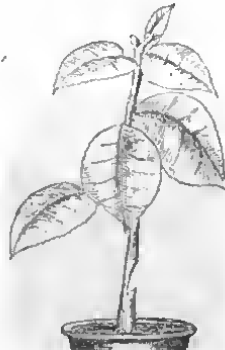


Fig. 2.

before putting the bell-glass in position, in order to get rid of any superabundant moisture. Then cover, and place in the shady part of the greenhouse, where, with a little attention in the matter of water and wiping the glass dry every morning, the cuttings will root in about three months. When rooted, pot them off into small, clean, well-drained pots, using good sandy peat, and potting firmly. During the summer they will succeed better stood on a bed of ashes in a coil-frame than anywhere else, but need a greenhouse temperature in the winter. The young plants must have their growing points pinched out frequently in order to ensure a bushy habit. When growing freely they like plenty of water, but this must be in conjunction with thorough drainage, as stagnant moisture is very injurious to them. When shifting into larger pots, rough peat and coarse sand are necessary, and, in potting, this must be pressed down very firmly, at the same time taking care not to bury the old ball of earth deeper than it was originally.

In the case of plants now in bloom, they should, directly the blossoms are faded, be cut back hard—that is to say, leave only about 2 inches of the lower part of the flowering growth. This will cause the plants to push out young shoots, and directly these make their appearance is a good time for repotting. Before repotting, take off a part of the old soil, but do not disturb the roots more than is absolutely necessary. Use pots a size larger than before, and in potting carefully carry out the instructions above given. The plants will in the greenhouse soon become established in the new soil, and by the middle of July may be stood out-of-doors in order to ripen the wood and set the flower-buds for the following season. When outside, take care that they do not suffer from want of water.]

GROWING CACTI.

I HAVE a small coal-burner house, also viney, facing south. In winter sufficient fire-heat is given just to keep out frost from Pelargoniums, etc. Can you kindly suggest a few Cacti which may be grown in above houses, from whom I can get such, also method of culture? I should like to raise seeds of the same also.—F. POWLER WARD.

[The following Cacti would succeed under the conditions you name, provided they are not shaded at any season of the year, except when in flower, and it is then necessary, as the blossoms last longer than where they are fully exposed to the sun. *Cereus polycephalus*, *C. Mollisonii*, *Echinocactus bicolor*, *E. brevis-*

matus, *E. cornigerus*, *E. Le Contei*, *E. Orcutti*, *E. Ottomii*, *E. texensis*, *Echinocereus Berlandieri*, *E. cespitosus*, *E. Emoryi*, *E. emme-nanthus*, *E. pectinatus*, *E. viridiflorus*, *Echinopsis Eyresii*, *E. multiplex*, *E. turbinata*, *Mammillaria angularis*, *M. cornifera*, *M. decipiens*, *M. echinata*, *M. gracilis*, *M. pusilla*, *M. stello-aurata*. Most of the above are remarkable for their curious yet regular shape, while their blossoms are also attractive. The showiest of all the Cactus race from a floral point of view are the *Phyllocacti*, the varieties of which will succeed in a greenhouse. There is a great number of different forms. Of the other kinds above enumerated we do not know of any nurserymen who make a speciality of them, except Messrs. Canuell, of Swanley. The soil best suited for the different kinds of Cacti is good loam lightened by an admixture of sand and brick rubble broken about the size of Beans. When potting is necessary, it should be done in March or April, but one thing to bear in mind is that most of this class thrive best when pot-bound, hence care must be taken not to overpot. From this time to the end of August the soil must be kept fairly moist, after which less water should be given in order to ripen the growth, while throughout the winter months they should be kept quite dry. The *Phyllocacti*, being of a less succulent nature, must not be dried to the same extent as the others, but even these need very little water during the winter.

Most of the different kinds of Cacti can be raised from seed without difficulty; that is, when good seed can be obtained. Sow in well-drained pans in a mixture of loam and sand, sprinkling enough soil over to thoroughly cover the seed, but no more. The seed-pans are best stood in a warm, shaded structure, and the soil must be kept slightly moist at all times. Under such conditions the seed soon germinates, and, if sown in the spring, the young plants will attain sufficient strength to pass the winter without injury. When large enough to be conveniently handled, the seedlings must be put singly into small pots, taking care that good drainage is ensured.]

NOTES AND REPLIES.

Name of bulb.—In April 5th number, "Self" asks for the botanical name of bulb belonging to *Arum* family, grown only in warmth, without soil or water. The name is, no doubt, *Saurostatium* (syn. *Arisema*) *guttatum*—DORA ALLISON.

Asparagus Sprengeri.—Kindly state if *Asparagus Sprengeri* is the same as *Asparagus decumbens major*.—R. T. WOODS.

[*Asparagus Sprengeri* is totally different from *Asparagus decumbens*. We do not know A.



Fig. 3.

decumbens major. By far the more ornament of the two is *A. Sprengeri*, with woody climbing stems clothed with flat, shining, bright green leaves, each about an inch long and the tenth part of an inch or thereabouts in width. This species has become exceedingly popular of late years, as the foliage retains its brightness, even when exposed to cold draughts, hence it is frequently employed for the embellishment of the dwelling-house. *Asparagus decumbens* is altogether a far more fragile plant, the slender drooping shoots being clothed with small linear leaves of a rather a greyish shade of green. It is seen at its best grown in a suspended basket, and when in good condition has an extremely light and elegant effect. This forms a cluster of tuber-like masses, from whence the

shoots are produced. It is more particular in its cultural requirements than most of the ornamental forms of Asparagus.]

Treatment of bulbs.—I am growing the following plants indoors—viz., Begonia (tuberous), Gloxinia, Solomon's Seal, Lilium candidum, L. longiflorum, and L. tigrinum. Will you kindly inform me whether the correct treatment of the above, after blooming is over and the leaves are beginning to decay, is to gradually withhold water, and when the soil has become dry to store the pots away in frost-proof quarters until required for re-starting again, giving no water all the time they are stored? (Before re-starting them should they be repotted, and, if so, should the old roots be cut off?—ANON.)

(The various plants that form the subject of your inquiry will not after flowering all conform to one mode of treatment. The Begonias and Gloxinias should be treated exactly as you state, and before re-starting them they must be shaken quite clear of the old soil. You will find that when the time for repotting comes round nearly all the roots will have perished, but if there are any still attached to the tubers cut them off. The Solomon's Seal is perfectly hardy, and succeeds much better when planted in the open ground than in pots; hence, the

will need much the same treatment as *L. longiflorum*. These Lilies are, when growing under glass, particularly liable to be attacked by green-fly. These pests shelter themselves among the unfolding leaves, and must be carefully sought for they work considerable havoc before they are noticed. Dust the leaves with Tobacco-powder if the pest appears.]

NATURALLY-GROWN HYDRANGEAS.

I grow the Hydrangeas from cuttings taken about March, struck in a little heat, and potted into a 5-inch pot with much the same compost as I use for Geraniums, etc. They generally have one head of bloom the first season, and have weak liquid-manure as soon as the flower shows. When done blooming, the plants are plunged outside in a moderately sheltered place, and left till the following spring, when they are repotted if they have grown much; if not, they are well fed. They soon branch out and make nice plants. I seldom prune them unless the shape is ugly. They are grown on

good deal of sunshine, but at the same time it is better if the sun's rays are broken during the hottest part of the day. Careful attention to watering is, of course, necessary.]

Clematis *indivisa lobata*.—I planted one of the above in my lean-to conservatory early last year. It grew rapidly till it covered the wall, but in September the leaves came off, with the exception of a few at the top (still on), and no new ones have replaced them, although at each joint small buds appeared a month ago, but remain in a stationary condition, though full of green sap. The only life is in the shape of green shoots sprouting from near the roots. Can you tell me what is wrong?—A. E. HARRISON.

[We fear that your failure is due to allowing the plant to become dry at the roots. The cultural requirements of this Clematis are very simple. Plant it in a compost of loam, peat, and sand, give it a fair root-run, and, above all, do not stint the water supply, but at the same time see that the drainage is perfect, as stagnant moisture is quite as harmful as dryness. It needs very little pruning, unless to keep it within a limited space. Loose training adds to its beauty, as the branches of *liliana* hang gracefully at some distance from the glass roof.]

Cinerarias failing.—I have grown Cinerarias for a number of years, but have not been successful these last two seasons. They do well until I get them into their flowering-pots, and then they start to droop, and in a few days are gone altogether, and may be lifted out of the pots with only a little surface soil, although the roots have worked their way round the cracks at the bottom. I saw about the first week in May, and prick off as soon as large enough to handle into 30-pots, then into 4-inch, from them into 6-inch, and, finally, 7½-inch or 8-inch pots. I use a compost of half loam and half good Beech leaf-soil, with a small quantity of sand and a little rotten manure, and a liberal supply of bonum meal for the two last shifts. I shade during bright sunshine, and give the necessary syringings, and always keep them clean from fly.—R. W. W.

[As your Cinerarias keep in good condition till they have received their final shift, it follows that the fault must be sought for in that operation, and in our opinion it lies in an excess of stimulants. For a final shift, we prefer two-thirds good turfy loam to one-third leaf-mould, with a little manure and sand, and trust to stimulants in the shape of weak liquid-manure after the roots have thoroughly taken possession of the new soil. The general treatment as detailed by you should yield very satisfactory results, and if you omit the bone-meal and pot moderately firm, we do not think you will have any further cause for complaint. Of course, the watering must be carefully done, particularly in the winter and early spring.]

Deutzia *gracilis* failing.—I should be grateful if you will tell me why I have failed with *Deutzia gracilis*, and why blossoms come as enclosed instead of expanding properly? I have failed two years with it. It is grown in pots brought in from outdoors end of December, not placed in heat, but kept in glass porch facing south, daily syringed with tepid water till foliage is well advanced. Seemed healthy and going on well till the blossoms spread open half developed, as you will see, and no good. Have stood now outdoors in sheltered place. *Azalea mollis* has done excellently under same treatment.—J. W. HARDY.

[A severe check of any kind will cause the flowers of *Deutzia gracilis* to go blind in the way of the enclosed specimen. Again, if lifted from the open ground and potted for forcing they are very liable to behave in a similar manner if the roots have not taken a good hold of the soil before they are removed under glass. There is yet a third cause, and that is, insufficient nourishment during the preceding summer and autumn, when the plant is making and perfecting its growth. At that period a good sunny position and occasional doses of weak liquid-manure are very essential to the future display of blossoms. *Deutzias* that have bloomed in pots, and are intended for the same treatment, should, directly the flowers are over, have the old and exhausted wood carefully thinned out, in order to encourage the formation of young clean shoots. Repotting, if necessary, must be done then. As the foliage produced under glass is very delicate, the plants must be protected till all danger from frosts is over, after which they may be placed outside. We have carefully read your account of the treatment given, and cannot see any weak point in it, hence have come to the conclusion that the cause of the failure was the treatment during the summer and autumn preceding.]

Heliopsis failing.—I should be much obliged if you would kindly tell me why the leaves of a *Heliopsis* plant turn brown and fall? The plant is a rather large one, and about 1½ feet high, from a main stem it was thick and bushy, but now it is straggling, the long branches being thin and comparatively few-leaved. The plant is in flower. Would you advise me to cut the stems back when the flowers fade, and will you also say if *Heliopsis*



A naturally-grown Hydrangea. From a photograph by Mrs. Hughes, Dalchoholm, Co. Down.

usual method is to dig up the roots in the autumn, select the strongest for potting, and employ them for greenhouse decoration; then, after the flowers are over, plant them out again. If kept altogether in pots they must not be completely dried up at any time, though, of course, less water will be needed when totally dormant than when the plants are in active growth. *Lilium candidum* had better be planted out and allowed at least a year to recover itself, as it is not very amenable to pot culture. The white Trumpet Lily (*Lilium longiflorum*) should after flowering be stood out-of-doors and given less water than before. When dormant, which will, as a rule, be about the middle of September, it should be repotted, taking away as much of the old soil as can be done without injuring the roots. After potting, it may be stood in a sheltered spot out-of-doors till sharp frosts make their appearance, when it had better be placed in a cold-frame. The roots are active throughout the winter, hence the soil must not be allowed to get too dry at that time, but as the flower-stems develop, an increased amount of water will, of course, be necessary. *Lilium speciosum rubrum*

from about the beginning of April in a cool-house. This soil seems particularly well suited to them. They grow most luxuriantly outside, and the flowers are generally very blue; but those in pots are always pinkish, and last in a room for weeks. M. HARRIS.

Dalchoholm, Co. Down.

Fuchsia *fulgens*.—I have had a plant of this for three years, but it has not yet bloomed. It is now in an 8-inch pot, and is making some rather weakly growth. Ought it to be cut back and repotted? It made good growth last year, with splendid foliage, but no flowers. It is trained flat on a wooden trellis, and is at least 3 feet high.—A. H. BARNEMOUTH.

[There is no apparent reason why your plant of *Fuchsia fulgens* did not flower in a satisfactory manner last season; perhaps it was too much shaded. It should now be cut back into shape, and as soon as the young shoots commence to push after this the plants should be repotted in a mixture of loam, leaf-mould, well decayed manure, and sand. Presumably it is now in the greenhouse. If so, you might, when repotted, be gradually recovered from the potting, and taken out of the new soil, plunge it out-of-doors, preferably in a spot where it gets a

will bear liquid fertiliser? Any advice will be gratefully received, as I have been very unlucky with Heliotropes, and should greatly like to grow them well. The plant is in a sunny greenhouse, where the temperature ranges from 50 degs. to 65 degs.—H. J.

[Your Heliotrope must have received some check to cause the leaves to turn brown and drop, but the reason of it we cannot say. The foliage of the Heliotrope is delicate, and quickly suffers if the plant is allowed to get too dry or too wet at the roots, while fumigation with Tobacco-paper will cause the leaves to curl up, turn brown, and ultimately drop. Again, a single day of the sulphur-laden fogs such as dwellers in the London district are far too familiar with during the winter will burn up the leaves of the Heliotrope as if they had been exposed to fire. You speak of the plant being thick and bushy when you first had it, which was probably last summer, at which season the Heliotrope grows freely enough, but many fail to keep it in good condition throughout the winter. To succeed with it at that season it needs a minimum winter temperature of 50 degs. Your better way will be to cut the plant back into shape, and as soon as young shoots make their appearance repot it, not necessarily into a larger pot; indeed, it is very probable that you will be able to remove so much of the old soil without injuring the roots that a smaller pot will suffice. In a few weeks, however, you will be able to purchase young and vigorous Heliotropes at a very cheap rate, which will grow with less trouble than your old stunted plant. Heliotropes will bear weak liquid-manure when they are growing freely and the pots full of roots.]

CHRYSANTHEMUMS.

CHRYSANTHEMUMS FOR DECEMBER.

I SHOULD be much obliged for cultural instructions as to the growing of the following Chrysanthemums: Jane Motganeux, Mrs. Barkley, John Shrimpton, Mrs. White Popham, Edith Tabor, Lord Brook, Le Grand Duc, Mrs. Mease, H. J. Warren, R. E. Pearson, Robert Farnell, and Mme. Carnot. They are at present in 3-inch and 4-inch pots in a cold-frame, and are nice, healthy plants. I am anxious to have good, bushy, tree-flowering plants to bloom in December or rather earlier.—ANXIOUS.

[The varieties mentioned in your somewhat brief list are not so well suited for the purpose under notice as could be desired, yet, if you will treat them as we advise, there is no reason why you should not have nice bushy, free-flowering specimens to bloom in December next or earlier. You say your plants are now in 3-inch and 4-inch pots, and, that being so, they are in a nice forward condition. You are doing quite right to keep the plants in a cold-frame, and, provided you freely ventilate the cold-frame, the plants should make satisfactory progress for the next few weeks. Assuming that your plants are now well established in the pots just referred to, and that they are some 6 inches to 8 inches in height, they should be pinched or stopped to induce a bushy habit of growth. Pinching is accomplished by taking out the point of the shoot of each plant, and, within a week or ten days subsequent to this operation, new lateral shoots should be seen developing in the leaves immediately below the point where the pinching took place. By keeping the plants rather dry at the roots for a week or rather more after the pinching has taken place, the formation of the new lateral shoots is assisted to some extent. Take up as many strong shoots from this point as each plant appears capable of supporting, and grow on with all possible vigour. Never pinch the plants and repot them at the same time; rather allow some ten days to elapse between the respective operations. As each of the new shoots attains a length of some 6 inches to 8 inches repeat the operation of pinching as first carried out. Each succeeding 8 inches of growth should receive similar treatment, giving the last pinching about the middle of July. The shoots forming as the result of this last pinching should develop what are known as terminal-buds, these buds marking the termination of the plant's growth. We should be disposed to remove all buds, from the cluster forming at the apex of these terminal shoots, except the largest and best shaped one. Having pinched your plants several times during the growing season, they should each produce a fine display, because of their bushy character. You will also have the advantage of producing a bloom of

goodly proportions, and each one on a stout, erect footstalk. Most of the varieties in your list are strong-growing, and, to grow them well, the pots in which they are to be flowered should be quite 9 inches in diameter. A few of the stronger rooting kinds would be better in 10-inch pots. Treated in the manner we have prescribed, the period of flowering should begin in the latter part of November.]

CHRYSANTHEMUMS—STOPPING AND TIMING.

(REPLY TO "ENOR" AND "CONSTANT READER.")

THE season is rather far advanced to think of pinching the plants with the object in view of securing second crown-buds. In the list, however, we have recommended second crown buds where this is possible by an early pinching; in other cases, we have no option but to advise a first crown bud selection.

Name	When to pinch the plant.	Which buds to retain.
Pride of Stobell	Natural break	First crown
Souvenir de Mons. Menier	Natural break	Any buds in late August
Pride of Ryecroft (Yellow Niveum)	May 7th	First crown
Niveum	May 7th	First crown
Charles Davis	Natural break	Any buds in late August
Wm. Tricker	Natural break	Any buds in late August
Soleil d'Octobre	Natural break	Any buds in late August
W. H. Lincoln	Natural break	Any buds in late August
Mme. G. Brunnant	Mid-April	Second crown
Mlle. Marie Hoste	May 7th	First crown
Sour. de Petite Anie	Natural break	Any buds in late August
Mme. Carnot	Mid-April	Second crown
Commandant Hisset	May 21st	First crown
Lady Hanham	Natural break	Any buds in late August
Mme. C. Capitain	Mid-April	Second crown
Miss Nellie Pickett	May 21st	First crown
N.C.S. Jubilee	Mid-April	Second crown
Rol des Precoees	Natural break	Terminal
Ryecroft Glory	Natural break	Terminal
Richard Dean	May 21st	First crown
Source d'Or	Natural break	Terminal
Enterprise (Jap. Anem.)	Mid-April	Second crown
Mrs. Hume Long	May 15th	First crown
The Queen	May 7th	First crown
Princess Victoria	May 21st	First crown
Alberic Laurent	May 21st	First crown
Mlle. Therese Rey	May 15th	First crown
Blouie du Rocher	Mid-April	Second crown
Mrs. W. S. Trafford	Natural break	Any buds in late August
Mons. J. Allenzel	Mid-April	Second crown
Mons. W. Holmes	Natural break	Terminal
Lillian Bird	May 21st	First crown
Colonne d'Or	May 21st	First crown
Mrs. D. Ward	May 21st	First crown
Elthorne Beauty	Mid-April	Second crown
Mme. E. Roger	Mid-April	Second crown
Pearl Wray	May 21st	First crown
Voltaire	May 10th	First crown
Marie Calvat	Mid-April	Second crown
Sunstone	May 15th	First crown

NOTES AND REPLIES.

Treatment of Chrysanthemums.—I have a collection of healthy young Chrysanthemums of the best kinds in 5-inch pots about 9 inches to a foot high, and have pinched out the points of the plants, as directed on page 63 of GARDENING ILLUSTRATED for the 29th March. Will you kindly inform me whether these young plants should receive any nourishment at this early stage, what is the best food to give them, and how frequently they should be fed? I propose to shift the plants in the course direct into 9-inch pots. Will you kindly say what is the best preparation of mould for the 9-inch pots? I have some old leaf-mould, some decayed sods, and sand. Is a mixture of these ingredients the best, or can you suggest a better preparation?—A. M. M.

[No, do not feed until the plants are in their flowering-pots, which must be well filled with a final rotting compost use three parts fibrous loam, one part leaf-soil, and one part well-rotted horse-manure. See reply to "Anxious" on this page.]

Chrysanthemums—stopping and timing, etc. (Enor, Yorks).—In all cases where we have advised that a plant should be left to make a "natural break," and this has not taken place before the end of the third week in May, you had better pinch out the point of the plant, and flower the resulting shoots on the first buds which they subsequently develop. So far north as Yorkshire, we should not advise that the second "crown" buds be secured on plants pinched so late as the period mentioned in May. Those sorts in your list which are specially suited for bushy plants of a free-flowering character, as described on page 63 of GARDENING ILLUSTRATED, are the following: William Westlake (the best variety), Pompon, Yellow Niveum (Pride of Ryecroft), Niveum, Charles Davis, William Tricker, Soleil

d'Octobre, Rol des Precoees (October-flowering), W. H. Lincoln, Souvenir de Petite Anie, Lady Hanham, Mme. Carnot, Source d'Or, Ryecroft Glory (October-flowering), and N.C.S. Jubilee. All the foregoing are Japanese varieties. We should be disposed to feed the white sorts cautiously, as many of these appear to be susceptible to damping. Any nurseryman's catalogue should give a full description of the colour of each variety.

GARDEN PESTS AND FRIENDS.

VIOLET DISEASE.

OWING to the great increase last season of Violet disease, the question of protection against attack and consequent loss of crop demands the attention of market growers. Home-grown Violets always command good prices, their fragrance in itself being sufficient to place them far in front of those imported from the Continent. In Violet culture we have a good opening for increased supplies of the home-grown article without much danger of any falling off in prices, yet this year, in many cases, buyers were unable to satisfy the wants of their customers, and had to rely to a great extent upon French and other foreign Violets. This state of affairs was no doubt partly due to the ravages of the "spot" and other diseases, I fear that none of the various so-called remedies against the fungi are of the slightest use at least, that has been my experience after careful and constant trial. My chief object in writing this is to bring the subject to the notice of growers, in the hope that those who have been troubled by any of these fungi may relate their experiences, giving also the particular conditions which favour the cause and development of Violet disease. Spraying, except with some really effective fungicide (and this has yet to be discovered), would, in the case of market growers, cut down the profits to an unremunerative level. Soil and climate are varying factors, and may have much to do with the greater prevalence of the disease in some districts than in others. One grower, writing to me from Ware, Herts., states that in the light gravelly soil of his garden he finds it almost impossible, on account of the disease, to grow Violets, even with constant attention and spraying, whereas in Wilts and Hants, where he formerly resided, and where the soil was heavy, his plants were not liable to disease. No doubt some varieties are more disease-resisting than others, and among the fifteen varieties I cultivate (including many thousands of plants) I found this notably so in the case of "John Collins," a good autumn-blooming variety whose thick medium-sized leaves seemed to repel the attacks of the fungus longer than the larger and more tender-leaved kinds, such as La France, Princess of Wales, Luxonne, etc., but in no case did any variety prove invulnerable. It has frequently been suggested that over-feeding may be a cause of this disease, and this, no doubt, is true in some instances. Referring to the above, Dr. Cooke, of the R.H.S. Scientific Committee, says: "We believe this is so, yet we had it (the disease) in a poor soil with no manure added."

Those who are not familiar with the appearance of Violet disease may recognise it in its early stage by the formation of small, orbicular spots on the foliage. Spores drop from the leaves to the ground, where they remain for some time, continue to grow, and eventually inoculate other bays. It is, therefore, apparent that any fungicide, to be thoroughly effective, should, without injuring the plants, be yet sufficiently powerful to render the germs in the leaves inert, and by acting directly on those hidden in the soil, prevent the latter from doing further damage.

In November, 1900, I first noticed spots on a few plants (La France, Victoria, and Luxonne) which were growing on the same bed. I promptly removed and burned the affected leaves. This had to be repeated several times, and the plants which were first attacked succumbed, but the others recovered sufficiently to flower during the spring, and apparently regained a healthy condition, the foliage of all my plants then, and at the planting season in April, being strong and free from any signs of disease. In June, however, I noticed a return

of the disease amongst young plants situated about 30 yards from the previously affected stock. I had the leaves immediately gathered and burned as before, and this was frequently repeated, nevertheless the fungus rapidly spread to other Violet plants, and appeared in new plantations 200 yards to 300 yards distant. In July I tried spraying with Bordeaux-mixture, and had this repeated several times at intervals of a fortnight, subsequently substituting an ammoniacal solution of carbonate of copper. Finding no beneficial effects resulted from this treatment I then tried a solution of potassium sulphide (1 lb. in 50 gallons of water), and the latter proving equally inefficient, the beds and plants were finally watered about once a week with potass. permanganate (1 part in 2,000 of water). This was applied three times. Throughout the entire season all diseased leaves were picked off, consequently, towards the approach of autumn, many of the plants were deficient of foliage, while others had been destroyed by the fungus itself. The summer in this particular district was a phenomenally dry one. The plants in the driest situations suffered most, but towards the end of the season, when the heat became less and more rain fell, the disease, though still conspicuous, did not seem to be so active. I found that the more gathering of diseased leaves, diligently persevered in, and combined with partial shading during the hottest weather (using brambles for this purpose), was productive of better results than any of the various spraying solutions I tried, and the plants thus treated were the only ones to produce anything like a bloom during the autumn.

The question of infection being carried through the air, and not being dependent upon contact alone, is an important one. That this is the case will, I think, be shown by the fact that fresh and healthy plants, which I procured from Surrey in September, and which were planted at least 100 yards distant from any affected plants, showed signs of the "spot" very shortly afterwards. Every care was taken to isolate the plants during unpacking and other stages. It would be interesting to have the experience of other growers who have suffered from this disease, and whether in any case the culture of Violets has been successfully resumed; if so, what length of time was allowed before recommencing? I think that once the fungus has become established, any attempt at replanting will be useless, unless all former plants are destroyed and a certain length of time allowed to elapse in order to "starve out" any germs which might be latent in places other than the soil itself, and whose presence would cause a return of the trouble. To show that Violet-growing has already actually become impracticable in certain places, I quote the following from a pamphlet published in 1900 by the United States Board of Agriculture: "This disease (Alternaria Violet) is one of the most widespread and destructive maladies known to attack the Violet. The cultivation has been given up in many sections of the country, owing to its ravages. Five or six years ago 50,000 to 75,000 square feet of glass near Alexandria, Va., were devoted to the cultivation of the Violet, but the industry has been

practically abandoned." So far, the disease seems to have committed havoc only in certain districts, but, owing to its peculiar characteristics, a further spread seems inevitable unless suitable preventive measures can be discovered and adopted.

HENRY T. HUTTON, F.R.H.S.
Donaghadee, Co. Down.

NOTES AND REPLIES.

Destroying ants.—Will you kindly tell me how to deal with ants? A friend of mine has a Strawberry-bed under a stone wall. Last year there was a magnificent promise of fruit, but none ripened, as the ants destroyed the whole crop. What can be done to keep them away from the bed?—BARROWBY.

[As regards getting rid of the ants near your Strawberry-bed, the first thing to do is to find out the exact position of the nests, which, I imagine, are situated at the foot of the wall, and perhaps partly under the foundations, then dig down until you reach the nests, and soak them thoroughly with boiling water, or a fairly

of which are very injurious to plants. The worms were very active when they reached me, but I found that they were killed in about five minutes by soaking the soil with common lime-water. Of course, this does not prove that they may be killed as easily when they are in the ground, where the lime water would more easily drain away from them, but it would be worth while trying what a heavy watering would do. Put some fresh lime into a tub, say 4 lb., and pour 8 gallons of water on to it; stir it about well, and let it stand for forty-eight hours, then use the clear liquid without disturbing the sediment. It would be well to experiment on a small scale at first, so as to be quite sure that the watering does not injure the plants the worms are feeding on.—G. S. S.

Apples injured.—Can you please tell me the cause of my Apples last season being positively riddled with holes and containing small white maggots, giving them the appearance of rust? Would you please suggest a remedy?—H. L.

[Without further information as to the time of year that the Apples were attacked, the condition of the fruit, whether hollowed out by the maggots or not, etc., it is quite impossible to suggest a remedy. One would imagine that the maggots were those of a fly, but it is a mere guess on my part. Please send as much information as you can, and I will gladly do my best to tell you what the pest is and the best remedy.—G. S. S.]

Vine-weevil destroying Ferns. I shall be much obliged if you will inform me whether the beetles that I enclose are responsible for the heaps of young Maiden-hair fronds that are cut off just after they have begun to expand, and strew the soil all round the plant? The ravages of some pest got so bad that last night in my fernery I got rid of the enclosed, on Adiantum chiefly, although others, *Pteris* and *Platycentrum*, are badly hit too. I used to blame woodlice, but feel sure the enclosed are the culprits. Please tell us their name, and whether there are other ways of trapping them besides hunting after dark with a light?—W. STREVENSON.

[Your Ferns are attacked by the grubs of the black Vine weevil (*Otiorhynchus sulcatus*). We are afraid that there is no other way of destroying these grubs but repeating the Ferns, as no insecticide that would kill them could be used with safety to the Ferns. The only practicable way of getting rid of this pest is by killing the parent beetles. They are very destructive to the leaves of many plants, particularly those of Vines and the fronds of Ferns. As they usually feed only at night, remaining during the day under some shelter, comparatively few persons know of their existence. If you suspect any of your plants are being injured by them, you should search for them at night, as they fall off whatever they are on in any way disturbed. It is safer to buy a white sheet of some kind under the plant before it becomes dark, so that when they fall they may be easily seen. Then some two hours after it is dark throw a bright light suddenly on the plant, and the weevils will probably fall down. If they do not, search the plants well, or give them a good shake. It is useful to lay small bundles of dry Moss or hay on the soil of the pots, or in the case of Vines and climbing plants, to tie them on the stems. The weevils find these very convenient places to hide in. These traps should be examined every morning.]



A Fern-bed wall.

FERNS.

FERN GLAD WALLS.

Will some reader kindly tell me how to cover a bare back wall in one of my ferneries? I wish to grow thereon Ferns, Begonias, etc., so that I may be able to get material for cutting, and thus save the plants that I am growing in pots.—N. V.

[To no better purpose can Ferns and Mosses be put than clothing the naked back walls of ferneries, plant stoves, intermediate houses, and conservatories. Not only is a well-furnished back wall very ornamental, but it is also very profitable, a never-ending supply of well-matured Fern fronds being always obtainable. On the wall here figured the Ferns were fixed by means of sections of diamond mesh wire netting and staples. Only a thin layer of soil, principally composed of fibrous loam, was enclosed, and in this small piece of Adiantum cuneatum were planted 3 feet apart each way, with plants of *Nephrolepis exaltata* and *Begonia Rex* interspersed among them. The Adiantum would appear to be quite at home in this position, the plants increasing rapidly in size, the fronds being very numerous, large,

strong solution of carbolic acid in water. It is almost hopeless work trying to trap them; guano or chloride of lime are said to drive them away, but I have not much, or indeed any, faith in these remedies, except on a very small scale. It is best to open the nest when all the ants have retired for the night, so that all the inmates may be destroyed.—G. S. S.]

Insects on Apple-trees.—I send you a small red insect which I found upon one of my Apple-trees. I should be glad to know its name and habits, and whether it is injurious to fruit-trees or flowers?—A. B. GASKELL.

[The small red insect you send is one of the mites (*Trombidium holosericeum*). I do not know that it has any English name. It is in no way injurious to fruit-trees or flowers; in fact, it is decidedly useful in gardens, as it lives on small insects, etc., and is entirely carnivorous.—G. S. S.]

Worms in soil (M. H. Armstrong).—The worms you sent in some soil are nearly allied to the earthworms, but belong to a different family, the Enchytraeidae, some members

of the Violet, but the industry has been

and better seasoned than is the case with those out from less exposed pot plants growing in the same house. One of the greatest difficulties to be contended with in the wall culture of Ferns lies in the fact that they must be kept well supplied with water, and this in many instances cannot be readily accomplished without washing the soil away from the roots. A freely perforated lead pipe is taken along the top of the wall, and this being connected with the water supply, all that is necessary is to turn a tap and let the water trickle down through the soil as long as may be necessary.]

VEGETABLES.

WINTER SPINACH.

(REPLY TO R. W. MANDERS.)

THE plant you sent was quite shrivelled up, and we could detect no insects of any kind. Spinach grown in the open in soil ploughed none too deeply, and in many cases with only a slight dressing of manure, is short and less fleshy than that in good garden soil. On the other hand, it is hardier. Though the plants in the open in the autumn are not so taking in appearance as those in gardens, they are much hardier and will give a much better return. Much of the success with field culture is owing to change of soil, ample space, and freedom from insect pests. The preparation of the soil is the most important detail, and should be undertaken some months in advance of sowing the crop. Where Spinach has failed on previous occasions, vigorous measures to stamp out such pests as grubs and wireworm must be followed. A sprinkling of fine gas-lime is effectual in getting rid of this pest. Fresh lime from gasworks needs careful application. Secure a good hulk, and by exposure for a time there is always some ready for use at short notice. If used in a fresh state it should be broken very fine and allowed to lie on the surface for a few days. It thus becomes pulverised, and is in a more workable state, and incorporates readily with the soil. Another powerful fertiliser and insect destroyer, though a simple one, is wood-ashes. It is a valuable manure in land that has become sick of garden crops. Spread the wood-ashes on the surface before drawing the drills. Soot is equally valuable, and may be used with great advantage. As wood-ashes are none too plentiful in some gardens, a good substitute may be found in burnt garden refuse, and even burnt soil. The best position for Spinach is high ground, not sheltered in any way. As sowing is usually performed early in August, the ground by that date will be in fine condition. If possible, the position selected should have been occupied by a totally different crop. Sowing thinly is advantageous, as the less the seedlings are touched the firmer hold they have. If thinning is necessary, it should be done when the seedlings are very small.

RHUBARB FROM SEED.

In the amateur's garden it is painful sometimes to see what rough treatment is meted out to this useful plant. More often than not it is relegated to some out-of-the-way corner, where never a bit of manure reaches it, and yet a crop of succulent stalks is looked for in their season. The limited extent of the crop often entails harsh treatment by close pulling for the daily needs. In many such cases Rhubarb becomes only an apology for the name, and is, as is only to be expected, unsatisfactory. It is scarcely justice to so useful a vegetable that such treatment should be given, and, to obviate this, seed raising may be recommended as a partial relief and as an alternative course. The present is a good time to carry out this oft-needed reform. There are, however, early and late kinds, Victoria belonging to the latter, and Royal Albert or Linnaeus early. Draw drills about 1½ inches in depth on well-prepared ground, and about 1 foot apart, and sow thinly. In due time young plants should appear, differing in their habit of growth, the usual course being to choose the strongest and best coloured and destroy the rest. The young plants may grow undisturbed the first year, transplanting them in the winter or towards the spring of the next year. An alternative is to

sow on the ground intended for the new addition to the Rhubarb-bed, and simply leave the seedlings to grow on. Even this may need a little spade work in making right irregularities that occur in the rows, for, invariably, it will be found that all the seeds do not grow. Only those that have attempted to dig up established roots know the depth to which the roots go, so that in preparing for sowing or permanent planting it is wise to well dig or trench the ground and incorporate decayed manure with it to at least a foot in depth. Beyond this and keeping the surface clean not much is called for, but on no account should any stalks be pulled the first, and but few the second, year. After that time the seedlings will be as productive, if not more so, than old plants. W. S.

NOTES AND REPLIES.

Broccoli Spring White.—I quite agree with all that "A. W." says of this useful Broccoli, for not only is it early, but very hardy. There are but one or two others in my collection that have proved so hardy, not including even the Late Queen and Model—usually the hardiest of Broccoli. Vanguard is another that comes in about the same time as Spring White, and this, though less hardy generally, gives a succession from the same bed over a good length of time. These both need to be sown during the first half of April. It is a mistake to sow Broccoli too early. April is quite soon enough for the most of them, and the two under notice are no exception to the rule.—W. S.

Staking Peas.—Many growers when they are selecting the kinds they wish to grow inquire as to their height, especially if their gardens are small or they have a difficulty in obtaining supports for them. Much of late years has been done to give us good Peas of medium height. Often when I have been looking over gardens in the summer I have been struck with the large quantity of stakes and the time taken in making these. This may do very well if expense is not a consideration, but I am convinced that by placing the stakes so thickly as some growers do is no advantage. Of late years I have not used them nearly so thickly, and have found benefit therefrom. I run hick cotton from stake to stake whenever the Pea baulm shows signs of blowing through the supports. It is astonishing how quickly a lad will run on this cotton. When the crop is over it is easy to remove it with the stakes. In this way it does not need more than half the amount of stakes. The labour of putting on and cost are met in the reduction of labour in staking. Added to this I find the birds do not like the cotton. Amateurs, especially those in and near towns, would do well to try this method.—J. C.

Large Runner Beans.—Speaking generally, large kinds of vegetables are neither the best nor the most profitable, those of medium size being infinitely best for private use. Runner Beans are an exception. The very long-podded kinds, such as No Plus Ultra and the selections from it, are very productive when grown in rich, deeply-worked soil. When grown thus, they are often seen from 12 feet to 14 feet high, and in this condition they produce very long pods. Last year I counted on some of the stems from five to seven pods in a bunch, and some of these were from 8 inches to 12 inches long. It may be asked where is the gain in these long kinds? They are more easily gathered, and if needed for market they weigh so much more, and they can be gathered of any size the grower may wish. It is doubtful if any kind of dwarf Bean is more productive under good culture in the open garden than Canadian Wonder, and here, too, the pods are large.—J. CROOK.

Photographs of Gardens, Plants, or Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

The Prize Winners this week are: 1, Mr. J. Cox, 43, Haydon Park Road, Wimbledon, Surrey, for *Oncidium Forbesi*; 2, Mrs. L. Dames, Eldwick, Battenhall, Worcester, for *Weeping Willow* in *Victoria Park*; Bath.

GARDEN WORK.

Conservatory.—Chrysanthemums should now be in cold frames, with the lights off all day and all night, except when frost is expected. Cuttings for producing one flower may yet be struck in a close frame; only very strong cuttings should be taken. When plants are cut down, the tops will make good cuttings for training up with a single stem with one good-sized flower at the top. These make good plants for forming groups, mixed with Ferns and Grasses, either in the rooms or conservatory. When *Deutzias* have ceased flowering, cut them down and grow them on in a genial temperature till growth is completed, then harden off and plunge in *Coccoloba* outside. Such plants will flower abundantly all up the new growth, and also early without much forcing. The two pretty *Brooms*, *precox* and *Andreana*, are lovely plants in the cold-house. *Precox* has a very graceful habit. We have a number in 5-inch and 6-inch pots in a cold-house which have been sown in flower some time, and they are much admired. They do equally well planted outside, and, therefore, many would think it a waste of time and labour in having things in pots that are hardy enough to thrive outside; but a group of plants in bloom in March attracts attention. This is the season for repotting all plants which may require more pot-room, especially those plants which have been pruned back and are now breaking into growth, such as *Eucrysis*, *Indian Azaleas*, *Camellias*, and *New Holland* plants generally. We always use the best peat we can get for these things, mixed with about an eighth part of silver-sand, and pot very firmly. Special attention is given to the drainage, as a water-logged plant might as well be thrown out as to attempt its renovation. It is hardly necessary to attempt to teach an experienced man the rudiments of watering plants in pots, but there are learners everywhere. Next in importance to careful potted in well-drained pots is the proper moistening of the soil. There are cases in which even the tyro could scarcely go wrong. Such things as *Spiraeas* and *Hydrangeas* require frequent and abundant supplies, with occasionally something in it of a nourishing and stimulating nature. We never water a specimen plant without first tapping the pot. The sound is the best indicator of its condition.

Stove.—Use shade sparingly, still certain plants require a little less brightness now the days are lengthening and the sun gaining in power. Ferns, *Oreohids*, and such fine-foliated plants as *Marantas* must have a light shade when the limit of endurance has been reached. Even *Crotons* and *Dracenas*, which require strong light to put on colour, will require a light shade for an hour or two in the middle of the day. The flowers of *Gardenias* and *Stephanotis* soon lose their pearly whiteness if exposed to hot sunshine, and with exposure to hot sunshine comes the difficulty of keeping up the necessary atmospheric humidity, though, of course, this can be done by flooding the paths several times a day. The syringe is a very useful implement when the water is soft and pure, but it does not benefit the plants to be always syringing them. Once or twice a day is sufficient, and at mid-day flood the paths. The plants which are now growing freely must be opened out and given more room on all sides. Young stuff for next winter's blooming will be better now in a low, warm pit, where they can be near the glass, and receive the necessary pinching to induce a bushy habit. Cuttings of *Poinsettias* should be taken when 2 inches or 3 inches long, and inserted in thumb pots in sandy peat, and plunged in a close propagating frame in a brisk bottom-heat. When rooted move to a close, warm pit, where they can be close to the glass.

Early Peach-house.—Avoid crowding the young growth. Perhaps I ought to have written over-crowding, because in well-trained Peach-trees the shoots are laid in pretty close to each other; but it is in over-doing it where mischief is done. All shoots will now be tied in neatly, and the crop of fruit in the best position to receive the full benefit of the sunshine. Often in April we have cold nights and windy days, when the ventilators must be opened with judgment. We want a free

circulation, but we must modify the influx of cold currents when the wind is in the north-east. A little less ventilation and a little more damping of floors and borders will keep matters right. If the inside borders are well drained there is not much danger of overwatering. Leaches, neither are we likely to overfeed if we give two or three good soakings of liquid-manure during the time the fruits are swelling. I have, in renovating Peach borders, often found them too dry, but never too wet—so far, at least, as inside borders are concerned—and when an inside border of any kind gets dry it is almost impossible to thoroughly moisten all parts of it.

Mildew on Grapes may often be traced to over dryness of the borders, and borders made of a foundation of rubble will take many waterings during the season, unless the borders are deeper than borders usually are nowadays. The Grapes of a gardening friend last year were badly attacked by mildew. On investigating the matter he found that the cause was drought, and took measures to thoroughly saturate the border, and this season there is no mildew and the Grapes are finer. Of course there are other causes of mildew; cold currents of air will produce it, as will also a stuffy, badly ventilated condition of the atmosphere; but these are matters which can be easily rectified, and yet the mildew remains if the roots are too dry.

Window gardening.—From the letters which reach us from time to time one can ascertain that there will be a much greater effort made with window-boxes this coming year. White Marguerites, scarlet Geraniums, and blue Lobelias will be run upon, but there are other things, such as Mignonette, Musk, Stocks, and scented Geraniums, that will appeal to some of us. Balsams are rather pretty in a window-box outside.

Outdoor garden.—There is always work among Roses. As soon as the pruning is finished and the young shoots are growing freely, we must keep a sharp watch for insects. First come the green-fly, and later on the worm in the bud and other troubles calling for prompt attention. Tea Roses, in my opinion, do not require such heavy manurial dressings as they sometimes get. Give them leech of soil, as good as can be obtained, and enrich it reasonably, but, of course, do not block out all the sunshine with heavy manurial dressings. If there is any suspicion of wireworm in the Carnation-beds, place traps of Carrots, Potatoes, or French Beans among the plants, and mark the sites with a stick. I believe wireworms will leave pretty well everything for French Beans. I have sometimes taken three or four worms out of a single Bean. Scoop out a hole, place in half-a-dozen Beans, and cover them with earth, placing a stick to mark the site, and in two or three days examine them and kill the insects. If there are any near, some will be in the Beans. To make the borders gay during summer, sow hardy annuals freely and thinly. The large masses are the most effective. Bulls and spring flowers are very bright now. Sow seeds of the Crown Aconite.

Fruit garden.—Melons and Cucumbers in frames must have a genial bottom-heat. Eighty degs. to 85 degs. will be suitable. The plants get stunted in a low temperature, and a checked plant never does much good. Later on, with more sunshine and warmer nights, the conditions are more favourable. For some time yet warm coverings over the glass must be used at night. Strawberries are coming forward in cold-houses now. These do well on shelves in the Orchard-house. For late fruit, the plants should be in 6-inch or 7-inch pots, as in small pots watering is a difficulty, and if not well attended to there will be deformed and hard fruit. Some of the healthiest of the forced plants of Royal Sovereign or Vicomtesse H. de Thury may be planted out for a late summer and autumn crop. To have fine fruits, the blossoms should be thinned. A dozen fruits are quite enough to leave on a strong plant. There will be a good deal of work now in the vinerias, especially where early and late foreign is carried on. The young shoots, even after they are stopped and tied down, will require looking over to keep the sub-laterals in check. These shoots

must not be permitted to disorganise root action. The best time to feed Vines with quick-acting stimulants is just as the berries have about finished stoning. Of course, Vine-borders should not be permitted to get dry at any time. Drought is a frequent cause of mildew and cracking of the berries.

Vegetable garden.—Plant out Cauliflowers which have been raised in heat. Leeka and Brussels Sprouts, which have been raised in boxes under glass, should be pricked out into nursery beds 8 inches apart. Onions raised in heat and hardened off may now be planted out in well-prepared ground in rows 1 foot apart, and 6 inches apart in the rows. We have had very good crops of Onions pricked out between rows of spring-planted Strawberries. The latter were planted solely for runners first season, and the Onions paid for labour. Tomatoes for outside planting should be grown cool and sturdy; of course, safe from frost. It is not often there are any spare glass frames at liberty at this season, but if there are, they may be placed over Asparagus-beds; there will then be no break between the last of the forced grass and the earliest from outside beds. For the most part Asparagus planting will be over, but I have planted right up to the end of April with success, though the plants received one or two waterings at first to encourage root action. Mushroom-beds should be made outside now; the best position for the summer beds is in the shade of a building or a wall. Sow dwarf French Beans under a south wall where protection can be given if necessary. A few Runner Beans may be started in boxes to be planted out later. E. HORDAY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

April 21st.—Sowed Chinese Primulas in sandy pent in pans, covered with squares of glass, in a warm pit. Pricked off a lot of seedling Musks and other Mimuluses. The spotted kinds are very pretty for planting in shady borders; they thrive well in box outside north window. Planted out a lot of forced bulbs, chiefly Narcissi, Tulips, and Hyacinths. Divided and replanted a lot of Cross-pink Jenny (*Lychnis alba mammulata*); it has a pretty effect hanging over the edges of stones or in the rock garden.

April 22nd.—Cut up remainder of Dahlia roots to single buds or young shoots, and potted them singly in 4-inch pots placed in pit, where there is a little warmth just to give them a start. Planted more Peas and Beans, including the dwarf French Bean No Plus Ultra. The last is planted in the warm border. Pricked off Stocks and Asters in frames. Put in cuttings of a new Heliotrope and other things. For the most part the propagation of bedding stuff is finished, as our stocks are complete.

April 23rd.—Gave the Strawberry plantations a further hoeing as a preparation to mulching with long stable litter. Plants are looking well, but three years is the extreme limit of age permitted, so there is no time to wear out. We are moving bedding plants to cold-frames, but they are covered up with mats at night. Sub-tropical and a few other tender things are kept in a house where a little heat is given, as they are wanted strong when turned out. A new border on a south aspect has been made for Figs; a good foundation has been made.

April 24th.—Peach wall is looked over frequently and a few forerights removed from the trees, but we are rather chary of doing much disshidding till the wind is warmer. Insects are dealt with promptly with Tobacco-powder. This is the best remedy, and it may be used whilst the trees are in bloom if the flies appear so soon. Shifted on a few of the forwardest of the Cyclamens. The soil used for young plants is very turfy loam rubbed through half-inch sieve, and the remainder equal parts leaf-mould, peat, and sharp sand. A rather stronger compost will be used for later shifts.

April 25th.—Looked through conservatory climbers to regulate growth. Prunus triloba is in flower now in the shape of good-sized bushes. The plants have been brought on cool,

though when required early it forces well. There is plenty of flowers, but the buds are over and cleared away, and for the most part planted out, with the exception of Freesias, which are kept in a greenhouse and the growth helped a little with liquid-manure. This seems to finish off the growth properly and gives strength to next year's blossoms.

April 26th.—All seeds sown now and generally through the spring are first dressed with red-lead, and neither birds nor mice will touch them. The process is very simple. The seeds are emptied into a dish or saucer and slightly damped, the red-lead is then sprinkled thinly over them, and they are stirred with a stick until all have taken on a coat of lead. Of course, after sowing Peas or any other seeds dressed with lead, the hauls are washed as soon as sowing is finished, as red lead is a poison.

BIRDS.

Death of African Fire Finch (*Zitella*).—The internal organs of this pretty little bird were in a very unhealthy condition, and the immediate cause of death was apparently a wasting disease of the liver. Canary and Millet seed is the proper food for all the Waxbill family, of which the African Fire Finch is a member, and is known also as the Red African Waxbill. As, however, Canary seed is of a stimulating nature, and, if given in quantity, liable to cause liver trouble, it is safer to let Millet form the staple diet of these birds. Both white Millet and spruy Millet may be given, and green food supplied freely in warm weather, but only sparingly during the winter months. The flowering stems of Grass are good for these birds. The Fire Finch requires to be kept in a somewhat high temperature, and will not breed freely in a lower temperature than 70 degs.—S. S. G.

Canary ailing (*H. Bates*).—There was no chance whatever of your bird ever recovering from the complaint from which it was suffering, so you did well in putting an end to its life. You give no particulars whatever as to the feeding and general treatment, but the bird was exceedingly thin, consisting chiefly of feathers. This wasting disease is very frequent among cage-birds, being often brought about from their being supplied with unsuitable or insufficiently nutritious food, although a bird so affected will sometimes live for months, eating ravenously, as in this case, but becoming gradually weaker. The only chance of effecting a cure is by taking the case in hand at the early stages of the complaint, making an alteration in the diet, and so forth. It is well to remember that no seed-eating bird can possibly remain in health for any length of time without a constant supply of sharp grit to assist the gizzard in the digestion of the food.—S. S. G.

LAW AND CUSTOM.

Notice to quit.—I took a house on Oct. 14th, 1899, as a yearly tenancy, without a written agreement. I gave notice on March 24th to quit on Oct. 14th next, but my landlord (a solicitor) informs me that my tenancy is a Michaelmas one, and that my notice is bad. Can I quit on Oct. 14th next, or shall I have to give notice next March to quit at Michaelmas?—H. E. S.

[You may have entered on October 14th, but what was the term of your tenancy? If you have paid rent as from September 20th, or if you paid broken rent from October 14th to March 24, and afterwards from March 24th and from September 20th, your tenancy is from Michaelmas, and the notice you have given is bad. Your rent receipt will prove the nature of the tenancy, and if you have any real doubt on the matter send us the receipt for rent due September 20th last or October 14th, and any other receipts you may have preserved.—K. C. T.]

Notice to determine weekly tenancy.—D rents a garden and factory at a weekly rental of 1s, paid weekly, both adjoining each other. D has sub-let the garden to B at a yearly rental of 12s, paid yearly. D has since died, but factory is still carried on as usual by D's family. The landlord desires that B should have notice to quit the garden. What notice should be given? No written agreement ever existed on either side.—G. H. G.

[As between D's executors and B, the latter is entitled to half a year's notice to quit, expiring at the same time of the year as the tenancy

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VEGETABLES.

HARDINESS OF BROCCOLI.

It is very questionable whether any variety of Broccoli in cultivation is fully entitled to the prefix "hardy." Some are certainly more to be relied upon than others, Model, perhaps, being the hardiest of all, although this season I have a fair proportion of the smallest plants left of both Leamington and Lelsham's Latest of All. There cannot be any question that in far too many instances too much space is given up to such a chance crop as Broccoli undoubtedly is. Some gardens are ill-adapted for the successful growth of Broccoli at the best of times, being very low-lying, also closely walled in, and very likely surrounded with tall trees. Under such circumstances the plants do not make that sturdy growth seen in more exposed gardens where a free circulation of air is assured. The cultivator is sometimes to blame, as, besides sowing the seeds much too early, the seedlings are so crowded in the seed-beds that good plants are an impossibility. Large plants are not by any means the best to stand the winter, for unless the weather should be very favourable for them they will most surely succumb. A small head of Broccoli is much better than none at all; therefore, if the plants may appear small upon the approach of autumn, the grower need not envy those who may have much larger plants.

By sowing the seed about the first week in May, in rows instead of crowding up the plants in a small seed-bed, good plants may be secured, capable, at least, of withstanding more frost than weakly and drawn plants. I could never see the wisdom of sowing on very poor ground, as some advocate, for if so, and a dry time should set in, the growth is so slow that it is with difficulty the fly can be prevented from devouring the young seedlings. By sowing on fairly fertile ground, taking that ample room is allowed the young plants and also that the site is well exposed, the plants will not grow any too freely. It is just the same at the final planting, for if plenty of room is not allowed, the plants fail more or less just the same. Too much care cannot be taken in the selection of varieties, and in recommending any kind a hard-and-fast line should not be drawn. A.

CULTIVATING ARTICHOKE.

The true Artichoke is a very valuable plant, much more used abroad than with us, a great many being brought now to our markets. In our mild winters in the south it very often escapes as in France, if protected by leaves or some such material; but in our gardens, where the cultivation of this vegetable is not so systematic as it is abroad, the heads are not so fine as they should be, because the plants are not relieved of their suckers, and the consequence of this is that the growth is so rapid and dense that the fruit is reduced in size. To obtain good Artichokes, therefore, it is necessary to remove the suckers when the plants

begin to spread. It is hardly necessary to say that the Artichoke referred to here is the true Artichoke, what we call the Lepusdem Artichoke not being an Artichoke at all. Those who have cultivated Artichokes for any length of time know that exceptional cold is not the only danger to the growth of this vegetable, as the parts under ground are really more liable to suffer from stagnant moisture than from frost, however severe. When the surface is properly protected by straw, manure, or leaves, it will not be surprising if, after copious and continuous rain, in spite of the precautions against frost, a great many rhizomes are found to have perished, especially in badly drained soils. It rarely happens, however, that in a plantation of any size the plants all perish. The worst used plant will produce useful suckers, though doubtless plants which have come well through the winter will have the advantage in this respect also. Here we may, perhaps, recall the fact that Artichokes are perennials which occupy the ground where they are planted for four or five years, and each rhizome produces a greater or less number of suckers, according to kind, the majority of which should be cut away, when large enough, at the base, after removing the soil for that purpose. The time for removing superfluous suckers is the second half of April or a little earlier or later, according to the state of the weather, and the instrument to be used is a flat dibble or a long knife. Every part of the sucker is removed, together with a small portion of the heel, the most promising-looking suckers being left, and as much as possible kept in line with the rest of the plants. More mutilation of the rhizomes than can be helped should be avoided, and in each case the incision should not go beyond the diameter of the base. As fast as the suckers are removed they are classified according to strength, as they can be used for making new plantations, the preference being given to those of medium thickness and with some roots attached to them. Stout suckers, thick at the base and with leaves broadening from the point of attachment, should be rejected, as they root badly, but the small suckers can be used if need be. Ordinarily in planting suckers the dibble is used, and two suckers are planted together, so that one can be removed when they have taken root. With a limited number of suckers, however, it may be necessary to plant singly, and then more care should be taken to see to the rooting. Also avoid unnecessary watering during the rooting process, or the chances are the plants will rot. One good watering at the time of planting, followed by another if the soil is really parched, should suffice. When the plants are all rooted, however, they can do with large quantities of water. Artichokes should, as a rule, be planted about 3 feet apart.

J. FOUSSAT (Revue Horticole).

NOTES AND REPLIES.

Handsworth Borecole.—Among several varieties of the winter Borecoles or Kales I have grown this season, none has proved so good as this, both for hardiness and quality. The growth is somewhat tall, and the heads

which are almost as solid as a late Savoy, are curled like, or similar to, the Scotch Curled, and are excellent from every other point of view. Those, then, desirous of a change of variety for the next winter's use should obtain this from a reliable source. Not only is it good for winter, but the heads remain solid until well into April before showing any sign of running. Its hardiness is beyond question; scarcely a leaf would appear to have been injured by the past severe weather. As the present is a good time for sowing, readers would do well to procure seed at once. W. S.

Wire hurdles for Peas. Except in wooded districts the purchasing of Pea-sticks is often a serious item in the garden expenditure. To obviate this difficulty, of late years galvanised Pea hurdles have been introduced. I do not look upon these wire Pea hurdles with particular favour; I much prefer the old-fashioned sticks. The advantage of these wire hurdles comes in where Pea-sticks are with difficulty procurable, and although at the outset the cost may appear excessive, yet in the end they will be much cheaper than sticks, as they will last with care for years. But even with the use of hurdles a few small sticks are needed to guide the young growing Peas. However suitable the hurdles may be for keeping the haulm erect, yet it will not intertwine in the wires, as many people suppose. Nor is a single row of hurdles along one side of the Peas of any use; there must be a row on each side arranged about a foot apart. This will keep the haulm erect. The hurdles being made in three heights, 4 feet, 5 feet, and 6 feet, care must be taken that they are used as high as the Peas are supposed to grow.—Y.

A steamy hot-bed.—I made up a hot-bed in the middle of March. I turned it several times; it was fresh, but very wet. I sowed some Cucumbers in heat, which have come up and are breaking into rough leaf. I cannot keep them longer where they are. The hot-bed steams very much, although I have left the back open to let it escape. Kindly tell me what to do, and when it will be safe for the Cucumbers?—X. Y. Z.

[You appear to have made up the hot-bed too far in advance, and we fear by the time you most require the heat it will be greatly diminished. The steam is the natural outcome of the heat and the enclosed frame, and a little steam will do no harm if it is not too rank. All steam may be modified, however, by a thin covering of soil or even light manure over the bed, and by placing the mound of soil for the Cucumbers, this will be getting warm for the plants. You will need proceed cautiously while the cold, biting winds and nightly frosts are with us. At such times a thick night covering must be given, and such assistance may be given from lying the frame around with more hot-bed material. Another time when you have completed the bed, we suggest you cover the surface inside the frame with soil at once. This is a far more satisfactory way of dealing with it than by opening the back, which permits not only steam but heat to escape. In the making up of a dung-bed you should obtain quite one-third of fresh droppings, as these retain the heat far more uniformly than the straw portion. We do not object to the manure being wet, if well turned over several times; indeed, we take care that any dry

portion is not permitted to enter into the bed. Any interval dryness quickly turns mouldy, and where this is the case the heat quickly fails.]

Careful gathering of Spinach, etc., in winter.—For several years I have been noticing how much better winter Spinach



The hybrid Heath (*Erica hybrida*).

stands when some thought and care are exercised in the gathering, especially through the autumn and early winter. I have found it much better to pick the leaves close to the crown, taking all the largest leaves first. In this way there are no stems to engender damp and rot round the plant, and the air hardens the crowns. Added to this there is economy in so doing, as all the foot stems are as good as the leaves. Another mistake is allowing Spinach to remain too thick for winter. I pull up the largest plants and use them the first part of the winter. It is very weakening to pick off every leaf, especially the very young ones. I like to leave enough to help shelter the crowns, and I never commence gathering till early in the autumn, and seldom am I short, except in severe frost. Parsley needs the same care; if the large leaves are left they only get ruptured in the stems and die.—J. CAWOK.

Vegetable Marrows on leaf heaps.

—I grow the Vegetable Marrows on the top of a heap of freshly-gathered leaves, which are stacked in a corner having a southern aspect, and bounded on the north and east by a wall a few feet higher than the leaves. On the top of the leaves I make up a bed with the trimmings from the roadside. A moderate warmth is generated by the leaves, rendering the soil genial to the roots of the Marrows. The plants are now in 4½-inch pots. They will shortly be planted out under handlights and have protection nightly, thus giving an early crop of Marrows. After the crop has been produced the soil is in good condition for using the other ingredients for the cultivation of Vicia.

TREES AND SHRUBS.

HARDY HEATHS.

WHERE, as in many country places, our native Heaths abound, there is little need to cultivate them, but certain of their varieties are charming and deserve a place in the garden or wild garden. In a place large enough for a bold Heath garden it would be well to have it, but a small garden is often large enough for a few beds of hardy Heaths. A Heath garden need not be a rocky or pretentious affair, but quite simple, for Heaths do well on level ground. Though they grow best, perhaps, in peat bogs and wastes, it would be a mistake to suppose that only such soils can grow Heaths well, because we see them in Sussex in soils quite unlike those on which they thrive in Hampshire. If rocky banks or large rock gardens already exist, Heaths may form often their very best adornment, but such are by no means necessary. This group of plants has as yet had but scant care, and, if grown at all, is grown in a poor way, and more for its "botanical interest" than from any just sense of its great beauty. That can only be fairly judged of by those who see them on mountains and moors, where they are among the most beautiful of plants in effect in broad masses. This can hardly ever be shown in small gardens, but why should it not be in large ones? It is by no means necessary to have a garden to cultivate Heaths in a bold and picturesque way, as almost any rough open ground will do, and some kinds will do among hushes and in woody places. The larger Heaths, where grown, should be massed in visible groups, and the dwarf ones seen in dwarf masses also, and not treated as mere "specks" on rockeries, or used as edging plants only.

TREE HEATH (*E. arborea*).—A tall and graceful shrub of Southern Europe, N. Africa, and Madeira; white-flowered, and covering vast areas in the upland woods of Oak or other trees, attaining a height of 12 feet or more in N. Africa, and in the Canaries becoming a tree. This Heath is tender in Britain generally, but may be grown in southern and warm districts and on warm soil in sheltered valleys near the sea with its friendly warmth.

flowering in spring in Britain. The flowers are rosy-purple and fragrant. It deserves a trial in heathy soils and sheltered places and near the coast.

ALPINE FOREST HEATH (*E. carnea*).—A jewel among mountain Heaths and hardy as the rock Lichen. In very mild winters it flowers in January in the south, and in all districts is in bloom at the dawn of spring—deep rosy flowers, carpeting the ground, the leaves and all good in colour. There are one or two varieties all fine in colour, and there is a white variety. This Heath is not averse to loamy soils and does well on some of them. It is easily increased by division. (Syn. *E. herbacea*.)

GREY HEATH (*E. cinerea*).—A dwarf and pretty Heath common in many parts of Britain, and particularly Scotland, is also very easily grown, and has pretty varieties of white and various colours. Its flowers of reddish-purple begin to expand early in June. Amongst its varieties are *alba*, *atropurpurea*, *bicolor*, *coccinea*, *pallida*, *purpurea*, *rosea*, and *spicata*.

THE DORSET HEATH (*E. ciliaris*). is a lovely dwarf Heath, too little grown, and certainly as pretty as any Heath of Britain or of Europe. A native of Western France and Spain, it also comes into Southern England, and we find it hardly much further north than the district it inhabits naturally. The flowers are of a rich purple-crimson, and fade away to a pretty brown. It is neat in habit and excellent in every way, thriving also in loamy as well as in peaty soils.

HYBRID HEATH (*E. hybrida*).—Generally we include varieties under the species, but this, which is said to be a cross between *E. carnea* and *E. mediterranea*, is a remarkable plant, and last season it flowered right through the winter and far into the spring. The Hybrid Heath thrives in loamy soil almost as well as in peat, and like the dwarf Alpine Heath (*E. carnea*), is quite easily increased by division. There is at the present time a fine mass in bloom in the Royal Gardens, Kew.

SPANISH HEATH (*E. codonodes*).—This is the Britain the most precious of the taller Heaths, growing 2 feet to 4 feet high, and being hardier than the Tree Heath (*E. arborea*), it may be grown over a larger area. Even in cool districts we have had it in a loamy soil ten years, and almost every year it bears lovely wreaths of flowers in midwinter, white flowers with a little touch of pink, in fine long Fox-brush-like shoots. In about one year in five it is cut down by frost, but usually recovers.

MEDITERRANEAN HEATH (*E. mediterranea*).—A very graceful bushy kind, growing 3 feet to 5 feet high, best in peat, and flowering often very prettily in the spring. Although a native of Southern Europe, it also comes into Ireland and in the western parts, and is a little more hardy in our country generally than the Tree Heath of Southern Europe—is, in fact, hardy in



The Alpine Forest Heath (*E. carnea*). From a photograph sent by Mrs. G. F. Phillips, Wulverie, Olen.

SOUTHERN HEATH (*E. australis*).—A pretty bush Heath of the sandy hills and wastes of Northern England. Of this species there are several varieties. **THE STRICK HEATH (*E. stricta*).**—A wiry-looking shrub, compact

in habit, about 4 feet high, flowers later, and is a handsome plant. A native of the mountains of Corsica, flowering in summer.

BROOM HEATH (*E. scoparia*).—A tall and wiry-looking Heath, reaching 8 feet or more, flowering in summer, not showy. We have seen this in cold parts of France (Sologne) as well as more abundantly in the west and

30 inches high, bearing crimson-purple blooms in drooping racemes. There is a white variety even more beautiful, and one with purple and white flowers, called bicolor. (*Syn.*, *Menziesia polifolia*.)

Maw's Heath (*E. Maweana*).—This is one of the handsomest of all the Hardy Heaths discovered by Mr. George Maw in Portugal in 1872. It may be best described as a very vigorous-growing variety of *Erica ciliaris*, which it closely resembles, but it is more robust in all its parts; the flowers also, besides being larger than those of *E. ciliaris*, are darker red in colour. It flowers from July to December.

Viburnum plicatum forced.—The Gumbler Rose is now largely used for forcing into bloom, at which time the globular masses of pure white blossoms are very distinct from anything else so treated; but a second species, the Japanese *Viburnum plicatum*, is also equally suitable for the purpose. True, neither of them must be hard forced, but in little more than an ordinary greenhouse they will be in flower by this time, while the Japanese species arrests the greater share of attention by reason of its being far more uncommon than the other. *V. plicatum* is characterised by a spreading habit of growth, deep green wrinkled leaves, and by the profusion in which the balls of creamy-white flowers are borne. It is one of the most beautiful of our outdoor shrubs, as well as a desirable plant for flowering under glass.

Forsythia suspensa. What a mistake is it to hard prune this beautiful shrub, as I feel is done in some places, where the only possible ideal of the gardener in relation to shrub form is that all shall be hard clipped or pruned. If, instead of so treating this free-growing shrub, several of the stoutest of the main stems be tied up loosely to stout poles, then these allowed to branch out freely the following year, they produce wonderfully attractive and beautiful plants in the following spring. I have seen some such this season that have been perfect pictures. In other cases, too, plants trained and nailed loosely to a wall have been allowed to send out plenty of breast-shoots, which the following year have flowered gloriously. But to have these plants, which are such free growers, in moderate control pruning should be done as soon as the bloom is over. Then long shoots are sent out which ripen that season and bloom beautifully the following spring. —A. D.

Ivies. In the summer, when flowers and flowering creepers and climbers are much in evidence, we are apt to disregard the charms of Ivies, but when gardens are shorn of their beauty, and walls are for the most part bare, it is then that they arrest one's attention. I sometimes wonder why so many walls are bare, especially those having a north and north-east aspect. Surely of all wall "furnishers" for cold positions we have nothing better than Ivies? All through the snow and sleet of the past winter I have been struck with the cheerfulness of a wall over which the golden-leaved variety *spectabilis aurea* has run. Ivies give little trouble beyond a periodical mending up, and an annual cutting away of old foliage to make way for new, and one could not choose a more convenient time for planting than now. Here are a few varieties: *Silver Queen*, silver-edged; *Queen of the Alps*, mottled gully; *Don-rail-rose*, green, bronzed in winter; *maudslayi major*, marbled white; *obovata*, large deep green foliage; *argentea elegans*, green foliage, edged white. Grown in pots for the most part I have found that when carefully removed Ivies shift as well in April as at any other time of the year. For covering shaly walls and fences few things are better. —W. E.

Photographs of Gardens, Plants, or Trees. We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

The Prize Winners this week are: 1, Mr. G. L. Wilkins, Westbere Rectory, Canterbury, for White Heart Cherry tree; 2, Mr. John Cannon, The Rectory, Parracombe, Devon, for New Zealand Flax.

GARDEN PESTS AND FRIENDS.

MILDEW ON ROSES UNDER GLASS.

This will not attack a thoroughly healthy plant. However luxuriant and clean the foliage may have been previous to an attack, you may safely take it that the plants have received some slight check or other, and thus been rendered more susceptible to attack, and consequently to a rapid spread of the disease as well. This in itself is sufficient reason why suitable remedies should be instantly applied. There are few more insidious diseases than mildew.

There are several remedies. Of course, everyone recommends the one he has found the most effectual and safe. For my own part, I prefer to use an insecticide which will also kill insects and keep the foliage clean and healthy. Now, if due care be taken in the ventilation, temperature, and watering, one composition will be sufficient for almost all insect pests as well as mildew. But the thing of primary importance is to commence early. I make a practice of using the remedy at half strength before any insects or mildew appear. I am convinced this is the more correct treatment, because you not only keep the foliage clean and free from dust, but the early use of a weak solution makes it almost impossible for the enemy to get a footing. To use the various insecticides at the advertised strength, and to do this so frequently as is necessary if you are to keep the foliage clean and healthy, not only comes very expensive, but is really injurious to the plants. Roses require frequent syringing



Maw's Heath (*E. Maweana*).

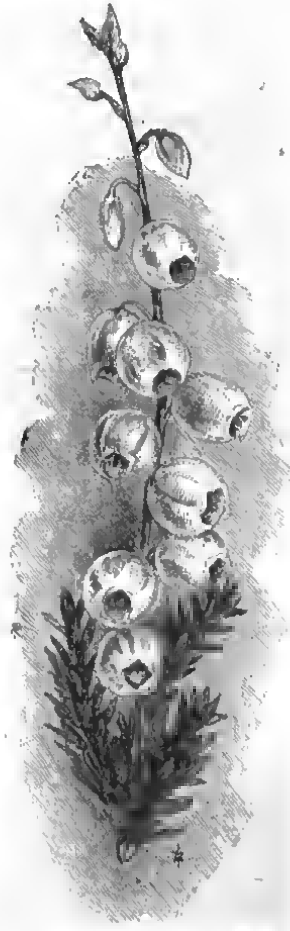
south. It is hardier than most of the larger Heaths. It is often naked at the bottom and very bushy and close at the top.

BELL HEATHER (*E. tetradix*).—This very beautiful Heath is frequent throughout the northern as well as western regions. It is easily cultivated, and being rather dwarfer than most others, requires rather more open situations; it also thrives in moist or boggy places. This Heath has several varieties, differing in colour mainly. *E. Mackintoshii* (Mackintosh's Heath) is thought to be a variety of the Bell Heather. There is also a supposed hybrid between this and the Dorset Heath. *E. Watsoni* is a hybrid between the Bell Heather and Dorset Heath.

CORNISH HEATH (*E. vagans*) is a vigorous bush worth growing as a low covert plant, thriving in almost any soil, and growing quickly to a height of 3 feet or 4 feet. A native of Southern Britain and Ireland, and better fitted for bold groups in the pleasure ground or covert than the garden. There are several varieties, but they do not differ much from the wild plant, and there is a white form, rather dwarfer. (*Syn.*, *E. multiflora*.)

HEATHER (*E. vulgaris*).—As precious as any kind are the common Heather and its many varieties, none of them prettier than the common form, but worth having, excluding only the very dwarf and monstrous ones, which are useless, except in the rock garden, and of not much use there. Heathers are excellent for forming low covert, and of all the plants, none so quickly clothes a bare slope of shaly or rubbishy soil, not taking any notice of the hottest summer in such situations. Among the best varieties are *alba*, *Alportii*, *coccinea*, *decumbens*, *dumosa flore pleno*, *Hammoudii*, *junilla*, *pygmaea*, *rigida*, *Searlei*, and *laminata*. (*Syn.*, *Calluna*.)

IRISH HEATH (*E. Daleocci*).—The name of this fine plant has been so often changed by botanists that it is difficult to find it by name in books, and we give it by the Linnean name here. It is a beautiful shrub 18 inches to



The Irish Heath (*E. (syn.) Menziesia polifolia* Dabocci).

if they are to be kept clean, and although it is well to use clear soft water only, I much prefer to have it slightly impregnated with an insecticide. Sulphur is one of the most important ingredients when checking and killing mildew. But here, too, a much smaller quantity than is generally used, and applied a little more often, would have a better effect. Some

insecticides contain much more sulphur than others, and this must be taken into consideration when making any solution, especially for mildew. The minutest part of fresh sulphur will kill the mildew if it comes into contact with, and to apply it so profusely as I have often seen makes the remedy very nearly as bad as the disease. I would never advise that it be dusted over the foliage, as it is impossible to distribute it so uniformly by this means as if it were incorporated in the syringing mixture. In the latter case it comes into contact with the whole foliage both above and below, also with the young wood, which is usually affected as well as the leaves. I have frequently seen it advised to cut off all affected portions of growth and foliage. The disease spreads so quickly that, unless it starts from a draught through a hole or broken square of glass, and its presence is noticed immediately, I do not attach much importance to cutting away the diseased portions. When I notice any signs of mildew upon my plants I always add a little paraffin oil to the solution, and, if it does not already contain what I consider sufficient sulphur, more is added. The following are good proportions: To the usual syringing solution I put a tablespoonful of oil to three gallons, and a small teaspoonful of sulphur to the same amount. Keep the whole thoroughly stirred during application, and you will find it effectual. Mildew cripples the young foliage and growth more quickly than any other Rose blight, causing it to blister and curl. E.

NOTES AND REPLIES.

Insects on fruit-trees.—I shall be much obliged if you will tell me in GARDENING ILLUSTRATED what the insects are that I send in a bottle? I find a great number of them in the garden, on fruit-trees, and on the walls, also plants. Are they the real "red-spider"? What remedy do you suggest to get rid of them if they are destructive?—MAY DAVOS.

[The insects you sent in the bottle, which arrived quite safely, are specimens of one of the mites, which, as far as I know, have no English name. Their scientific one is *Trombidium holosericeum*. They are not "red-spiders," and are in no way harmful in gardens, but rather beneficial, as they are entirely carnivorous, feeding on small insects, etc.—G. S. S.]

Plague of ants (E. Welland).—Where you can get at the nests of the ants the best and easiest way of killing the insects is to open the nests somewhat with a spade after the ants have retired for the night, and then flood it well with boiling water, which will immediately kill any insect that it comes into contact with. In a greenhouse, if the nest is made under the paving or in some other position that it is impossible to treat in this manner, it may be useful to make a cup of clay with a hole at the bottom, and, having placed it over the entrance of nest and worked the clay well on to the surface of the floor, to then fill it with paraffin-oil or diluted carbolic acid. When the contents of the cup have soaked into the nest fill it up again. The ants may be trapped with pieces of sponge soaked with treacle, bones which have still a small amount of meat on them, or saucers of treacle, or sugar and beer. The sponges and bones should have pieces of string tied to them so that they may be easily lifted and dipped into boiling water.

The St. Mark's-fly.—In the enclosed box are a number of small brown grubs, which have destroyed my Carnations. I found some of the stems full of them and all the roots destroyed. I have tried lime, but to no purpose. Please give remedy. There are also two white worms in the box and a big fat creature. What are they and what mischief do they do?—CONSTANT READER.

[The brown grubs you forwarded are those of a fly, one of the species belonging to the genus *Bibio*, and probably of *B. Marci* (the St. Mark's-fly), which generally makes its appearance about St. Mark's Day (April 25). The flies are burghish, but with slender bodies, black and very hairy. They do not fly at all well, and may frequently be found in couples settling on leaves. They should be destroyed whenever an opportunity occurs. I cannot recommend any method of destroying the grubs but picking them out of the soil, as it would be dangerous to the plants to use an insecticide which would be strong enough to kill them. The white worms are also the grubs of a fly belonging to the genus *Thereva*. I am afraid it has not any English name. I do not think you need fear

that they will harm your plants in any way, as they are supposed to live on decaying vegetable matter. The "big, fat creature" is the caterpillar of the common yellow underwing moth. These caterpillars are very destructive to the roots of many plants, and should always be destroyed when met with. They hide under rubbish, stones, clods, etc., or in cracks in the soil near the plants, and, if searched for, may often be found in such places. Watering with insecticides is of little or no use.—G. S. S.]

FRUIT.

VINES IN UNHEATED GREENHOUSE.

In an unheated greenhouse, how should the ventilation and atmosphere be regulated for Vines only? Thanks to your directions I can manage the pruning, but know nothing whatever about keeping the house dry or damp, warm or cool. (The Vine is now beginning to go along the roof, and another is just planted, both Black Hamburgh. By giving a little further instruction in your paper (which is my complete guide) you will greatly oblige me.—E. A. S.)

[Though in itself simple enough, it is not easy in a few lines to give advice to the inexperienced reader on the ventilating and atmospheric treatment of Vines in a cold-house. Ventilation should, however, always be given in the morning before the sun actually shines on the roof, both for the safety of the Vines, and with a view to preventing an overheated temperature during the day. Close the house in the afternoon just as the sun is passing off the roof. You do not say what the aspect of the house is, or if it is a lean-to or a span-roof. If the house faces south it may be closed about 3.30 p.m., and opened not later than 8 a.m. In sunless and cold weather give no air, and keep the inside of the house as dry as possible. It is only in warm summer weather you will need to damp the floors with a view to giving off vapour. It is then that a moisture-laden atmosphere is beneficial—the same treatment on cold days would be injurious and probably cause mildew to attack the Vines. Ventilate the house by degrees, increasing the air as the day advances and the sun gains power. Vines in cool-houses do not need to be syringed at any time. When the Grapes commence to colour a little ventilation, afforded both from the side and roof ventilators, is best given at night as well as the day, reducing it somewhat at night, and increasing it again in the morning when the weather is dry. Even when there is rain, a slight amount of air may be left on, as this prevents condensation of moisture on the berries to some degree. We presume that you learn from your GARDENING ILLUSTRATED that dis-budding will be one point needing attention in the removal of superfluous shoots when they have grown about 2 inches in length. To every lateral that has been pruned allow one—the strongest—shoot, and one only, from the joints of young unpruned rods. You will need to tie these down carefully, and, until they are almost touching the glass, leave them to grow upright. When they have advanced two leaves beyond the bunches pinch out the point of each except that of the leader. Do not forget, too, that the bunches will need to be thinned both in point of numbers and the bunches themselves. All very small berries must be cut off, and the larger ones reduced according to the condition of the bunch. Give water to the roots not less than once a month in bright weather if your border be an inside one; oftener if the soil is sandy, and the border shallow and well drained.]

DISBUDDING AND THINNING PEACHES.

MANY a fine crop of Peaches and Nectarines has been ruined by the trees being carelessly dis-budded. The operation is often postponed too long, and then the whole of the tree is dis-budded at one time, with the result that it receives a severe check and the fruit falls. Disbudding should be commenced as soon as the fruit is set, and should be done by degrees, commencing at the top of the tree and working downwards, and it should extend over a week or ten days. Sometimes the crop fails through the roots being dry when the tree is in bloom, as some do not like watering the trees then, especially if the weather is dull and cold. The best way is to thoroughly water the border just before the flowers commence to open, and if the

border is shallow or the soil sandy, apply a slight mulch of spent Mushroom-manure or leafy refuse. This will prevent rapid evaporation. The border should be watered again as soon as the fruit is set. Some, and especially amateurs, err in raising the temperature considerably directly the fruit is set. A gradual rise is best, coupled with as much air as the state of the weather will allow. Thinning the fruit should not be commenced till it is seen which are swelling and which are not, and then it should be done cautiously, leaving the final thinning till the fruit is stoned. The stoning period is a critical one, but dropping of the fruit may be prevented by keeping the border moist from summit to base. When stoned Peaches will stand a good deal of heat, provided a corresponding amount of moisture is supplied and the trees well syringed to keep red-spider at bay. Some varieties, notably Hale's Early and Barrington, also the early American kinds, are more liable to cast their fruit than others, therefore they must be treated accordingly.

STEFFAN.

NOTES AND REPLIES.

Four-year-old Apricot (Enquirer).—The fact of your tree being young and vigorous accounts in part for the production of so few blossoms this year. Trees of many kinds, when much disposed to leaf growth, are shy of bearing. The time of year is not that at which you can do anything to check growth. What you should do is to give every encouragement to that of this summer to become well ripened. This you can do by training thinly the principal and extending branches so that they get full sun. Avoid hard pinching or pruning of the summer growth until July and August, for too early pruning sets up a late and continuous lateral growth which cannot possibly become ripe. The cracking of the fruit may be due to an excess of vigour, sodden soil, moisture, either from rain or artificial waterings after a dry period, or it may come from an absence of lime in the soil. The last you can remedy at once either with new or spent lime spread over the surface occupied by the tree roots, and well watered in. Avoid manure of any kind; young and vigorous trees need none of this, as many suppose. Fertility comes the better from moderate growth. Nail in the principal shoots to the wall as they progress in summer, cut out any there is not room to nail in, but leave the lateral or breastwood until the period already named, when no further excitement of buds occurs.

A gross-growing Apricot-tree.—I have an Apricot-tree which makes wood freely, but never shows more than a very few blossoms, and these generally come to perfection. As the tree is getting larger, I should be glad to know if I can do anything to encourage fruit production?—R. W. TAYLER, *Bury St. Edmunds.*

[There is not much you can do now to aid your tree in giving flowers more plentifully. If you have any doubt as to the presence of lime in your soil you would do well to apply some to the surface, extending over several square yards of surrounding soil. This you can lightly point in, and some burnt refuse (garden smother) would be equally good also, given at the same time or a little later. If the soil is in a dry state give water to carry the lime to the roots. Only point up the surface, say an inch deep, so that no root disturbance takes place. Avoid crowding of the summer shoots, and keep them nailed as growth progresses during the season. This conduces to the full maturity of the shoots, without which flowers, although they form, will not develop into fruits. The point to observe with all wall fruits is to so train them that every leaf and branch receive a maximum of sunshine. Do not on any account give manure of any sort while the tree is in a vigorous stage; this would only aggravate the evil. In the winter, possibly a little root-pruning would benefit the tree. In any case, you cannot err in giving lime or old mortar rubbish, which you could spread thickly over the surface. Fresh lime, only sufficient to whiten the soil, should be given.]

The Black Currant mite.—Would you kindly tell me the cause of the swollen buds on enclosed cuttings from Black Currant bushes? I have several in this state, and as others are not so largely affected, I should be glad to know the reason?—F. D.

[Those who have small gardens have few Black Currant bushes, and not infrequently they are planted here and there, other kinds of

currants and Gooseberries intervening, hence there is not that immediate contact bush with bush which is found in market gardens, where the areas are very extensive, the bushes touching each other. In small gardens it is well to exercise some care in examining the Black Currant bushes, as it is now the infested buds are most noticeable. These are more likely to be found low down the shoots than higher up, and if they are burst or partially open it is almost certain they are infested with this pest, which is a tiny mite that can be seen only with a strong glass or microscope. Once a bud is so infested, not only is it practically destroyed, but it is also a centre for breeding and diffusion of the mite. For these reasons it is a wise measure to gather these burst buds and burn them. During a recent discussion it was said that gathering these buds did not stop the development of the insect, but it is absurd to suppose that such gathering does not greatly check the advance of the pest. It is poor comfort to be told that once a breadth of bushes becomes infested there is no other remedy than

the roots of each tree or bush of half-long manure, as that will check evaporation. The more readily these newly-planted things can be induced to root early, the better will they be able to withstand summer heat and drought.

BEAUTY OF FRUIT-TREES IN BLOOM.

Few objects are more beautiful and interesting during the spring and early summer months than our fruit-trees when in bloom, and we see no reason why the fruit-garden should not constitute a necessary portion of the pleasure grounds of every country house. What can be more beautiful than the Apple, the Pear, the Plum, and the Cherry when in full bloom? They are, in fact, interesting objects at all seasons of the year. It rarely happens, however, that they are placed where their beauty can be appreciated and enjoyed. They are too often grown in the kitchen garden, or they may be in some out-of-the-way place known as "the orchard." Why not instead give them a place in the pleasure grounds? Clumps or

be got. However, an Ash-tree was cut down and with difficulty raised to support the old limb. The tree is well worth a visit when in bloom, and I should be glad if some one could tell me what the probable age of this fine specimen might be.

PLANTS AND FLOWERS.

OUTDOOR PLANTS.

SIX TUFTED PANSIES FOR TOWN GARDENS.

(REPLY TO "C. B. D.")

THESE plants are well suited for town gardens, but it is of the highest importance that only those sorts which possess a really good constitution should be selected. You will find the following well adapted for your purpose, and the range of colouring is varied:—

COUNCILLOR W. WATERS is one of the most distinct and valuable sorts, the colour being



White Heart Cherry-tree in bloom. From a photograph sent by the Rev. G. L. Wallace, Westbere Rectory, Canterbury.

destroying them by burning. That it may be difficult to repress the spread of the mite by picking only in a large breadth is probable, but in small gardens it has been done with great success. All who grow Black Currants should examine their bushes, and if they gather infested buds as advised there can be no doubt but that great good will result.]

Newly-planted fruit-trees.—In spite of the occasional showers, all too light, which prevent us, there is just now an almost unwonted lack of moisture in the soil, and grove fears are entertained that unless considerable rains come, or we have a dripping summer, vegetation will suffer very much from drought in July and August. Newly-planted things would, in such case, suffer most, and it will be well if, without waiting for the heat or drought, all these newly-planted trees and bushes have, once a week, so long as there is little rain, a fair soaking of water. Soil is now feeling the warmth of the sun, and, of course, dries all the more rapidly. For that reason, besides the waterings, there should be placed a mulch or dressing about

groups of varied forms and dimensions might be planted here and there, while single standard trees of various sorts might be allowed to assume their natural form, the whole area being traversed by winding walks to allow of the examination and enjoyment of the various fruits. By adopting some system as here suggested, and by arranging the trees so that the fruit-garden could merge into the pleasure-ground, and so, as it were, constitute a necessary portion of the same, and combine the useful with the ornamental, we could give to country houses and small residences an additional interest at all seasons of the year.

The Rev. G. L. Wallace, Westbere Rectory, near Canterbury, who sent us the photograph from which our illustration was prepared, says: "I cannot find out the age of the tree, but the old residents of the village say it was an old tree in their young days. One of the largest limbs has for many years been propped up. Last spring this support, having rotted, gave way, and I was afraid the limb would break off before another support could

a very effective purplish-violet. The plant is free-flowering, the habit dwarf and compact.

MELAMPUS.—There are now many excellent yellow sorts, but for freedom of flowering and also for its spreading habit it would be difficult to find a better. The rayless blossoms are large and of good substance, and the colour may be described as deep rich yellow.

WHITE EMPRESS.—This variety is also known as *Blanche*, and, in consequence, has sometimes misled growers. It is a compact and sturdy plant, with a good constitution. The flowers are large and circular and of good substance, and, like many of the best of the newer sorts, are rayless. The catalogues invariably describe the blooms as pure white, but, as a matter of fact, they are of a pale creamy-white colour.

DECESS OF FIFE.—This will provide a pleasing contrast to the self-coloured varieties, the flowers in this case being margined or edged. The blossoms may be described as somewhat oval in form, the colour being primrose, distinctly edged with blue, and slightly tinted

innive. It is one of the very best representatives of the type of plant, possessing a creeping-like style of growth, and the constitution is all that one could well desire. It is a profuse bloomer.

VIOLINS.—This is one of those beautifully refined rayless sorts of a pale bluish-lilac colour. The plant has a perfect, tufted habit of growth, and flowers freely all through the summer.

SEAGULL.—A variety developing rayless blossoms of the purest white. The individual blooms are large, of good substance, and very rhinate. The plant is very robust, and the cuttings, inserted in the open, have come through last winter without protection of any kind, and are now splendid pieces.

D. B. CRANE.

MAKING NEW GARDEN.

(REPLY TO "SAXON.")

As you propose to have in your new garden—now a meadow—but one foot-path, that should be fully 5 feet wide. As to what may be the cheapest material, much depends on what the cost of getting any locally may be. Thus, in a chalk district it is probable that gravel is scarce; also, it may not be easy to obtain clinkers and binders. Probably, your best way would be to open at one end of the ground a pit from which you could obtain chalk. Then, marking out the path, dig out the soil 6 inches deep, and, putting that to help form a good flower-border or raised borders, till up with chalk, which will ram down firmly. Then, if you could coat that over with an inch or two of small cinders or coarse ashes, you would have a capital dry path. You would do well, having at present plenty of meadow turf, to cut off enough (12 inches wide) to make edgings to the path each side. You could keep those cut with a small lawn-mower, and thus have a nice effect. With respect to ornamental shrubs, plant in give both nice foliage and berries variegated Aucubas at the back, and at every 20 feet a male variety; then intermix red Flowering Currants, yellow-flowered Forsythias, white-flowered Mock Oranges (Philadelphia), Deutzia crenata flore-pleno, white and yellow Broomras, Rhus Cotinus, Weigelas, and Viburnums or Snowball trees. Crataegus Lalundi makes a beautiful object when in full fruit in the autumn. Golden Elder and Samarra, if they be cut back hard each spring, give very fine foliage effects also. If along the borders you can lot in such flowering trees as Laburnum, Pyrus floribunda, Paul's Crimson Thorn, double-blossomed Cherry, and the dark-leaved Prunus pissardi, you will add greatly to the general effect. Fronting these things have good hardy but not tall perennials, and you should soon have beautiful borders.

PLANTS SUITABLE FOR A PEATY BANK.

I HAVE a steep bank facing south, shaded by deciduous trees, from which I cleared a jungle of Brambles, etc., so that it now looks bare. The soil is peaty, covered thickly with leaf-mould. What would be best to plant it with? The rest of the place is thick with Ivy and Bunchells, so I want something different. The Brambles prevented those from covering this bank. Strangely, there are not many wild Primroses. Would they be likely to do it if sowed the seed, or Anemone apennina if I sowed the seed? Would Pionies blossom under such shade, or Anemone japonica? It was in just such a habitat that I saw it wild in the Himalayas. Nothing that is liable to be eaten by rabbits would do. The bank is beside the carriage-drive, so I do not like it to look bare. There are large Rhododendrons here and there.—E. A. B. W.

[There are many plants that might adorn such a bank, but whether all of them would be rabbit-proof we cannot say. On a bank of this kind, however, with peaty soil, you may grow many things, such as hardy Ferns in variety. From your letter you appear to wish for such things as may be grown from seed, and such as Anemone apennina would take two years, and possibly more, to produce flowers. We are not surprised at the absence of Primroses, which in some districts are abundant. They are rarely so where peat abounds. You may, however, plant Periwinkle in variety, London Pride (libbling it in in single rosettes over a large area), St. John's Wort, and the fine carpet afforded by Pyrethrum Tchihatchewi. Anemones and Daffodils would be almost sure to thrive, but it is now late for planting the latter, although you may yet plant tubers if

the Anemone. Snowdrops, Chionodoxa, and hardy Cyclamen are other good things for such a place, and the Caper Spurge (Euphorbia Lathyris) would make quite an effective subject, and is easily grown from seeds. The Butcher's Broom (Ruscus aculeatus) and the dwarf Daphne (D. cneorum) would be also suitable. The Anemone japonica may do quite well if the soil is deep enough, but we would expect the Snowdrop Windflower (A. sylvestris) to do better. Pionies do not object to shade altogether, but to the dryness of root that too frequently follows as a consequence. Unfortunately you do not give the district from which you write, or even the size or extent of the bank, items that would have been of material help. We may say, however, that Megasea cordifolia purpurea is an excellent subject in such a case, and any of the Anemones of the hortensis or coronaria type, all of which are quite easily raised from seeds if kept moist. The common Flag Iris (I. germanica) is a fine plant, and hardly less so than the Pyramidal Pea, in white and rose shades, if planted high and permitted to trail down the bank. Such as these may be planted now, and then by filling in in early autumn any remaining spaces with Fritillaria Melegris, Baffodils in variety, and Anemones, quite a new aspect will be given to the spot. If you specially wish to introduce Primroses, we would suggest a few plants as well as sowing the seed. One item of success with these things is sowing the seed as soon as it ripens. In such cases it vegetates in the autumn ensuing, whereas the same seed may refuse to grow if put away for a time.]

CLEMATIS COCCINEA HYBRIDS.

I BOUGHT two plants this spring of Hinchey of York and Duchess of Albany. They say they are crosses of coccinea, and a large-flowering one. Can you tell me if they really are of a pretty pink colour, and as fine and novel as the catalogues say they are? I have been raising seedlings myself from bought seed, and have some plants which were put out last spring, looking very healthy and sending out strong shoots. They seem to have stood far better winter well. Only one flowered last year, a large pale lavender. I read in a book that to get seed in this country one must fertilise the flowers with a hair pencil. Is this so? Would it be possible to cross montana with a large pale lavender one which flowers about the same time? I have to thank you for your directions about grafting. I had no propagating-pit, but the gardener filled a large flower-pot with stable litter, the same as for Mushrooms, and put the grafts in small pots sunk in it, with a large bell-glass over, and they are looking remarkably well and growing. C. M.

[The Clematis you name as crosses from C. coccinea are certainly novel and good, distinct in form, and equally so in colour. There is more of the bell shape in the flower, something that calls to mind a widely-opened Lappagerin blossom, therefore quite distinct from any other kinds. This drooping and campanulate form, as well as the colour, doubtless reflect the influence of the pretty scarlet species named above. It is worth noticing, however, that the good and worthy kinds were very few indeed, and some hundreds, probably thousands, were raised before anything sufficiently good for retaining was definitely selected. Each year at the Temple Show of the Royal Horticultural Society large specimens of these crossed kinds are shown, and are admired. You will probably find missing seedlings of Clematis most interesting, but the number of good kinds raised from ordinary seed is not large. We have seen huge flowers the diameter of a dinner-plate that could only be called ugly in colour and size. There is no need to fertilise to obtain seeds of the ordinary kinds you possess. The bees will do this far better than you, and, moreover, will not spoil the organs of the flower. But if you wish to obtain success in hybridising—which is another thing—you will need set about it systematically to secure any good results. For example, should you wish to introduce any given colour to another kind, better in constitution it may be, you will require early after the opening of the flower that is fixed upon for the seed-bearing to remove all its anthers, and so put away the possibility of self-fertilisation. Then, when the foreign pollen has been applied to the stigma, the flower should be protected with gauze to prevent any insect carrying other pollen to it, and thereby upsetting all your work. It will also be necessary to insure success that the flower be fertilised three days in succession about midday. Your inquiry about C. montana, whether it is possible to cross this with a

coloured form, can only be decided experimentally. We have not personally attempted this cross, but in view of the C. coccinea crosses already existing, it should be quite possible. In making or attempting it, you would have to forward a coloured kind under glass, and, if you do it, we would suggest C. montana as the seed parent by reason of its free growth, earliness, and hardiness. Some coloured kinds bloom quite well with little forcing, and the flowers should be allowed to expand in quite a cool temperature, and so obtain good and reliable pollen. In these and similarly wide attempts in cross-breeding the best results are only secured in a second generation or even more, and mention the fact that you may not be too readily discouraged.]

NOTES AND REPLIES.

The Night-scented Stock.—If "Sall," who inquires in your paper about above, will write to me, I think that I can give him a plant of the right sort.—(REV.) W. FOX, The Rectory, Stanton-by-Dale, Nottingham.

—If "Sall" will send address to Miss Donnan, L'Amiera, Tintoleague, Co. Cork, he will be able to obtain what he wants. I have had this plant for some years. The seeds never came to perfection, but cuttings grow freely.

Daffodils after blooming.—When my Daffodils are done blooming I propose planting them in the garden to ripen, lifting them in July or so, and re-planting in, say, November. Will this treatment do? Kindly say whether the roots should be cut off when lifted?—No NAME.

[If your Daffodils have already flowered in pots this season, and been forced or brought into bloom in a foreign way, the same bulbs will not give satisfactory blooms next year. It is not merely a question of ripening, but of affording such treatment while the growth is being made that a new flower-bud follows as a result of the same. You say nothing about the variety of which you speak, and there is a great difference in this.]

Growing Eremuri.—I was much interested in the recent article on Eremuri. I, also, have lately started growing Eremuri, but not with such success as "E. R." as my plant has not yet bloomed. I bought mine for a flowering plant. It has been in just the same time as "E. R.'s," but has only thrown up leaves so far. My sister in Devonshire had 12 spikes on her last year. I see GARDENING says the plants should be moved every year. It seems rather risky.—BLANCHE MARY HORSNER.

[No, I should certainly not recommend you to move your Eremuri; they are much better left undisturbed, and should only be moved for two reasons first, if the plants do not thrive and a more suitable situation is found; second, when it is wished to increase them by division, but this, of course, can only be done when each plant has several crowns. You will be able to judge if your plants are in a suitable position by comparing their vigour this year with that of last. If they have increased I think you will not have to wait long for flower-spikes.—E. R.]

Plants for a border facing east.—I have a flower border about 4 feet wide, on the side of a house that faces east, so it only gets the morning sun till about 11 a.m. Will you please say what plants for flowering this year would do best? Would Carnations and Pansies do well?—A CONSTANT READER.

[Yes; both the Carnations and the Pansies should do quite well, and for other things to flower this year we would suggest Tuberosa Begonias, to be planted 2 inches deep at the end of April. These are now obtainable at dry tubers. Then you could plant Asters, Zinnias, and Stocks between the Carnations, the Begonias next, and the Pansies at the front. Some taller plants for the back would be early-flowering Chrysanthemums, with a few such plants as Aster Amellus, A. arvensis, A. leucogonus, etc. The Tufted Pansies would be far more profuse in their flowering than the ordinary Pansies, and last well into the autumn. You will need have the soil deeply dug and manured, and the work may be taken in hand at once.]

Increasing Snowdrops.—Please say if Snowdrops are only increased by division of roots or from seed also, and how and best time to do it.—T. W.

[These plants are both increased by seeds and by division of the clusters of bulbs. The seeds may be gathered as soon as ripe and sown in boxes or pans of light sandy soil in a cool, or if your soil is light, they may be sown in the open garden and lightly raked in. If done this way you will need cover them to keep birds, cats, etc., away, and while you are doing this you may as well sow in boxes and have them under the eye at once. Re-

division may be taken in hand just as soon as you like when the leaves turn yellow. At such time you may pull the clumps apart and replant them at once. Drying is not at all needful, and is not beneficial. Avoid replanting in clusters, and in place thereof dibble the bulbs in with a small dibber, not more than two in a hole, the holes to be 6 inches asunder. In this way a large area is soon covered.]

GALEGA (GOAT'S RUE).

The various members of the Goat's Rue family are bold, easily grown perennials. It is a good plan, every two or three years at least, unless in exceptional cases of great depth of soil, to lift the plants and divide them freely in the month of March or early in April. This season is suggested because of the quick way the young plants take to the soil again, though they are so hardy and enduring that they may be taken in hand at almost any time that is convenient. Old clumps can be pulled asunder quite freely—indeed, increase is better done in

old plants, of which a portion may be left, flowering first, with the young ones as a succession. The genus is by no means an extensive one, and is composed of one or two species and their one or more forms in each case.

G. OFFICINALIS, a native of Southern Europe, has lilac-blue Pea-shaped flowers, and grows from 3 feet to 5 feet high. Of this species there are at least two forms—viz., that known commercially as *G. o. compacta*, which, I believe, is now regarded by botanists as the type species of the genus, and *G. o. alba*, the pure white kind so valuable for cutting. A much improved flowering form of this last would be welcomed. There is also said to be a pure white form of the variety *compacta* called "Snowball." This I do not remember having seen, and am therefore unable to give any opinion of its merits.

G. ORIENTALIS is a Caucasian species, and attains to 6 feet high when fully grown. The flowers are bluish-purple. The somewhat creeping roots and flexuous stems are the chief distinguishing characteristics of this plant.

distinct kind, though disposed to become bleached in the hot weather. The blossoms, too, are rather smaller than in most others. Grown where the clumps can be slightly sheltered from the sun during the heat of the day, excellent results are gained. Colour salmon-orange. In Prince Edward of York the blossoms are large and handsome. The colour of the standards is scarlet with rose wings. *Coccinea* is another new sort which is sure of a good reception. Colour bright scarlet and red.—W. V. T.

Treatment of Auricula.—A year or two ago I had half-a-dozen Auriculas, bright blue, with yellow centre, large flowers on a stout stem. I have now only one little plant left: it is in the open border, and has been there through last winter. Would you advise my putting it in a pot in the autumn in a frame, or letting it remain where it is, only protecting it a little from the wet? Would you kindly give me the name and address of the secretary of the Auricula Society?—It. BROAD.

[We should advise you to lift the Auricula as soon as it has finished flowering, and put it in a frame with a northern aspect. In this way you will possibly be able to save it. The Secretary of the National Auricula Society (Southern section) is Mr. T. E. Howwood, 61, Hamilton-road, Reading, Berks.]

Planting a flower-bed.—I shall be very much obliged if you will give me some advice in an early issue of GARDENING ILLUSTRATED as to the summer planting of a circular flower-bed, about 13 feet in diameter, in an open, sunny position, a good depth of ordinary good garden soil? What I propose to do is to plant the greater part of the bed with *Phlox Drummondii* in various separate colours, arranged in circles, and small triangular patches of French Marigold Silver King. I should be very much obliged, indeed, if you will tell me if this arrangement would be likely to make an attractive bed, and one that would be bright for some months during the summer? Also, what would be a good distance to plant the *Phlox Drummondii* apart to be most effective? I have the plants of the *Phlox* now pricked out under glass, so that they should be quite forward enough by the time for planting out. The *Phlox Drummondii* I have are large-flowered white, deep crimson, yellow, scarlet, height 1 foot; also *Fireball*, height 6 inches.—C. B. W. B.

[It is quite possible to make a gay, effective bed with the *Phlox* and *Marigold*, but hardly in the way you suggest, for this appears to be rather patchy. Why not make a bold centre, say, 6 feet in diameter, or even 4 feet, of the *Marigold*, and then arrange the *Phlox* in distinct blocks of colour around in large oppositely-placed triangles, the wide acute angles being at least 3 feet apart, and better still if 4 feet at the points? In this way you will obtain more effect than by the smaller circular patches you suggest. Not only so, for, seeing the *Phlox* predominates in your case, we think it the better plan. Or you may arrange the four colours as suggested, and margin the bed around with *Fireball*, the dwarf one. This arrangement would give a definite centre, decisive blocks of distinct colours around, and a definite margin to the whole. By planting the white, crimson, yellow, and scarlet sorts thinly, and slightly pegging down at planting time, a more bushy plant will be formed and the height modified somewhat to balance the dwarfier plants in the centre, which, however, will be assisted by occupying the higher portion of the bed. This, we think, will give you more effect than a far greater number of smaller patches that lose by their insignificant size.]

Pansies.—Some people who grow Pansies prefer to buy the plants, often when in bloom, to know actually what they are getting, instead of raising their own plants from seed. It is, perhaps, more trouble to sow, prick out, and wait results, but, if seed is purchased from a trustworthy source, I always think there is a certain amount of pleasure attached to seed raising, whether Pansies or Carnations, or whatever one takes in hand. There is very little trouble about Pansies; the seed is sown in a box or bed made up in a frame, many of which will presently be empty, and from six to eight weeks from the time the seed is put in the plants begin to bloom; or supposing one has no frame, there is always the open border, and seed sown there at once will, I venture to say, furnish blooming plants by July. Good seed will provide plants of good quality, coming in very useful either grown in beds by themselves for second row plants in the borders, or for filling up any spaces that may have occurred through severe weather, etc. The question of expense is not a little one in many gardens where almost everything has to be bought, and therefore, send this here, as to the sowing of Pansies now, as they make a show very soon,



The white Goat's Rue (*Galega officinalis alba*). From a photograph by G. A. Chumpton.

this way than attempting division with knife or spade in such frequently cross-rooted subjects as these. Each old flower-stem of the last year will come away, and with root-fibres in sufficient quantity to make it a good plant in quite a short time. Plant half-a-dozen or more of these small pieces at a slight distance apart over say an area of 2½ feet or 3 feet, and a good specimen will be secured in the year of planting. All the kinds may be raised from seeds quite freely, while division is the only way with any good or well-marked form. As cut flowers these plants have a singular beauty of their own by reason of the way the pinnate leaves are arranged behind the sprays of blossoms. So perfectly are these arranged that no addition whatever is needed, and a small spray of any one of the varieties is always presentable even among the choicest of flowers. In this way the white kind, *G. officinalis alba*, is excellent, and as a border plant for effect, or a useful plant for cut flowers, whether in large or small sprays, it should be absent from no torbaaceous border. The habit is elegant and compact. By spring replanting a longer season of flowering is secured, the

G. BILOBA.—In this the flowers are lilac-blue. Height 3 feet to 4 feet. It is doubtful if this interesting plant is in cultivation at the present time. E. J.

Sweet Peas—richly-coloured sorts (*Lathyrus odoratus*).—There is now a goodly list of highly-coloured Sweet Peas, and as blossoms of the warmer shades of colour are much more effective under artificial light, we can understand your preference for the crimson, salmon, and other kindred tints. The subjoined list should meet your requirements: *Lady Mary Currie* is a distinct and very fragrant flower. The colour is described as orange-pink shaded with rosy-lilac. *Salopian* is another fine Sweet Pea, the colour in this instance being deep crimson suffused orange-scarlet. In Mars not only are the flowers very large and handsome, but they are freely produced on a long and stout flower-stem. The erect standards make this a most valuable flower. The colour is bright fiery crimson. *Miss Willmot* is one of the newer Sweet Peas, the lovely salmon-red flowers large and handsome. *Gorgeous* is a very

and are, moreover, nice for cutting for small pots, vases, etc., for the table. Pansies require little in the way of soil, sharp sand, or road-scrappings, mixed with the soil in the borders, answering well, and given a sunny position they will bloom long and well, and warrant any trouble that may be bestowed now.—W. F. D.

INDOOR PLANTS

THYRSACANTHUS RUTILANS.

For decoration, even when kept exclusively in the stove, plants of this *Thyrsacanthus* when in flower are a great boon. Many who have grown it have not developed its beauties to the greatest possible extent, this arising no doubt from a lack of knowledge as to its adaptability. Too often the plants are struck yearly, whereas it is best to grow on the plants and burn them into standards of 3 feet or so in height. I have grown them myself to a height of 5 feet as standards, this height affording the opportunity of inclining the heads forward and partially over the pathway when in bloom, whereby a beautiful effect was produced. The quantity of flowers and the number of racemes on these taller and older plants are greatly in excess of what can be possibly had on the younger ones. Standards of this description will last for several years; thus propagation only need be done to keep up the desired quantity. When out of flower these older plants will do with a rest, being partially dried off and stood in an intermediate house. Growth should be started again in this cooler house when with the spring warmer weather sets in. In no case is it necessary to keep the plants in the stove to make their growth, even in the culture of young plants when once well established. During the summer a light, airy house will suit them well, the chief point to observe being the building up and solidifying of an enduring growth. In favoured localities *Thyrsacanthus rutilans* may be grown out-of-doors from June to September, thus saving room inside, the results being all that one could wish. The ordinary soil for stove plants (peat and loam) will suit it well. *T. Schomburgkianus* has darker flowers than *T. rutilans* and is often confused with it.

HYDRANGEA THOMAS HOGG.

From the middle of March onwards *Hydrangea* are valuable as flowering plants for the greenhouse and conservatory, especially so Thomas Hogg, the white variety, whether from cuttings inserted during early April, or older plants that have been pruned back after passing out of flower. But it is to

H. THOMAS HOGG I wish to call attention, as cuttings put in at the date mentioned can be had in bloom quite easily by the first week in April if a temperature of about 60 degs. to 65 degs. can be maintained, and the plants kept within 2 feet of the glass roof. To procure cuttings at so early a date it is necessary to grow on an old plant or two, which, if placed in heat early in January, will usually have a few flowerless shoots. These should be taken off at this date with three pairs of leaves attached, cutting them clean across close up to the oldest leaves and inserting them, six in number, around the sides of 4-inch pots that should have been previously filled with sandy loam and leaf-soil, with a dash of sand on the surface to work down with the cutting. Place the pots in a chase case or under a bell-glass in a temperature of 60 degs., with a rise of 10 degs. or 15 degs. with sun heat, keep these chase and shaded from the sun, and lightly dewed overhead whenever dry. In four weeks they should be ready to pot off singly into 3-inch pots, using a similar soil as above. Shade for a day or two if necessary, and then remove to a light position in a Pench-house, and, as soon as the plants begin to grow again, nip out the point at the second joint. This will encourage four, and often six, shoots to throw out, two at the axils of each pair of leaves, and two from the very bottom. As the pots get filled with roots slit into 5-inch or 4½-inch pots, using mostly loam, a little bone-meal, and a dash of sand to keep it open. Pot firmly, and keep under glass until re-established, when place out-of-doors where plenty of sun can reach them, that the growth may be thoroughly ripened

October. At no period of its growth must the plant be neglected in the matter of watering. A stimulant given once a week when the pots are full of roots will assist the plant to build up stout, sturdy growths, which, if properly ripened, cannot fail to form flower heads. Protect from severe frost until early in January, when introduce into heat as before advocated.

H. HORTENSIA may be treated in a similar manner, but this variety will not push up more than two shoots worth retaining for the next spring display. Cuttings may also be put in during July or early August, taken from outdoor plants, and rooted under a worth wall under a hand glass. These should be placed singly in small pots and not be stopped, but allowed to mature the central growth. This, in due course, will carry a fine head of bloom towards May if treated to a little heat early in March. After flowering, cut the plant fairly hard back, keep in a little moist heat, and, when breaking nicely, reduce the ball of soil a bit and repot into two sizes larger, keeping under glass until re-established, when gradually harden and place out in the full sun, as with the younger plants. Under this treatment I have plants of *H. Hortensia* in 8-inch pots carrying eight heads of bloom that were only rooted two years ago, while Thomas Hogg, which is not such a strong grower, has ten or twelve heads in pots 6 inches or 7 inches in diameter.

[With the above note came a plant in a 6-inch pot, carrying six fine heads of bloom, one on the leading shoot and five on shoots that had started from the base and the axils of the leaves. This plant had been struck from a cutting put in in April of last year.—E.]

SHADING PLANT HOUSES.

FREQUENTLY the amount of shading employed is far in excess of what is really needed. When this is the case, it must be apparent to any thoughtful cultivator that the plants thereby suffer rather than derive actual benefit. It would be far better to dispense with shading, as it is generally understood and acted upon, than to allow this excess to continue. Those who have not experimented with light shading are strongly recommended to do so. In shading plant-houses of any kind, all that is actually needed is to scatter or break up, so to speak, the rays of the sun from injuring the plants in the way usually termed scalding. It does not require a thick shade to do this; in fact, it is remarkable what a light shade will accomplish in this way. It frequently happens that the quality of the glass is not by any means what it should be. When it is of inferior quality, with spots in it, it is not fit for glazing any kind of houses. These spots produce lenses in the glass, and these, when focussed upon the foliage, produce injury or burns. I have no doubt that many besides myself have noted that these burns are often in a line. Take, for instance, a Palm leaf that has been thus injured. There will possibly be several scabs or burns in a line with each other. These burns are not caused simultaneously, but proceed one after another in accord with the movement of the earth in its relation with the sun, and all proceed from one and the same spot in the glass. The best mode of procedure in such cases is to trace out, if possible, the spots in the glass and touch them with paint. This will prevent future injury as long as the paint remains in the glass, which will usually be the case for a few years at the least. This is a far better mode to adopt than that of covering with heavy or dense permanent shading, or even of using blinds injudiciously. It is a mistake to imagine that because a few scabs have taken place, therefore shading is absolutely essential to prevent it; nothing of the sort is, in some cases, needed other than that just advised.

Shading with whitening or lime is not only a bad method, but a hideous one, especially where the mixture is daubed on in a haphazard fashion. Lime should never be used, in fact, whitening of the twin being much the better material. When whitening is chosen, it should be mixed with size to make it adhere, 3 lb. of the former to 1 lb. of the latter, with sufficient water to reduce it to about the consistency of paint or a little thinner. The size has, of course, to be dissolved by boiling it in

water. When this is applied it should be put on as thinly as possible and be stippled over with a painter's dusting brush. Mixtures as sold for the same purpose are also good, being easily mixed in water. Of the two colours of these I prefer the white to the green. In dealing with the green shading, there is the danger of using it too heavily, much more so, I think, than the white. In no case, however, would I use either where blinds could be employed. Even upon pits blinds can be used, being rolled horizontally upon small wooden rollers, one on either end. Rough plate glass is, I consider, well worthy of extended use; it may cost more, but in most cases the after expense of blinds would be reduced to a minimum.

DAMPING OFF.

ONE of the things which greatly puzzle amateurs (and, indeed, some professionals) is what is known as "damping off." Young seedlings of all sorts, and some flowers, when grown in-houses, are very liable to damp off, and those in charge sometimes keep an unnaturally dry atmosphere in the hope of checking the evil. Let me assure them that when they do this they are on the wrong tack. Damping off does not occur so much during dull, damp weather, when there is comparatively little variation in the temperature of the house, as it does when there are cold nights and bright days. It is the sudden rise of temperature that does the mischief. If you want to see how damping off takes place, practise the following plan for a few days: Allow your greenhouse to get down to 40 degs. in the early morning, and do not give ventilation till the sun has been shining on it long enough to raise the temperature to 80 degs. When the temperature rises rapidly moisture will condense on all cold surfaces, such as metals, stones, slate, and fruits; and, although it is not always so easily seen, it will also collect on the stems and leaves of plants, and will remain there till such time as the leaves and stems become nearly as warm as the atmosphere in which they are growing. This takes a considerable time. If we take a glass of feet water into a warm dining-room and place it on a white table-cloth, we shall not only see the outside of the glass become wet, but the cloth also upon which it stands will be wet. This is exactly what happens to fruits and plants. Some plants, when their stems become hard and covered with a water-proof bark, are not much harmed when this takes place, but tiny tender seedlings and unrooted cuttings do not like it at all. Were the water in the glass as warm as the room the outside of the glass would remain dry. Having ascertained the cause, the remedy, and what is better still, the means of prevention are obvious. Endeavour to prevent sudden fluctuations of temperature. Do not allow the house to get down too low, and give air as soon as the sun's rays touch the roof. I have known damping off caused by fire-heat in the following way. During a spell of damp, dull weather extra heat has been applied to the greenhouse, with the idea of dispelling damp and causing a buoyant atmosphere. If this was not very carefully done it had just the opposite effect, and caused moisture to condense on the plants in the same way as mentioned above.

WM. TAYLOR.

NOTES AND REPLIES.

Sauromatum guttatum.—In your issue of April 5th a correspondent writes about a "lily" grown without soil or water, which he says he has seen, but does not know the name of. It is "*Sauromatum guttatum*," and is in several catalogues under the heading of "Arum." The bulb will grow and flower without soil or water, and should then be potted, when it will throw up leaves and develop roots. The one I have seen has flowered, and at present has two large leaves, and is growing freely in ordinary soil in a hot-house.—AMATEUR.

Eupatorium lanthimum is a splendid plant for flowering in the greenhouse at this season of the year. It is not difficult to grow and makes a fine bold subject; the leaves, large, deep green in colour, are an effective contrast to the bold heads of soft mauve-coloured flowers. We noticed several specimens in bloom a few days ago, and few things could produce a finer effect. There is great robustness of character in this species, and the wonder is that it is not grown more in all gardens where handsome plants are desired for groups or for

duration, as the flowers remain in beauty over a comparatively long season.

An old Cyclamen corm.—I send you photograph of Cyclamen. I had it in the dining-room from November, 1901, to third week of March, 1902, in flower the whole time. When at its best it had sixty fully-developed flowers of large size and a few buds. The photograph was taken after it had passed its best stage, but was still very beautiful. Apparently it is about a six-year-old bulb, as I have had it three years and it was of fair size when I got it. The flowers are white with crimson centre. —STEPHEN G. WILLIAMS, *Musynooth*.

Planting out Camellias.—I am thinking of building a house for Camellias, 12 feet by 9 feet. What aspect would be best? I should like the plants in middle of house. What is the general way of disposing plants in house? What sized plants should I get, and how many should I want?—D. M.

[When it is remembered to what size a single plant of Camellia will grow, the house you propose to erect is a very small one. We know of plants which must be now over 20 feet in height, and they have borne as many as 2,000 to 3,000 buds. Of course, this size represents many years of growth. It would be well to allow about 5 feet each way for what we may term the permanent plants, and these, of course,

form when plants are about to bloom, and also when they are making new growth. A good size to procure would be plants 3 feet to 4 feet high, but more or less would do. We would rather have bushy plants 2 feet to 3 feet high than tall, leggy ones, for then the most can be made of the space. September is the best month to plant out, but practically any time would do except when the plants are making the new growths. Procure plants that have been propagated in this country.]

Boronia heterophylla.—This has deservedly become within the last few years one of the most popular hard-wooded plants that we have, and no wonder, for it is out difficult to grow, and its beautiful brightly-coloured blossoms are borne in great profusion. The flowers are not so fragrant as those of *B. megastigma*; still, they emit a very pleasing perfume, which must be enjoyed without disturbing the plant, as the leaves if agitated in any way have a heavy, disagreeable smell, which is by no means desirable. The blossoms of this remain fresh and bright for a long time if shaded from the hottest sun, and this is a great point in favour of this *Boronia*. The sober-tinted *B. megastigma* must on no account be passed over, as its little bell-shaped blossoms, delicately poised on slender stems, are so fragrant that a single bloom can for this reason be detected for some little distance. Its scent, too, seems to be admired by nearly everyone, which is not always the case with flowers remarkable for their fragrance. While noticing the above-named species of *Boronia*, the merits of such as *B. serrulata* and *B. elatior* must not be overlooked. The last two flower somewhat later than the others mentioned.

attention I had no difficulty in securing it. Elevated on a platform, with in front of me a table, on which were some fine potting-soil, sharp sand, 5-inch pots, drainage, Moss, and seeds, I first exhibited a pair of pots and asked to be told what they were, next what was the difference between them—one was clean, the other dirty. On that I explained the need for clean pots, the provision of broken crocks for drainage, the proper placing of it in the pots, and its purpose, the adding of a little piece of Moss or other fibrous material. Then, filling the pots up well with the soil, I faced it off and sowed the seed thinly and evenly on it. Thinning out later was advised. Garden soil would not do, but proper pot soil should be got from the florists. Watering, shading, and other attention were also described. —A. DEAN, *Kingsdon*.

ORCHIDS.

MASDEVALLIA TOVARENSIS.

THE flowers of this Orchid, a fine plant of which we figure to-day, are perhaps the purest white of any, yet they have not that dead-looking appearance characteristic of so many white-flowered Orchids. It is in flower during that it is worth growing for cutting alone, besides which the blooms have a very fine appearance on the plant, the white flowers and the green foliage contrasting very prettily. The spikes continue to produce flowers for several seasons, but though it is not worth while on this account to leave all the old ones on, yet it is best not to cut them too close. *M. tovarensis* may be grown with other cool Orchids, provided the winter night temperature does not fall below 50 degs. In a very cool-house the leaves are apt to spot badly. Grown in a cool-house the flowers, if on dwarfier stems, are at least sturdier and endure longer when cut. The amateur may with little heat grow this as well as *Cypripedium* and some *Odontoglossums*, especially the forms of *O. crispum*.

During the growing season and all through the summer and early autumn the plants can hardly be kept too cool. They should be grown in a house well shaded from the rays of the sun, and overhead as well as at-



A useful Orchid, *Masdevallia tovarensis*. From a photograph by Mr. Geo. E. Low, Dublin.

will be planted down the centre of the structure. Other plants could be put out on either side, to be afterwards removed when their room is required for the permanent plants. You could plant out nine to twelve plants at first. The best aspect for a Camellia-house is north to south, and we suppose it will be a span-roof. If possible, have the roof removable, so that in summer you may substitute a canvas roof for the glass—a very necessary precaution with the Camellia—otherwise you must shade the house by having some canvas placed inside near to the roof. When Camellias are grown in pots or tubs it is the usual practice to shade the glass and keep the house close as soon as new growth commences to appear, and the syringe should be freely used morning and afternoon of fine days. Then, when growths are developed, the plants are gradually hardened off and placed outdoors on the shady side of a hedge. This brings the cultivation as near as possible to that in which the Camellia is found growing naturally. In planting out Camellias it is very necessary to provide a good border. Remove the soil to a depth of 3 feet, then put in 6 inches of rough stones or broken bricks, or, if subsoil is very wet, use some drain pipes and connect with a ditch or drain. Camellias prefer an open and porous soil. Two parts sandy loam and one part peat we find the best compost. Add a little charcoal, but no manure. We prefer to give the latter in liquid

form when plants are about to bloom, and also when they are making new growth. A good size to procure would be plants 3 feet to 4 feet high, but more or less would do. We would rather have bushy plants 2 feet to 3 feet high than tall, leggy ones, for then the most can be made of the space. September is the best month to plant out, but practically any time would do except when the plants are making the new growths. Procure plants that have been propagated in this country.]

Children's pet flowers.—A few days since I was invited to choose hardy annual seeds suitable for pot culture for distribution in very small quantities to the children of a school here, the object being to encourage the children by such distribution, and by the offer of small prizes in the summer, to grow these annuals in pots to the best of their ability, and to bring them to a flower service in July. The seeds selected for this purpose were *Candytuft* (white and crimson), *Godetia Lady Albemarle*, *Mignonette Muchet*, *Collinsia bicolor*, *Bartonia aurea*, *Nemophila*, and *Silene pendula*. There were enough seeds in the respective ounces of each kind to enable 400 tiny packets to be made, and these were distributed to 200 children, each one having two diverse packets. But it was felt that some ocular demonstration of the methods of sowing and growing the seeds was desirable, and this much I undertook to furnish. Some 200 bright, attentive children provided a most interesting audience, and for the twenty minutes I required their

atmospheric and root moisture must be very abundant. When the flowers are forming it may be necessary to give a little more warmth, and when fully expanded a drier atmosphere is necessary, or the delicate beauty of the blooms may be spoiled. For compost a thin layer of Sphagnum Moss and peat over good drainage is all that is required. Repotting should take place about once in two or three years, this being often enough if properly done.

Fritillaria imperialis (Crown Imperial) in pots.—I had never seen this growing in pots, and resolved last autumn to try it in this way: My plants, which have not yet finished growing, are rather more than 3 feet high. The bulbs were potted up early last autumn in a compost of loam, leaf-mould, and coarse sand, the loam preponderating. Eight-inch pots were used, and large bulbs were potted up, the crown being covered by a thin layer of soil. The pots were then plunged in ashes and remained there until the end of March. When uncovered, the large and fleshy roots were visible on the surface, and also over the sides of the pots, necessitating some method to preserve them. The plants were, therefore, dropped into 10-inch pots, a quantity of soil being placed on the surface and banked around to form a basin-like receptacle for watering. At this time some 3 inches or 4 inches of growth had developed, and to keep this as

steadily as possible, the plants were placed in a cold and airy greenhouse, the ventilators of which have ever since been open. Within a fortnight a showy and stately plant had developed. In the third week the drooping, bell-like flowers are developing a pleasing orange-yellow colour, and in a few days they will be at their best. In the open air there is a goodly number of plants just now (April 16) at their best. Handsome though these are, and they are really most effective when grouped in half dozens or dozens, I give the palm to plants grown in pots and flowered in a cold-house. This is an advantage to those whose gardens are very exposed, and, in my case, a more bleak and trying position could hardly be found, thus rendering the culture of Crown Imperials somewhat difficult, unless special means are taken to protect the plants from strong winds. When grown in pots, frequent applications of water are needed, and, as the blossoms are in the embryo stage, an occasional dose of weak liquid-manure is very helpful. Their unpleasant odour, which really proceeds from the bulb itself, has probably deterred some from growing these plants, but, from my own experience, this is not so noticeable when they are finishing their growth. This, too, may be minimised by freely ventilating the glass structure in which they are growing.—W. V. T.

ROSES.

ROSES—NEW AND OLD.

It is amusing to read the descriptions of some new Roses, both of home and foreign production. I question whether 5 per cent. will survive the fierce competition to which they will be subjected when compared to old favourites. These new comers look well enough on paper, especially when they have real or fancied pedigrees attached to their names, but rarely do they come up to their descriptions. It is not my desire to depreciate the laudable work of the hybridist. I think roisiers should exercise a little more judgment ere they put on the market varieties not one whit so good as many long since discarded. We now and then receive a real beauty, such as Maman Cochet and its peerless white sport, or the exquisitely coloured Souvenir de William Robinson, which combines all the good qualities that go to the making of a first-rate Rose for the garden, but when it is remembered that some forty or more kinds are annually announced, one marvels what becomes of them. I believe some Continental growers maintain immense collections, but we on this side of the Channel believe in selections rather than collections. It is, however, remarkable what a diversity there is among the almost countless varieties, and comparatively very few are synonymous with other kinds. It has been my lot to grow nearly every Rose introduced to, or produced by, this country for the last twenty-five years. I can recall many lovely gems that have been discarded merely to make room for doubtful improvements. In my opinion the great want of the present day in the Rose world is varieties that are free and continuous blooming, of vigorous growth and perfectly hardy, yet producing all the beautiful tints of the very delicate kinds. And above all things, we want fragrance in our Roses. This is where many of the popular Hybrid Teas fail. I grant that we have sweet perfume in La France, but where is there another Hybrid Tea to equal it in this respect? I am afraid the Victor Verdier race has been too freely used in crossing, for they are notoriously devoid of fragrance. When the sweet-scented Hybrid Perpetuals are employed in cross-fertilising, as in the case of Papa Lambert, a cross between Marie Baumann and White Lady, then we obtain perfume in a liberal degree. I am very glad to find our English raisers are working on the Hybrid Perpetuals more than has been the case during recent years, and I am confident there is much good work to be achieved among this very excellent tribe. I do not know whether we shall ever surpass Charles Lefebvre among dark crimson. It must be a splendid kind to do so. The extremely dark or black Roses need improving. Most of existing kinds have serious defects in one form or another. Of light reds, Alfred Colomb still stands very high in the general esteem. Ulrich Brunner, too, is

good, but I believe one of last season's novelties will surpass it. Of pale pinks, what can be more beautiful than Mrs. John Laing, Mme. G. Luizet, or Mrs. Sharman Crawford? Of deep pinks, Caroline Testout, Prille of Waltham, Helea Keller, and Mrs. W. J. Graat are difficult to surpass. White Roses are not yet perfect. We seem to require a really good globular one, of the Alfred Colomb form, but of snowy whiteness.

Of the extra vigorous Tea Roses the old Gloire de Dijon still remains one of the most popular, and a dozen Teas are rarely set up at a show which do not contain Souvenir d'un Ami and Souvenir d'Elise Vardon, which, forty years ago, were two of our leading Teas.

There is just now a remarkable demand for Rambler Roses, but I observe many desire what we are at present deficient in—that is, good autumnal-flowering kinds of rapid growth and really hardy. Until autumnal Ramblers are obtained growers would do well to plant alternately the few good kinds we already possess, such as Longworth Rambler, Mme. Alfred Carriero, Reine Marie Henriette, etc., with varieties that are only summer-blooming, then the arches, pergolas, etc., will not be entirely devoid of blossom in the late months of the year. Instead of so much extravagant praise for novelties among Ramblers I would remind planters of the many lovely old kinds available, such as Felicite-Perpetue, Flora, Myrianthes renoncule, Aimée Vibert, Blairii No. 2—not forgetting the lovely singles, Rosa moschata, etc., which are so elegant in every way. In conclusion, I may say how interesting it would be to readers of GARDENING if amateurs would write as "M. V. B." did recently concerning Roses that succeed best with them. Many useful lessons could be obtained even by professionals. "M. V. B.'s" description of the Austrian Copper was not at all overdrawn. It is certainly the most lovely colour we have, and how splendidly it grows on its own roots in a light soil. "M. V. B." did not tell us what stock the Roses were budded on, or perhaps they were not budded at all. It always seems to me that the Brier which is used so much for Tea Roses does not adapt itself to every soil, and the success or failure of our own root Roses is more a question of soil than anything else. ROSA.

ROSES WITH HUGE BLOSSOMS.

THERE is no doubt that a magnificent specimen bloom appeals to everyone, and one has only to observe the small crowd that gathers around the flower selected for the medal as the best bloom in the show. Of course, "the best" does not always mean the largest, but, generally speaking, size carries great weight, provided also there be beauty of form and freshness of colour. But if Roses of the type of Mildred Grant increase in numbers, should not there be a special class for them, for it is obviously unfair and also ridiculous to show such Roses with the varieties of ordinary size? The huge Roses are chiefly to be found among the Hybrid Perpetual group. Perhaps the largest variety is Paul Neyron, really a splendid old kind, especially fine in autumn. The two striped sports of this Rose, Panachee de Bordeaux and Coquette Bordelaise, are not quite so large, but they are very prettily blotched and striped with white, the variegation being fairly constant. Another very large Rose is Anna de Diesbach, or Gloire de Paris as it is known in France. The colour is a beautiful shade of carmine, and it is one of the hardiest kinds grown. Her Majesty is magnificent. I shall not soon forget a long row of this grand Rose which I saw at Reigate some years ago. The plants were on the cutting Brier (for it will not do on the Manetti), and every flower was perfect. Many experience some difficulty in growing this Rose or, rather, blooming it. I have found it best to prune very early in February the last season's wood, retaining some 15 inches to 18 inches long, and even up to 2 feet long. This early pruning enables the plant to plump up the buds. Spenser in some respects is a more reliable Rose as far as blooming is concerned, and it is of much the same shade of colour, but the fault of this otherwise grand Rose is the hollow centre. Mme. Eugenie Perle is an Hybrid Perpetual Rose very little

known, but it is a showy kind, quite one of the best garden varieties for the summer. Its colour is bright rose, reverse of petals silvery, growth extra stragg. Boieldieu is another big Rose of fresh cherry colour; so also is Edouard Morren. I think we shall do well not to allow these old Roses to drop out of our collections. They may not be good autumnals, but their massiveness, vigorous growth, and, in most cases, strong perfume, should appeal to all. Mme. Clemence Joigneux is another old Rose, powerfully fragrant, foliage quite free from mildew, perhaps the flowers a bit wanting in brightness, but the lilac-red tint, to me, is rather pleasing if only for variety. The beautiful sport William Warden deserves a better fate than extinction. Other fine large Roses are: Countess of Oxford, Pride of Waltham, and Crimson Queen, a Rose somewhat confused in shape, but of that rich blood-red colour with velvety shading that one cannot but admire, and I think there is no Rose possessing such massive foliage as this one; Gustave Piganeau is immense, but a poor grower; Mme. Isaac Periere is a splendid garden Rose in every way, and its sport or seedling, Mme. Verrier Cochet, which I thought at one time to be like the former, but I now know it to be quite distinct. Star of Waltham is grand at times, but not certain; Marchioness of Londonderry, very large, nearly white, is undoubtedly best when half open. It is of a bad colour when fully expanded, so I would advise that the blooms be cut off ere they reach this stage. Rev. Alan Cheales, quite a Paeony-like Rose, evidently from John Hopper, is an excellent variety for the garden; La Duchesse de Morny, another beautiful and fragrant Rose, is very vigorous in growth and so good in form as to now and then receive a medal as the best H.P. in the show. I must not forget Ulrich Brunner fil. Of all red Roses this one may be relied upon to do well under any circumstances. It grows freely from cuttings, and is, in the opinion of our best judges, one of the most satisfactory Roses grown. Magna Charta is also worthy of extensive planting. Although it never even so much as gives a bloom in autumn, it still remains one of the showiest of summer kinds and is very fragrant.

Quite a number, if not all of the Roses named above, are capital kinds for greenhouse culture. There is no difficulty about the culture of such. Anyone can grow them who possesses a pit or greenhouse. The Hybrid Teas would naturally contain some large-flowering varieties, seeing that they partly sprang from the last-named group. Lady Mary Fitzwilliam is very good, and its white sport, White Lady, superb. Early in June there is no Rose in our large collection so showy. Bessie Brown will rank among the large-flowering kinds, and I have seen Antoine Rivoire fully 5 inches across. Captain Christy is well known as a showy garden kind, and it is equally fine under glass. Denmark is one of the best and sweetest in the Rose-house, but it will not flourish outdoors. Among the true Teas Maman Cochet will be hard to beat in point of size, and, of course, its white sport is equally large. Souvenir d'Elise Vardon at one time was considered one of our largest Teas, but it is a poor grower. Mrs. Edward Mawley is well worth growing. It is superb in every way. ROSA.

Planting Tea Roses from pots.—

Those who intend planting Tea Roses this season will do well to have them in pots, and plant them at the end of April or early in May, just as they are commencing to grow. Lifting them from the open ground and planting them earlier is courting failure, especially if the position is an exposed one. Even when transplanted from pots, protection from cold winds must be given, nothing answering better than Furze or evergreen branches placed round and amongst them.

Mercantilla sulphate of quinine (not medical) in small granulated lumps.—I was given to understand that the above is a good deodoriser or disinfectant for a rain-water tank, and that it renders the water more beneficial for the ground for growing purposes. Could you kindly say the quantity to be used for a 200-gallon tank, and also point out in what manner it benefits the ground? I never use the rain water excepting for watering the garden.—J. C. IREAN.

I did not quite understand what you mean by "mercantile sulphate of quinine," but the

ordinary medical drug of that name would be useless as a disinfectant or deodoriser of rain water, and it would only act very slightly as a manure, certainly not sufficiently so to make it worth using. As you only use the rain water for watering plants, why trouble to disinfect the water? You need only clean out the tank every now and then if the smell of the water becomes unpleasant.—G. S. S.]

ROOM AND WINDOW.

INDOOR PLANTS IN SMALL POTS.

WHERE plants are kept permanently in the dwelling-house they will, of course, consist principally of subjects grown for the sake of their foliage, and among them the different Palms predominate, though second to no other plant for such a purpose is the universally cultivated *Aspidistra*. Plants that are kept indoors are often in a far from satisfactory condition, and in many cases this arises from the pots being too large. Where the treatment of plants is but little understood there is a great tendency to over-water them, and consequently when the pots are small and therefore full of roots there is far less probability of causing mischief by an overdose of water than would be the case if the plants were in larger pots and a greater quantity of soil around the roots. It is surprising what fine Palms can be grown in quite small pots if they are not allowed to suffer from want of water and are assisted by an occasional dose of some stimulant. There are now many concentrated manures that can be used indoors without any unpleasant effects, all of which are very good if applied according to the instructions. In using any of these manures for the first time, care should be taken not to overdo it, as it is far better to give two small doses than an excessive one. A little stimulant about once a month during the growing season will suffice to keep such plants as are above indicated in good condition.

A fruitful source of ill-health in the case of plants that are kept in a dwelling-house is that they are a good deal exposed to draughts, and are consequently subject to extremes both of temperature and water; for, while an excess of water must be guarded against (and the use of small pots does this pretty effectually), if fine-foliaged plants are once allowed to get too dry they are often irreparably injured. That annual repotting is by no means necessary in order to maintain indoor plants in good health is shown by an *Aspidistra* that I have kept in a sitting-room in a smoky district for seven years, during which time it has been repotted but twice, and it is now a splendid specimen in robust health. True, the watering during that period has been carefully done and the plant assisted with an occasional stimulant, while the foliage is always kept clean—another very important item. II.

Window boxes.—There is no time to be lost in making preparations for the summer display on the window sill. If boxes have to be made, then they should be got in hand and painted, in order to preserve them: a couple of coats, both inside and out, prevents a too early decay. Old boxes should be thoroughly examined, and any necessary repairs made. Those on which cork and hark have been fastened often require attention at the commencement of a season. It is not desirable to again use soil of a previous year, but new compost should be substituted, as plants are likely to give better results. Those who prefer dwarf subjects and sweet smelling flowers should remember *Mignonette*, *Musk*, and *Heliotropes*. Showy things, too, like *Begonias*, *Zonal* and *Ivy-leaved Geraniums*, and *Campanula isophylla* must not be forgotten. *Petunias*, too, flower exceedingly well in a place where there is plenty of sunshine, and in such a window I would certainly plant them. In a window box last year I saw *Verbenas* doing remarkably well. *Fuchsias*, as all know, are extremely showy, bloom well either plunged in pots or planted out in the boxes, and always please. Sometimes in the autumn, when flowers begin to drop off and the window boxes are first to show it, we wish we had other things to take their places. To this end it is advisable to grow on in pots (plunging them in the boxes

until wanted) such things as *Asters* and early-flowering *Chrysanthemums*, like *Alfred Fleuret*, *rosy-lilac*, *Harvest Home*, *brouzy red*, *tipped gold*, *Lady Fitzwygram*, *white*, *Doris Petro*, *white*, *Mme. Gague*, *mauve-pink*, *Mme. Z. Lionnet*, *orange-yellow*, *Anastasia*, *light purple*, *St. Crouts*, *lilac-pink*, *Golden Fleece*, *golden-yellow*, *Mme. Jolivart*, *blush-white*, *Mrs. Callingford*, *white*, and *Little Bob*, *crimson*, all of which are naturally dwarf and may be made even more so by pinching them back once or twice during the season. Very often, too, the odds and ends of plants that are too small for bedding out in May, and which sometimes are thrown on to the rubbish-heap, make useful things for the window boxes with care and attention.—WOODBASTWICK.

CHRYSANTHEMUMS.

HOW TO MAKE BUSHY PLANTS.
(REPLY TO "A. G.")

MANY of our best Japanese *Chrysanthemums* have a tall and undesirable habit of growth, and are in consequence of less value than if they were dwarf and bushy. The unfortunate fact in connection with these plants is that the tallest and most ungainly kinds not infrequently develop the most charming blossoms. It would be an easy matter to give quite a long list of delightful sorts which, for no other reason than that they are tall and unsuited for the purpose, are discarded for conservatory decoration. Anyone may, however, with a little more than ordinary attention, develop plants of a bushy character from those sorts known for their lanky growth. No better period than the present could be selected for commencing operations. We will assume that the plants are now making strong and sturdy growth, and at this moment each plant is represented by a single shoot. We will also assume that the plants were placed in their present pots some time ago, and are, in consequence, nicely rooted. The initial operation is pinching the shoots, and this is accomplished in the following manner:—Pinch out the point of each plant, doing this with care. The growth at the apex of each shoot being very brittle at this season, the pinching out of the point is carried out with ease. For a few days subsequent to the pinching or stopping, the plants should be kept rather drier at the roots than usual, not so dry, however, as to cause the plants to suffer. The object in keeping the soil rather dry is to induce the plants to break out into fresh growth, and this they will quickly do when treated in the manner just described. Some sorts respond with fresh growths from the axils of the leaves much quicker than others, and plants partaking of this character of growth generally make larger and better plants. In the course of a few weeks, assuming, of course, the cultural details usual for the season are being observed, evidence of rapid growth of the side shoots will be apparent. From this point the plants must be kept growing on unhindered, and if need be, they must not be repotted when the pots they occupy are full of roots. When the side shoots above referred to have attained a length of some 6 inches or rather more, they must in turn be pinched, as was the original single stem by which each plant was first represented. Observe the same rule as to keeping the plants slightly drier at the roots as before, and in a few days another series of lateral shoots will make their appearance. This pinching may be carried on all through the summer as each succeeding 6 inches of growth is made. It is astonishing to what dimensions some plants will attain by a continuous system of pinching out the points of the shoots. The pinching must be discontinued at a certain period. If a November display be desired, let the pinching be discontinued during the last week in June, and from this point grow on the resulting shoots to the terminal buds, which mark the termination of the plant's growth. If, however, a December or Christmas show of blossoms be preferred, give the plants their last pinching during the third week in July, growing on the resulting shoots to the terminal buds as before described. Terminal buds develop in a cluster at the apex of each shoot, and if useful decorative blossoms be desired, the more crowded buds should be retained

retaining only those of good shape and larger size. Never repot and pinch the shoots at the same time; a week at least should elapse between the operations.

Chrysanthemums—stopping and timing (J. L. M.).—Your plants represent both Japanese and incurved varieties, and as it is now too late to adopt the ordinary method of pinching followed in late March and early April, you had better now treat your plants as follows:—

Name.	When to pinch the plants.	Which buds to retain.
Mme. R. Cadbury	1st week in May	First crown
Sir H. Kitchener	3rd week in May	1st crown
Mrs. W. Cursham	1st week in May	First crown
Lady Ridgway	May 21st	First crown
N.C.S. Jubilee	Pinch the plants at once, and take up three shoots. Pinch each of these three shoots about June 25.	and grow on the strongest one.
Silver Queen	and grow on the strongest one.	ceeding individual shoot on each of those first taken up, securing the first buds subsequently developing.
Mme. Ed. Roger (inc.)		
Nellie Southam (inc.)		

By treating the last four sorts in the manner we have just described, the buds which are retained subsequent to the late June pinching will be the equivalent of second crown-buds.

FERNS.

HARDY FERNS.

In most gardens, large and small, there are places which cannot well be embellished by using flowering plants. Where most things fail, the more vigorous-habited, hardy Ferns will find a home. In dark corners or in the shade of trees they will thrive admirably, and once fairly established they will give no further trouble. It is a curious fact that many who do not grudge the labour and expense necessary for the culture of Ferns that demand the shelter of glass make little or no attempt to beautify their garden with our native kinds, which are not inferior to their exotic relatives in beauty of form and nobility of growth. Any fairly good garden soil will suit them, but, of course, they will attain finer proportions in a good compost of loam and leaf-mould. It is quite a mistake to suppose that rockwork or an elevated position of any kind is necessary for the well-being of hardy Ferns generally. Some kinds of lowly growth, such as *Asplenium viride*, *Ceterach officinarum*, and the *Holly* and *Parsley Ferns*, must have good drainage, but the robust-habited varieties do not need this accommodation, and in a general way do best when the roots are not raised much above the ordinary ground level. Planting them on rockwork, rootwork, or mounds deprives them of the moisture they so much need in the growing season. One of the very finest Ferns is the *Royal Fern* (*Osmunda regalis*). Nothing can exceed the beauty of this native species when it is in the enjoyment of the conditions that favour its growth. It is a grave error to place this, as is often done, in an elevated position, for it is in its native habitats invariably found where the roots get a liberal supply of moisture even when at rest. In damp woods, swampy places, or by the side of streams or pools of water this Fern attains such noble proportions as to render it one of the finest of the many things in cultivation that are valued for the beauty of their foliage and elegance of growth. The dampest place in the garden should be chosen for this Fern, and if the ground is well prepared and ample space allowed for development, the plants will in due time throw up fronds 6 feet or more in height. The exotic species of *Royal Ferns* are equally hardy and as worthy of being well cared for. They also delight in moisture, but are apparently longer in coming to their full size. The *Lady Fern* is much more worthy of a place in gardens than many of its varieties, and which are more curious than beautiful. The same may be said of the *Hart's-tongue*, the type, to my mind, being infinitely much more ornamental than the majority of its varieties, in many of which the free, vigorous growth natural to this Fern is in a great measure suppressed. There is a richness of verdure in the *Hart's-tongue*, that is particularly attractive, and which few Ferns, hardy or tender, possess in such a high degree. The *Hart's-tongue* will

grow freely in almost any kind of soil, but to see it at its best it should be planted in well-enriched ground. The best specimens I ever had were fed into a high state of luxuriance by a liberal dressing of rotten manure. The fronds were abnormally large and exceptionally rich in colour. There are several varieties of this Fern that are fairly rigorous and not difficult to please. The best are probably *crispum* and *angustifolium*, but, to my mind, even at their best they are not equal to the typical form, which exhibits greater elegance of growth than any of its numerous varieties can lay claim to. Among the *Polystichum* there are some that may be freely used in the manner above indicated. *P. aculeatum* is a noble Fern when fully developed, and the crested form of the male Fern is but little less vigorous and enduring than the common form.

In both large and small gardens room can be found for some of these common, but noble, habited Ferns, which merely require to be well planted and left alone, and require little or no attention for years together. In the wild garden, by the side of water, and under the shade of trees these native Ferns should be freely used. They give variety and add a charm to any garden, large or small. T.

GARDEN WORK.

Conservatory. *Franus triloba* is a very pretty double pink-flowered Plum, very easily forced, even when freshly lifted from the ground. When well grown it makes a very handsome bush. We have had a group of it in flower for some time, and can strongly recommend it either as a shrub in the border, or a pot plant forced into bloom at any season during the early part of the year. Thin the growths of *Tecomas*, *Passion-flowers*, and *Mandevillas*. If the house must be kept gay, it will be well not to spill much water about in dull weather, and the ventilation must be as perfect as possible without creating draughts. *Clivias* or *Imantophyllum* which have been brought forward in a warmer house may be grouped in the conservatory in the warmest part of the house. The *Amaryllises* are glorious plants and will keep in the conservatory longer than in a warm house. They should be lightly shaded if the sun is very bright. These are still high in price, but anyone with the command of heat can raise seedlings and work up stock. The seedling raisers of such plants as *Amaryllis* and *Clivia* have to wait some time for results, but they come ultimately, and upon starting with a dozen good varieties and hybridising the blossoms may expect something valuable, and all the seedlings from a good source will possess some value. Baskets for suspending should be rearranged or refilled with young thrifty plants now. *Asparagus Sprengeri* is a graceful plant in a good-sized wire basket. It is a strong-rooting thing and requires room for its roots. Under such conditions the growth is very free. The plants are easily raised from seeds in heat at this season, but time is required to make a good specimen. Bamboos may be divided and repotted now. This is a class of plants which, I think, ought to be cheaper, as they are not difficult to propagate or grow. The *Eulalias* are lovely pot plants for mixing with flowering plants, and merely require protection in winter. As the Indian *Azaleas* go out of bloom remove dead blossoms and seeds. Give the plants a thorough wash with the syringe and place in a warm house or pit to make growth and get forward for forcing next year. Look closely after insects and milder on Roses and apply a remedy.

Stove.—Nearly all plants may be propagated from cuttings now where there are soft young shoots from 2½ inches to 3 inches long. They must have a close propagating-case and a brisk bottom-heat. In small places where there is no regular propagating-house a small case can be improvised over the pipes in the front of the house that will strike most things, including *Gardenias*, *Euphorbias*, *Poinsettias*, etc. Have a bed of Cocoa-fibre, 6 inches or so deep, in which to plunge the pots. Most things will strike in sandy peat or leaf-mould, with a layer of sand on the top. Cuttings

air to the case every morning to prevent damping, and if bell-glasses are used for my choice thing wipe the inside of the glasses dry every morning. Change of position is important now, especially in lean-to houses; it prevents the plants growing one-sided, so to speak, by exposing all sides equally to the light, and a fast-growing plant can have a little more space allotted to it. Overcrowding at this season has a ruinous effect upon the plants as the foundation is being laid. In repotting growing specimens be specially careful about the drainage, and use only clean pots. Never sift the soil except it may be for potting off cuttings. Old rotten turf, with peat of a fibrous character, and plenty of clean sand, will suit most things. In giving last shift to *Gloxinias*, *Caladiums*, *Vincas*, and any other plant which requires more nourishment, a little dry old cow manure will be useful. Night temperature now 65 degs. Ventilate when the thermometer approaches 80 degs. Keep the atmosphere moist by damping floors. Never use hard water for syringing. Some things will require shade now in bright weather, but do not darken the houses more than is necessary to break up the sun's rays.

Ferns under glass.—These are growing fast now, and must not be crowded. There is a demand now for plants in 6-inch and larger pots for decoration, and a healthy plant in a 5-inch pot may now be made into a handsome specimen by giving it a larger pot and room enough to grow. The indoor fernery must be shaded now from 10.30 to 2.30, and abundance of moisture used on paths and stages to keep things in a healthy condition. Tropical Ferns must have a night temperature of 60 degs. to 65 degs., and ventilation to harden the fronds, especially if required for cuttings. When the temperature rises to 80 degs. plants with the pots full of roots must be well supplied with water. Market growers, to rush plants on speedily, use stimulants, but the growth made under the influence of stimulants will not keep long in condition. It is better to grow more naturally for house decoration, and if stimulants are used only plants which are getting pot-bound should be dosed. They should be used in a very weak state. If more loam is used in the soil the growth will be firmer and more lasting. When plants are grown only for exhibition a more liberal regimen may be adopted to induce extra luxuriance: the lasting powers need not be studied so much.

Night ventilation to fruit-houses.—In old-fashioned houses there was always plenty of night ventilation through the laps of the glass, but with modern houses, with large squares of glass and the laps fitting close, a little chink of air along the ridge becomes desirable from this onwards. In my young days, with old-fashioned houses, I never saw a trace of mildew. It is only since the closely-glazed houses and inside borders were introduced that mildew has given so much trouble. The two evils to be guarded against in fruit-growing under glass are deficient ventilation (especially early in the day) and dry borders. Of course, in experienced hands the inside border and the close-glazed house are a success. In giving night ventilation the outside temperature has to be taken into account, as we do not want to increase the fuel bill.

Window garden.—From present appearances this is going to be a busy time for the outside window gardeners. Those who use *Begonias* in window-boxes must provide good soil. Red, white, and blue are likely to be the colours in demand. Red and white *Begonias*, with blue *Lobelias* along the front of the boxes hanging over, will look well, and be a breakaway from the *Geraniums* and *Marguerites*. Pink and white *Geraniums* with blue *Lobelias* will make a change. What is wanted is reliable plants—not miffy things that will not grow.

Outdoor garden.—Fill up vacant places in herbaceous borders with suitable plants. To my mind, scarlet *Geraniums* do not agree well with herbaceous things. I would rather fill up with annuals, either hardy or tender. Stocks and Astors can generally be utilised. *Gladioli* and *Hyacinthus candelarii* in groups may be dropped in where there is room. Though the *Hyacinth* is not a front row plant, it is a very charming bed last season. Plant

with a groundwork of dark *Heliotrope*. The centre was dotted over with *Hyacinthus candelarii*, and nearer the margin the dot plants were *Gladioli brechenleyensis*. Of course, it is too soon to plant anything tender yet, but the *Hyacinths* and *Gladioli* could be planted now, and the site of each bulb marked with a small stick to prevent disturbance. The newer forms of *Pentstemons* are lovely in a mass, and the dwarf forms of *Antirrhinum* are very effective. There are distinct colours of white, yellow, and crimson which come true from seeds, and are among the most effective and cheapest plants for massing. If the seeds are sown in heat and the plants pricked off and hardened, they will go out as soon as ready, and will flower early. *Cannas* and other tropical plants should have a sheltered spot, and the soil be deepened and enriched. These are good town plants if well nourished. *Japanese Anemones* will move well now.

Fruit garden.—Bush fruit-trees and dwarfing stocks require a good deal of support in the way of mulchings, and liquid-manure may be given with advantage during the summer to heavily-cropped trees. Never dig near the trees with a spade, nor yet plant anything within 3 feet of the stem. In the matter of manuring such trees there is always room for judgment. The man on the spot, if he has had experience, knows the best course to pursue. But with this provision it is certain that fruit-trees might with advantage have this help, and it should be given in the way best calculated to obtain the end in view. It is not always wise to pile a mound of manure round a tree, though this is often done. Very often a mulch of compost made from the clearings of the rubbish-yard, exposed to fire to char it, will be more beneficial. Finishing touches may be given to the fruit by applications of nitrate of soda when the fruits have reached a good size. The fruit-grower has a good deal to learn before he has a full command of the situation and its possibilities. Open-air Strawberries are looking well, and if not already mulched keep the surface clean and loose by hoeing. Top-dressings of soot may be given on dry, porous soil. Salt in small quantities may be used as a check to drought—6 lb. or 7 lb. per square rod, will injure nothing if used now.

Vegetable garden.—Successional crops of many things must be sown now, including Peas, Beans, Spinach, Beet, Winter Greens of various kinds, Lettuces, Radishes, Vegetable Marrows, and ridge Cucumbers. Carrots are not much grown, except in large gardens. The first sowing is usually made in small pots, two or three seeds in each in heat, and when the young plants appear, the strongest is retained and the others pulled out. The plants are hardened off and planted in the trenches in May. The main crop may be sown directly into the trenches in patches 15 inches apart, to be thinned to one plant when the selection can be made. A sowing of French Beans may be made on a warm site. Scarlet Runners for the first crop may be started in boxes to be planted out when the weather is quite safe. Sow Spinach Beet and New Zealand Spinach. These are the best substitutes for Spinach. Plant Cucumbers in frames or anywhere under glass where a little heat can be given to start them. Tomatoes will do now in pits and frames if covered at night. Get them sturdy and well-hardened. E. HUBBARD.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

April 21st.—Planted Violet cuttings for lifting in autumn. The cuttings were rooted in boxes in a frame in the autumn, and are now nice little plants with plenty of roots. They are planted a foot apart, in well worked land, in an open situation. Divided several old plants of *Cypripedium* to make stock, the compost used being very fibrous peat, crushed charcoal, and chopped Sphagnum. The pots are half filled with drainage. Planted more *Gladioli*, chiefly *Brechenleyensis*.

April 22nd.—Looked round herbaceous borders and lawn beds to renew labels. Removed *Dabbins* to cold-frames to harden. We are sowing *Geraniums* chiefly, as we find

them more useful for cutting. Stopped and tied Fuchsias and Heliotropes. The Heliotrope makes a sweet plant for mixing in the conservatory. Some of the new varieties have very large trusses of blossom. Planted several hardy things in kitchen garden for cutting.

April 23rd.—Mulched Figs in pots with rich compost, in which a little Clay's fertilizer is mixed. Figs when full of roots will take a good deal of nourishment. Finished training Figs on walls. These trees have never failed to bear a crop since the roots were lifted, and a foundation of brickbats and old mortar rubble was placed under them. Sewed more Lettuces and other salad plants. Tied up early Lettuce plants to blanch. Sowed Chervil.

April 24th.—Planted out Pentstemons from cold-frames. The cuttings are struck in autumn in cold-frames. Pricked off Stocks and Asters in frames from which early Potatoes have been lifted. Finished planting Asparagus. Stirred soil among Violas in beds, which are now very bright. Put in cuttings of some new Phloxes; we are striking these in heat. Divided and made new plantations of Pyrethroms and Michaelmas Daisies. The Dorotheums are amongst the brightest things in the garden now.

April 25th.—Moved a lot of forced shrubs to conservatory. These included Rhododendrons, Deutzias, Prunus triloba, Weigela, standard scarlet Thorns, Laburnums, and white Lilacs. A very small amount of forcing has sufficed for this lot. A few standard plants of the Silver Maple (Acer Negundo variegatum) are useful among dark-foliaged plants, and are easily grown in pots. Shifted on young Ferns and Palms. Small Kentias in thumb pots are being used instead of small Ferns as table ornaments.

April 26th.—Planted out a lot of late-flowering Chrysanthemums for lifting in autumn. Looked over Peach-trees on wall to keep down insects. Sowed more Winter Greens. Sowed Cucumbers and Melons to fill up frames when the bedding plants are taken out. Planted a large bed of Iceland Poppies for cutting. Old Hyacinth bulbs which have been forced have been planted along the front of a shrubbery border. Sowed more Sweet Peas and other hardy annuals.

POULTRY.

Death of chicken (C. Burton).—The bird sent for examination appears to be in a perfectly healthy condition. Great care is necessary at this season, when the outside temperature is so variable, to properly regulate the heat of the rearer, as chickens brought up artificially are very liable to contract a chill and suffer from cramp. A thermometer should be used with the rearer, which should be regulated to 85 degs. for the first fortnight, and then gradually lowered until after a month or five weeks, allowing another week in cold seasons. You appear to be feeding your chickens correctly; in fact, there is nothing better for the purpose than the prepared food you are giving them. Do not fail to give green food, such as Grass cut fine, Chickweed, and Lettuce, and mix a little grit in the soft food. After three weeks grain may be given instead of grouts, remembering that a variety of food is of the greatest advantage in the successful rearing of chickens.—S. S. G.

United Horticultural Benefit and Provident Society.—The monthly committee meeting of this society was held at the Caledonian Hotel, Adelphi-terrace, W.C., on Monday evening last, Mr. C. H. Curtis in the chair. The minutes of the last meeting were read and confirmed. Thirteen new members were elected. Two cheques were granted from lapsed members' accounts, one being for £1 8s. 9d. to widow, and the other for £13 16s., claimed by lapsed member on reaching sixty years of age. Cheques were also granted for payment of two members' quarterly allowance from the Benevolent Fund, also for printing, and Secretary's salary. A member asked permission to be transferred from the lower to the higher scale of contribution, which was granted. It was resolved to commence the committee meetings in future at 7 pm. instead of 8 pm.

BIRDS.

Blackbird ailing (J. Barrett).—The loss of voice arises from the bird having taken a cold. A little glycerine (about six or eight drops daily for a week) in the drinking water will give relief. Give, also, a small piece of mutton suet or fat bacon for the bird to peck at. This trouble may generally be attributed to want of proper treatment during the moulting season, when too much care cannot be taken in protecting from draught and sudden changes of temperature and supplying food of a more generous quantity than usual. You appear to be treating your Blackbird correctly in the matter of food. Do not hang the cage out-of-doors till the weather becomes warm and settled. The glycerine may be continued if it does not give relief at the end of the first week.—S. S. G.

Food for Blackbirds and Thrushes (Navy).—Those birds are easily reared, and may be fed upon Oat-flour (known as Fig-dust) and Pea-meal mixed with milk or water to the consistency of a moist paste. They may also have mealworms, ants' eggs, and, occasionally, a little raw lean meat, shredded finely. Feed, two or three mouthfuls at a time, every quarter of an hour, and frequently drop a little pure water into the mouth of each nestling as they get older and the paste is given in a drier state. The staple food for these birds when they arrive at maturity may consist of the above paste, but mixed to a crumbling state. This, with almost any kind of cooked food that does not contain salt, such as puddings, vegetables, and custards, will keep these birds in good health. A snail is a great treat, and if a stone be provided, both Blackbirds and Thrushes will amuse themselves by breaking the shell of the snail upon it, as in their wild state, in order to secure the contents. It is necessary to supply abundance of water both for bathing and drinking.—S. S. G.

LAW AND CUSTOM.

Right of tenant to remove Rose-trees.—A look a furnished house by the month, and a year later planted some Rose-trees in the garden. Two years after taking the house he left it. Is he entitled to remove the Rose-trees?—D. C. R. (He has no right to remove the Rose-trees. Such things once planted in a private garden belong to the landlord.—K. C. T.)

Agreement to surrender tenancy.—I let a house to a tenant at a yearly rental of £32, payable quarterly. In February he gave me notice to quit, but expressed his wish to quit on March 23rd or in June, if I would allow him and take the house off his hands, and I expressed my willingness to this course. In March he said he had taken a new house, which would be ready for entry on May 1st, when he would remove. I let the house from May 1st to a new tenant, who has gone into apartments and stored his furniture in the meantime. I now find that the present occupier has not taken a house, and has told me outright, "What is my position? Could I maintain an action in the county court to recover damages, as I shall have to give the man who has taken the house some compensation? My tenant did not give me written notice.—J. H. S.

[I am afraid the contract for surrender was too informal, and that you cannot recover damages, unless, indeed, your old tenant was a party to the arrangement with your "new tenant," and gave him to understand that he was quitting. If this could be clearly proved, you might recover damages by action in the county court.—K. C. T.]

Damage to crops by felled timber.—In September last I sold some oak-trees to a timber merchant, who cut them down in November, and they still remain on my land, which is let to a neighbour. I wrote to the timber merchant more than a month ago, and asked him to remove the timber at once, and he wrote back promising to do as I requested, but the timber lies there yet. My tenant says he will make a deduction from his payment of rent because the Grass is damaged and the situation is dangerous for his stock. Can I sue for damages? I have preserved the letter.—PERPLEXED.

[The question is this: Have these felled trees been allowed to lie unmoved for an unreasonable time? The answer depends upon the nature of the trees and the terms of the bargain of sale. An express stipulation as to the time within which removal is to be effected should always form part of the contract of sale, and this avoids any disputes as to what period is "reasonable." You should write again to the timber-merchant, reminding him of his promise, and if he does not at once carry out his undertaking you may sue him for such damages as you or your tenant may have sustained.—K. C. T.]

CORRESPONDENCE.

Questions.—Queries and answers are inserted in GARDENING free of charge if correspondents follow their rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of GARDENING, 17, Finsbury Street, London, E.C. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation, if any desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents simple specimens of fruits for naming, these in many cases being multiple and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Loam (Ella B. Marjory).—Loam is the top soil of an old pasture which has been stacked away for a time to allow of the Grass rotting. This is called turfy loam, and is valuable for potting on account of the decay of turf and numerous fibrous roots, these keeping the compost open as well as supplying plant food in itself and in a condition easily assimilated.

Paeonies (J. Cole).—We see no reason why you should not attempt the culture of Paeonies, as most gardens contain spots so shaded that few plants will thrive in them. In such places Paeonies would do well, and the colour of the flowers would also be much richer, while the blooms would last longer than in the full sun. Few plants are more fitted for the wild garden.

Clematis in pots, soil for (Miriam).—The soil for Clematises in pots should consist of good loam and rotted horse or cow-manure, plenty of drainage being given. After they have done blooming, they may be removed to the open air. Clematises must when growing be well attended to with water and rich feeding. See our article in the issue of December 28, 1901, p. 57b.

Plants for stone edgings (A. J. Roberts). For such a purpose there is great variety. The Mossy Rock-foam make excellent edgings growing among the stones. You will also find Tufted Fansia, Thrift, Androsifas, Veronica, alpine Phloxes, Sun Roses, Aralis, Candytuft, Pink, dwarf Harebells, and Moneywort (Lysimachia) very suitable. Wild Strawberries, too, look well when grown among the stones, as you intend doing.

The Marguerite Daisy-fly (A. Suberbie).—The leaves you sent are infested by the grub of the Marguerite Daisy-fly (Phytomyza affinis). The leaves which are too much injured to be of any further use to the plant should be cut off and burned. The others should be held up against the light and pinched where the grubs are seen, or a needle run through the leaf, if it pierces the insect, will be equally efficacious. As there are several broods of this insect during the summer, it is important to try and extirpate the first brood.

Plague of earwigs (R. Humphries).—The only way to get rid of earwigs is to trap them. Earwigs may be trapped in crumpled-up sheets of newspaper, loosely folded cloths, the hollow stems of plants, such as Bean or Sunflower stalks, or small Bamboo. They are said to be very fond of beer and treacle. You might try securing a sheet of brown paper with some, and then crumpling it up and placing it where the insects are. In the morning open the traps over a basin of boiling water, or water that has a little paraffin oil floating on the top.

Chrysanthemum—questionable exhibition (Bep).—We do not know the variety G. J. Bird mentioned in your letter. The only one we know of a somewhat similar name is Lubert Laine, which is an excellent white December-flowering Japanese. The other sorts mentioned in your list are occasionally met with at the November shows, but they are hardly up to the standard of quality now required in severe competition. For the embellishment of your greenhouse or conservatory, however, the seven sorts make a pleasing and varied display.

Transplanting Bracken (A. M. W.).—Carefully dig up some of the black underground creeping roots, and replant them thickly at about 3 inches deep. In digging up the roots care should be taken to select only those which have a green bud at the tip, as without this the roots will not start. Now is a very good time to carry out this operation. You do not say where or how you will obtain supplies, and if you have to dig it from old-established areas you will find material assistance in selecting the most shallow ground. In this way you can obtain the best roots.

Using bones as manure (G. Paddy).—Where it is possible in any way to steam bones so as to soften them, then to crush them up, capital manure is made. If that cannot be done, then smash them up with a big hammer or weight, making them as fine as possible, then adding a pint to a bushel of potting soil. If the material be not very fine, then add double the quantity, as bone not very small is long in becoming decayed, and, if not very fine, will be mixed with wood and hard, this rendering them all the more easily crushed. Some persons use fish pieces of bone to mix with drainage in their flower-pots, as the roots will feed upon them.

Plants for glasshouses (Acerina).—By running a board along both sides at the front and filling in with soil, you could grow four plants of Tomatoes on each slab, and train up to the roof on a single stem. The front board should be 9 inches deep and placed a foot from the outside, the cavity thus formed to be filled in with good soil. On top of and under the Tomatoes you could grow Peppercorns, Heliotropes, Tuberosus Begonias, Celaninus,

GARDENING ILLUSTRATED.

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VEGETABLES.

SOWING ASPARAGUS.

OWNERS of small gardens seem to be shy of taking up the growth of Asparagus. Many appear to think a long time is necessary ere a profitable return is realised. This in some instances is quite true, the land often accounting for it. In some gardens an Asparagus-bed soon comes to a profitable state, in others it is very slow. An Asparagus-bed, when well made and properly treated afterwards, will last almost a lifetime. It has been known to remain in good condition for over fifty years, while in other land, unless special preparation is made, it will last only a few years. Stagnant ground is not good, nor is very heavy land, when ordinary surface planting only is adopted. Such instances require drainage and raised beds. In other cases, on deeply-dug and well-manured ground the Asparagus will do well for many years. Seeds may yet be sown in drills, drawn as for Spinach or Beet, about 18 inches apart, the plants thinned when they appear above ground to about the same distance asunder. Beyond this all that is necessary the first year is to keep the surface free from weeds by frequent hoeing. Beds are not strictly necessary except, as previously intimated, on heavy and ill-drained land. There is not a large selection of sorts, but there is at least sufficient for every purpose, and no mistake can be made in a rigid choice. Some, however, such as Connover's Colossal, produce large heads and fewer of them, while the Purple Argenteum gives medium heads in greater numbers. It may be well, perhaps, to choose two sorts, then a fuller crop would result. It is sometimes disappointing when cutting commences from a bed of Connover's Colossal to find how few heads can be cut at a time. At the same time, if large Asparagus is wanted at any cost and without extraordinary cultivation, then choose Connover's. Some cultivators in sowing use a setting-stick or dibber for Asparagus, instead of drawing drills. In this way less seed is necessary, and certainly less labour afterwards in dealing with the seed-bed. The use of the dibber can be necessary that the seeds are not buried too deeply, 1½ inches being ample. If ground is not available now for making beds, there is no need to delay sowing if it is intended to make future plantations. The seeds may be sown thinly on a bit of spare ground now, left to grow until next April, or, if need be, for two years. Strong crows will then be available for lifting to plant permanently, and it is better to do this than to sow permanently on ground not well prepared. In deeply-trenched and heavily-manured land, Asparagus soon reaches a profitable state. Growers living near the shore and who can procure Seaweed find Asparagus culture much more profitable from the employment of this as manure. Inland growers must depend on animal or artificial manures and salt. A word of caution is necessary in the employment of heavy salt dressings on clayey land, as these make the

soil cold and wet. Sandy soils are benefited by using salt, while clay lands may be practically spoilt.

WORK AMONGST TOMATOES.

EVERY season Tomatoes are grown in increasing numbers, both for market and private consumption. Now we see on all lands those who have glass-houses of any description making provision for their culture. Span-roofed houses, as soon as arrangements can be made to turn out the plants intended for bedding, etc., are converted into Tomato-houses; others, perhaps, who need only a few for their own supply are content to devote one side of the house. Then, again, one finds them grown under frame-lights, raised so as to afford them the necessary head room, on warm borders outside, and, indeed, every place in and about a garden where sunshine is felt at all, proving that Tomatoes are regarded with favour. Each year finds growers of Tomatoes for the first time who sometimes at the outset fall into errors common enough to those who have had little or no experience. The present is a convenient time to commence, and I therefore offer a few remarks to the beginner who proposes to grow them under glass. Select a sort noted for its cropping qualities, and, if possible, choose sturdy, short-jointed plants in preference to those long and spindly, even supposing the selection means a week or a fortnight's delay before cutting the first fruit. If it is proposed to heat the house—at any rate, during spells of cold weather, which not infrequently occur in April and May—it will be advantageous, often giving them a start, as coming out of warm-houses, where they have been previously, to a cooler atmosphere, the first trusses of bloom fail. On the contrary, if heat cannot be applied, then it is often desirable to wait a week or two until warm weather has fairly set in. The soil need not be rich to start. There is no necessity to add manure of any kind at the start, this often causing the plants to make a bit of useless growth. The turf should be fibrous, so as to bear chopping up, avoiding compost of a loose nature. This is a mistake frequently made, some using soil light enough for potting Fuchsias, for instance, instead of giving Tomatoes what they really need—a strong, firm, turfy loam. Whether pots or boxes or beds are used for their culture matters little. It will be quite time enough to feed the plants when the first truss of fruit has set, and no manure of any kind should be administered before. Then with benefit one may give liquid-manure made from sheep or cow droppings, guano, etc. At this stage one can vary the food, and when in full bearing increase the quantity, but at first once a week liquid-manure will be sufficient. In small houses, Tomatoes grown on a single stem find most favour and are to be commended, as, where this is carried out, too much space is not taken up with foliage, and thus light reaches other plants that may be growing in the house. The single stem for amateurs is much the best, this, of course, implying the removal of the side shoots in their early stages. As suggested, I would select a

variety noted for its good cropping qualities and early ripening, even supposing the fruit runs rather small, for it is the moderate-sized fruits that find the most favour. Such varieties are Earliest of All, Early Ruby, Sutton's Main-crop, Abundance, and Hathway's Excelsior. Yellow sorts are, for some reason, rarely grown by the amateur. They are just as easy to grow, possessed of agreeable flavour, and are pretty also.

LATE SEAKALE IN OPEN GROUND.

IS the culture of late Seakale in the open there is no need for manure or heating materials of any kind, and given good land, richly manured, the plants require little attention. There are other advantages, such as size of produce, improved flavour, and the value of what may be termed a choice vegetable at a time when good produce is none too plentiful. There is a ready demand for Seakale, which is of greater value when produced in this way, as the flavour is superior to that of forced roots. To get good supplies root cuttings planted early will provide the supply for the same month the following year, though to get strong crows the size of one's wrist two years' growth in the same position is advisable. There is then no waste, as the produce the first year will be of a fair size and pay for room occupied. Good land, an open position trenched and manured, the manure being put into the bottom spit, are what the roots delight in. Though Seakale will thrive in any soil, it will repay good culture by size of heads, and, being a gross feeder, requires plenty of food.

As regards position, a portion grown on a north border will extend the supply, but it may not be required so late, and in planting, it must be remembered the roots have to remain longer than required for forcing material. Two feet between the rows, or even more, and 18 inches in the row are none too much, as with good land the leafage is plentiful, and there is no gain in crowding. The roots are started previous to planting in frames, as this gives them a longer period of growth, the crown being half an inch long, and the base of the root or set bristling with a mass of thread-like fibres. Plant the sets in drills in preference to dibbling them in, as then they can be regularly placed and the roots preserved. When the tops are well above the surface a few weeks after planting, the growth to each set is restricted to the strongest crown. As growth increases, salt or, what is better, fish-manure is placed between the rows in showery weather and raked in. The flower-heads are removed as they appear. Covering of the crowns to blanch the Kale is best done in February if required late, but previous to this a good mound of coal-ashes placed over the crowns when the tops are decayed and cleared away will do good, as the ashes are a protection from slugs and prevent breakage when covering. If the ashes are placed 4 inches to 6 inches thick ridge-shaped, the plants will be ready for their spring covering later for this. Leaves partially decayed are used in quantity from 1 foot to 1½ inches deep. It is useless to cover with a small quantity the strong growths

soon push out at the sides and become green if exposed. During growth it is readily seen where to cut, the leaves being very strong and well blanched. All may not have leaves, but if ashes are used as the first covering, fine soil banked up ridge-shape answers well. When litter is used the tops push through so quickly that the heads are not blanched so thoroughly as with a heavier covering.

For late supplies in the open the old common form with purple tips at the end of the shoots is the best, this being much stronger than the Lily-white, which in wet seasons is not so robust, making also smaller growth. The old form with sufficient covering is white enough for all purposes and of better flavour. After cutting the produce the second year the beds may be destroyed.

EARLY POTATO GROWING.

The following has been issued in pamphlet form by the Department of Agriculture and Technical Instruction for Ireland:—

The cultivation of Potatoes for the early market is undoubtedly one of the most profitable branches of agriculture, provided the produce can be put on the market at the beginning of the season while high prices still obtain. In May phenomenally high prices are procurable; any time in June the price is good enough to ensure handsome profits; the first half of July is, as a rule, better than the ordinary late or maincrop, and the latter half of July as good as winter marketing. With the advent of August prices often fall to a very low point, and the risk of disease being very great, only those growers who are in favoured positions as regards markets and freightage can survive. It should be borne in mind that the cost of production is much greater than in the case of the late crop, and unless several pounds sterling per acre more is received for the early crop it is not profitable. Within the last twenty years great developments have taken place in this industry. Foreign countries have participated in a trade which was thought impossible to them and in our own country the crop has been greatly accelerated. The season opens in April with Potatoes from Malta and Teneriffe. In May great quantities are poured into our markets from Jersey and Cotes du Nord, France. Strangely enough, the next place in point of earliness is a strip of seaboard on the west coast of Scotland, where for 50 miles in Ayrshire and Wigtonshire the Gulf Stream exercises a beneficial influence directly through the North Channel, and renders that district singularly immune from spring and May frosts. The Ayrshire season commences generally about the middle of June. Good crops ready to raise at that date are worth £40 per statute acre, and are sold growing to merchants, who take all further risks and bear the expense of raising, the farmer having no more to do except cart the Potatoes to the nearest station. Ireland's share in this lucrative industry has hitherto been small, although her physical conditions are extremely favourable. It would not be possible to approach the earliness of the Channel Islands, but what can be done in Scotland may assuredly be improved upon in Cork and Kerry, subject to the same ameliorating influences in even greater degree, 200 miles further south, and possessing ideal soil. The east coast of Ireland does not enjoy so mild a climate, but whatever is lacking in that respect is compensated for by contiguity to markets and greater facilities for intensive farming.

Early Potato-growing has long been practised in County Dublin, and at one time Scotch markets were largely supplied from there. Even now it is perfectly wonderful what has been achieved at Rush, by a race of shrewd and hardy men, whose ceaseless and laborious industry deserves a better reward. By the adoption of some of the new methods for accelerating the crop, they can in some measure recover their lost supremacy, and Ireland generally may to a very large extent participate in the extremely profitable industry of supplying England with early Potatoes. Soils have considerable influence on earliness. Sandy loams are best, red or grey. It is wonderful what can be done even with poor sand under favourable circumstances and with generous treatment. Here, again, Rush may be cited. Much of the soil there appears to be drifting sand, and farmers have to resort to an expedient of facing it with straw and seaweed

to keep it from blowing away and laying bare the Potato sets. Still it bears good crops of Potatoes. Black lands or bogs are not suitable for early Potatoes, as the frost seems to grip more keenly there, and, besides, the sample is not so nice, nor is the quality so good. As the success of an early Potato crop depends chiefly upon the date at which it can be marketed, there is a constant striving to accelerate the crop. Considerable success has attended these efforts, and the date of raising has been put forward a fortnight to three weeks. This acceleration has been achieved mainly by three causes—viz.: Seed—the selection of early tuberizing varieties; sprouting the seed in boxes before planting; manuring.

THE SELECTION OF EARLY TUBERIZING VARIETIES—

that is, kinds that commence to form young Potatoes at an early stage of their growth, and which grow to root simultaneously with the top—has resulted in a great gain to earliness. At the same time, something has been lost in quality, and occasionally, in a wet season, one is apt to sigh for the good old Red Rog Kemp, which has been supplanted by less tasty kinds. The public, however, will have early Potatoes, and the business of the farmer is to produce what is wanted. In purchasing early seed it is obvious that purity is most important, much more so than in the case of a late crop. In a late crop, if there should be a sprinkling of another late sort, they will ripen together, and it may not matter much in the marketing, but if there be present in an early crop a mixture of late Potatoes it is fatal. Great care should therefore be exercised in selecting, that the stock should be true to name and pure. Another consideration is, what is the best change of seed? Whatever has been found to suit for the late crop will make an equally good change for the earlies, with this exception, that Potatoes grown on black moss or bog do not make the best seed for earlies, as they germinate and mature more slowly than those grown on red or grey soil. To determine the best variety to cultivate is a matter of some difficulty. A sort that does well in one climate may not suit another, and what does well one year may do badly the next. Then the fashion of the market to which the produce is consigned has to be considered. Some will only have them round in shape and white in flesh; others will only take Kidneys; while all are more or less shy of lemon-fleshed sorts, wherein they show great lack of discrimination, as these are often of the best quality. Exhaustive experiments with early varieties are being made by the Department of Agriculture, and, no doubt, by another year an authoritative pronouncement will be given upon the best sorts to cultivate. So far as Scotland is concerned, Early Puritan undoubtedly holds the field, and has probably had a longer tenure of life and popularity than any other of the same class. It is round, white, very early, and of good enough quality to hold the market for a few weeks. It is an American variety, which has been in commerce in this country since 1884. It is consequently of an age when its vigour may be expected to flag, but its successor has not yet arrived. In Jersey only Kidney-shaped tubers are grown. Flukes and Ash-leaf prevailing. If a Kidney is desired, there is one new sort which deserves mention, Duke of York. It is early (on the heels of Puritan) and far surpassing Puritan for quality and flavour. It is, however, long-shaped and has a deep yellow flesh, which detracts from its popularity in some markets. Several new seedlings of a first early class have recently been brought out which promise to meet a want. Further notes will be given in a subsequent issue. M. G. WALLACE.

NOTES AND REPLIES.

Young Nettles.—Will anyone kindly inform me whether young Nettles are ever used as, or instead of, vegetables for food?—NORTH WALKER.

Cabbage Sutton's Flower of Spring.—This new Cabbage undoubtedly has a future before it, as it is as early as Ellam's and equally as well flavoured. Being of small size and having but few outer leaves make it invaluable for small gardens, as it may be planted thickly. The flavour is excellent, and it is not so liable to run to seed prematurely as some. I believe it is very hardy, as it is already a favourite

with market growers, and they do not, as a rule, grow tender varieties. My favourite early varieties are Flower of Spring, Ellam's Cocoa-nut, Meio's No. 1, and Nonpareil.—J.

Potato Snowdrop.—All who appreciate florify, good flavoured Potatoes should grow Snowdrop. I am aware it is more liable to disease than some, especially in wet seasons, but its good, all-round qualities entitle it to a place in every garden. I do not recommend it for heavy, retentive soils; but for light and medium soils there are few that surpass it. The tubers are Kidney shaped and well formed, the eyes being shallow, the skin clear, and the flesh beautifully white when cooked. Added to this, it crops heavily, and, although fit for use in August, will keep sound till April.—CHOMER.

Endive Frazer's Improved Broad-leaved.—This is one of the most valuable Endives in cultivation, and the best for small gardens. It is very hardy, resisting frost and damp well, and does not run to seed so soon as some. Being of large size, it requires plenty of room, both when making its growth in summer and when placed in frames in autumn. The seed should be sown about the second week in July, and the young plants well thinned out and finally planted 9 inches apart in good soil. If kept well watered and free from weeds they will grow into large plants by October, when they should be lifted with good balls of soil and planted in a frame free from drip.—I. L.

Sowing and thinning Beet.—Although Beet is an important vegetable, it is often seen in poor condition, the roots being large, coarse, and stringy. This is generally the result of growing it in too rich soil and over-thinning the plants. It should be grown on ground that was manured for a crop the previous year, and the seed should not be sown till the middle of April. The ground should be made very firm, and the seed sown in drills 1½ inches deep and 12 inches apart. Sow thickly, as if the plants are crowded the surplus ones cannot be thinned out without loosening the rest, which is an evil. Thinning should be done piecemeal, as sparrows sometimes attack the young plants. To ward them off, dust the plants over occasionally with wood-ashes. At the final thinning leave a space of 8 inches between the plants. I cannot understand why some still grow the large, coarse varieties, as there are now so many of medium size. One of the finest Beets when obtained true is the Cheltenham Green Top.—SERRAUX.

Lettuces under glass.—Like Mr. Crook, I sowed Lettuces in a box in the late autumn, standing them on a shelf in a cool-house. These grew, and by the end of January were planted out in a slightly heated pit, without the aid of a manure-bed. By the end of March I was able to cut nice heads, which were so crisp that the most careful handling was necessary to preserve the leaves from being broken. Necessarily, those who have no frame accommodation must depend entirely on the open-air plantations, but for salad there is at this time of year scarcely any comparison between plants grown in frames and those produced under more natural conditions. Commodore Nutt and Tom Thumb are excellent for frames, a later and larger one being Paris Market. On the open borders the old Hammersmith has stood uncommonly well—scarcely a blank appears among them. Sutton's Monarch, too, came out well under winter culture. This has a great value for the summer, standing drought better than many Cabbage Lettuces, and a winter's trial proves that it is equally good in resisting extremes of cold as well as heat. A sowing under glass early in the year brings plants on for succession, and, if carefully hardened off, can be planted out under the shelter of walls having a south or eastern aspect.—W. S.

Photographs of Gardens, Plants, or Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

The Prize Winners this week are: 1, Miss Mabel Gaisford, The Grove, Dunboyne, for Snowdrops growing round the bole of a Beech tree; 2, Miss Tait, St. Madoes, Perth, N. B., for Trillium grandiflorum.

PLANTS AND FLOWERS.

INDOOR PLANTS.

HYMENOCALLIS.

In the accompanying illustration will be recognized an old occupant of our stoves, long known under the name of *Pancratium speciosum*, but now included under *Hymenocallis*, to which all the other plants generally grown as *Pancratiums*, with two exceptions, belong. These two are the hardy *Pancratium illyricum* and *P. maritimum*. *P. illyricum* is the only really hardy kind, growing from 1 foot to 2 feet high, and bearing in the summer umbels of pure white fragrant flowers. It does well in a warm, exposed border of sandy loam, well drained, the bulbs protected by litter in the winter. It is easily increased by offsets.

HYMENOCALLIS SPECIOSA (here figured) was introduced from the West Indies in 1759. It is handsome at all seasons, for the green massive foliage is retained all the year round, and when the plant is bearing its head of pure white sweetly-scented flowers it will commend itself to everyone.

H. MACROSTACHYANA.—In this the leaves are

in pots, for the simple reason that between October and February it virtually needs no water at all, but during the growing season it may be liberally supplied with moisture. It delights in a temperature ranging from 65 degs. to 75 degs., and is an ornament to any warm-house. Although a stove plant, it may be grown in a warm-house. The compost suited to its requirements should be loam and sand to two parts of peat.—W. F.

TREE-PEONIES FOR THE HOUSE.

In the Paris district, more especially the North of France, the flowering of Tree-Peonies is frequently endangered by late frosts, so that it becomes necessary to give them the shelter of a wall, and to protect them with sail-cloths. By advancing cultivation also, we can make sure of having blooms in February and March—that is to say, a month or two before the normal period. This plan, which is very simple and easy, consists in growing the plants in pots one year in advance. In November the plants are put under glass, then in February removed to a greenhouse heated from 40 degs. to 45 degs., taking care to give them the benefit of full light, and to place them as close to

should either be potted, or it may be they may not want more pot-room. Then it is best to cut the growth in, if necessary, surfacing with good soil. All forcing shrubs and hardy plants are much benefited by being plunged to the top of the pots through the summer, standing in an open position where the wood can ripen well. Some prefer planting such things out, but I have never seen any good results from this treatment, unless they are to remain out for two or more years. I much prefer all things for forcing being grown in pots, especially for early forcing. You can never rely on things taken up from the open ground flowering satisfactorily. This year I have a fine lot of Persian Lilac. The plants have been in pots for years. During the last two years they have been plunged in ashes and stood in a sunny spot. When I come to take them up they have an enormous amount of roots gone out of the pots. I stand these in half paraffin-casks to force, and they are beautiful. Deutzias I have in the same way, and they, too, flower well. Many people purchase vigorous things from the open ground late in autumn, potting and forcing them. Far better obtain half the number of such as have been grown in pots for one or more years. This was brought to my notice last autumn when looking over a large nursery near London. It was just at the time the imported stuff was coming in. I saw a large number of big cases full of Deutzias in pots, with shoots 3 feet long, and the plants in 8-inch pots. These were grown and imported in this way.
J. CROOK.

RHODODENDRON VEITCHIANUM.

This is one of the best cold greenhouse plants for spring blooming. I am aware many object to it on account of the straggling habit, but when in the hands of careful growers the leggy habit is not so apparent, as by a careful use of the knife and tying in some of the strongest growth in the early stages a nice specimen can be had. To amateurs and others who appreciate a good sweet-scented cold greenhouse plant I would thoroughly recommend the one named above. This is a free-growing kind and a profuse bloomer. It is about fifty years since it was first introduced. In large conservatories, winter gardens, etc., where it can be planted out, it is quite at home, and when associated with Tree-Ferns, Palms, Camellias, and things of this nature, it is charming. Here it can be allowed to grow at will, and, being associated with other large plants, the habit is not so much noticed. When in bloom, the large mass of white, sweet-scented flowers fills the air with their perfume, and when cut in large sprays, using them in large vases with some light greenery, they are admired by everyone. It is not overdone who can plant it out. It can be grown most satisfactorily in a pot of any size, and may be bloomed in a pot from 6 inches upward. This is just the plant for amateurs, seeing it is not prone to insect attacks, is not a rapid grower, and does not need a lot of attention or frequent potting. It can be placed in the open during summer, and if plunged in ashes, etc., so much the better.

When potting, use a peaty soil, with a little fibrous loam, and enough sand to keep it open, potting very firmly, and giving abundance of water when growing. When in large pots it will remain healthy for a number of years in the same pot if given a little artificial manure when growing. I have a plant of *R. Veitchianum* now in the drawing-room in an 8-inch pot with fifty trusses of bloom open at one time.
J. CROOK.

NOTES AND REPLIES.

Clematis indivisa after flowering.—Please inform me how *Clematis indivisa lobata* should be treated after flowering? I have two plants which have just finished flowering—one in a pot, the other planted out in greenhouse border.—THOMAS CLARE.

[What pruning is necessary should be done immediately the plant is out of bloom, and never during its period of growth. If anything at such times is really found necessary in this way, it should merely be a thinning process where the shoots are too thick, removing those that are the least likely to produce flowers later on.]

Rhynchospermum jasminoides.—This old-fashioned greenhouse climber is by no means to be despised, its fragrance being quite sufficient to recommend it. At one time it



Hymenocallis speciosa. From a photograph sent by Mr. F. Parkins, Pepper Arden, Northallerton.

longer and narrower than in *H. speciosa*, the flowers being easily distinguished by the large, funnel-shaped cup. It is a good garden plant, and its flowering is not limited to any particular season of the year.

H. CARRIEA has long, rather thin leaves, and flowers after the manner of, but less showy than those of *H. speciosa*.

H. LITTORALIS is in the same way, but with longer flowers and very narrow segments.

H. HARRISIANA.—This does well in the greenhouse. Apart from the fact that it is hardier, it also differs from the other species in being deciduous.

H. GUIANENSIS has the long, drooping segments of the flower spirally twisted, thus rendering it very striking.

CULTURE.—The culture of the *Hymenocallis* is not by any means difficult, and some of them, such as *H. speciosa*, will stand in the same pots for many years and flower well. Good turfy loam, lightened as may be necessary with peat or leaf-mould and sand, will grow them well, while liquid-manure when the pots are full of roots is also beneficial.

Gloriosa superba.—One of the showiest of warm greenhouse climbers is this bulbous plant, that at present is in a dormant state, but may soon be started into growth. It bears quaint and striking flowers, at first yellow, but gradually changing to red. It is best grown

the glass as possible. The amount of water given should be proportionate to their growth. In this way flowers as large and as handsome as those grown out-of-doors will be obtained, and at a season of the year when flowers are rare in greenhouses the effect will be remarkable. When the flowers are all gone, and there is no longer fear of frost, the plants should be transferred to a half-sheltered bed out-of-doors, left to rest there for two years, after which they can be put back into pots for forcing anew the third year. It will be found an easy matter to prepare for each year a certain number of plants for forcing. A compost of two-thirds loamy soil and one-third of well-rotted manure with some sand added is well suited to the cultivation of these plants in pots.

JULES RUDOLPH (*Revue Horticole*).

GROWING SHRUBS, ETC., IN POTS FOR FORCING.

It is an uncommon thing to see many useful hardy shrubs after they have gone out of flower turned out in the open to be chilled with frost and cold winds. All plants that have been forced should be given cool treatment under shelter till the growing spring days come. The next point to consider is whether these are likely to make growth enough to be useful under glass another year. If so, then they

used to be exhibited in almost all the leading collections of stove and greenhouse plants, and certainly well-grown and bloomed specimens added grace to the heavier and malformed subjects. For covering pillars or walls in cool conservatories and carriage courts the *Rhynchospermum* is well adapted, as when planted out in a mixture of fibrous loam and peat, leaf-mould and coarse sand, it quickly covers a large area, and if judiciously thinned out each season immediately after flowering, will annually bloom most profusely. This thinning out is imperative, otherwise lateral shoots accumulate until a sufficiency of light and sun-heat cannot penetrate to ripen up the wood. A fairly sunny position is necessary. Its chief insect enemy is brown scale, a dressing of some safe insecticide each winter being necessary to keep it free from the pest. It is seen to the best advantage if the shoots are allowed to hang down loosely in a natural manner and not tied in formally.

Some good French Pelargoniums.

—The kinds I am now thinking of are what are termed French and English spotted kinds. The show kinds have mostly plain edged blooms, but the French and English spotted have most frequently fringed blooms. Added to this they have large trusses and blooms, the petals overlap each other, and are of a most enduring nature. Another recommendation to them is that they are good growers and have a strong constitution. They are best grown in moderately small pots, and, when potting, it is advisable to make the soil very firm. Manure-water should not be given till the pots are full of roots. Many lovers of these are shy of growing them, as they are liable to be attacked by green-fly. This is easily kept down if the plants are dewed over once a week with a fine sprayed syringe and some wash. I use Abol insecticide, as it is easily applied and cheap. Since doing this I have not needed to fumigate them. The following are very fine kinds, and enough for anyone to grow: Bred's White, Digby Grand, Dr. Masters, Duchess of Bedford, Edward Perkins, Hayes Crimson, Mme. Thibaut, Perle Blanche, Triomphe de St. Maude, Volonte Nationale, and Kingstoa Beauty.—J. CROOK.

Maiden's Wreath (*Fraocaa ramosa*).—

An old but valuable plant for our greenhouses, and when well grown at its best during July and early August. It has proved hardy in the west of England, but is not a success out-of-doors by any means. This is the time to sow seed to have large plants to flower next year, and as it is very minute, an even surface is requisite or failure will surely follow. Pans are the best to sow in, and these should be nearly filled with principally loam and leaf-soil, with plenty of sand. The soil, if at all dry, should be watered with a fine rose a few hours previous to sowing the seed. A thin sprinkling of fine sand after is preferable to soil; then cover the pan with a sheet of glass and place out-of-doors or in a frame, and shade until the seed has germinated, when stand near the glass, and prick off into pans or boxes when quite small, and afford water and shade until the seedlings make a fresh start. When ready for removal place into 4-inch pots, using good loam, one quarter leaf-soil, a 6-inch potful of bone-meal to every bushel of soil, and a little sand. Shift into 6-inch or 7-inch pots before the plants get pot-bound, standing them out-of-doors after the first potting. Protection from frost during winter is necessary, and towards the middle of May place outside, and see they do not suffer from drought. Old plants may also be divided in autumn, securing a bit of root with each offset. Keep fairly close for a few weeks, when treat as for seedlings, potting on as the plants become fit in spring. It is commonly known by the name of Bridal Wreath. The long, branching spikes are useful for cutting and last well in water.—I. M. B.

Begonia in bloom at Christmas.—At Christmas I saw in shops pots of a charming small-flowered pink Begonia in full bloom. In order to flower them thus in winter, when ought the dry bulbs to be purchased, and would the ordinary bulb treatment do—viz., starting them in a shady border in September, and putting the pots in a sunny parlour window at end of October? And which kinds would be suitable?—BELGIAN READER.

[The culture of the *Gloire de Lorraine* Begonia, which we are supposing is the one you have seen, is not at all exacting, the

principal difficulty being to obtain good cuttings in the spring, as it is useless to propagate from cuttings of the flowering-shoots, as they will not branch out, but continue to produce blossoms. The best cuttings are obtained from old plants that have done flowering, and if they are shortened back about February they will in time push out young shoots from the base. When these shoots are from 1½ inches to 2 inches long they make the best of cuttings, particularly if taken off close to the old stem. Put into well-drained pots of light sandy soil, pressed down only moderately firm, they will soon root if placed in a close propagating-case in a gentle heat. Care must be taken not to overwater, otherwise the cuttings are liable to damp off. Directly they are rooted more air must be given, and though the young plants succeed best in a gentle heat early in the year, later on they may be grown in a greenhouse or frame, though when the nights get cold in autumn a little heat is again necessary. A mixture of loam and leaf-mould, with a sprinkling of sand, will suit this Begonia, but when the pots get full of roots an occasional dose of liquid-manure is of great service.]

Plants with fine foliage.—Will you kindly name about a dozen plants with beautiful foliage (greenhouse)?—T. R. R.

[The following will all thrive in a greenhouse: *Aralia Sieboldii*, a stout-growing shrub, with large, leathery, Fig-like leaves. *Araucaria excelsa* is a very symmetrical growing member of the Fir family that is largely grown for decoration. *Asparagus plumosus nanus* is a charming delicate-looking plant, often called the Asparagus Fern. *Asparagus Sprengeri* is altogether more robust than the preceding, but equally beautiful. *Coprosma Baueriana variegata* is a freely-branched evergreen bush, with very shiny leaves, in colour bright green, with a broad margin of creamy-white. *Cordylina australis*, the Lily-tree of New Zealand, is, when young, very ornamental, the long, Grass-like leaves being borne on quite a woody stem. *Ernya latifolia variegata* is a Camellia-like shrub, whose leaves are marked with green, yellow, and pink, in varying proportions. *Ficus elastica* is the well-known and popular India-rubber-plant. *Grevillea robusta* is an erect-growing shrub, with deep green Fern-like leaves. *Ophiopogon spicatum variegatum* and *O. Jaburum variegatum* form dense tufts of Grass-like foliage, firm in texture, with white and yellow variegation respectively. *Phormium Veitchii* forms a tuft of sword-like leaves striped with yellow, and *Colensoi* with white. They belong to the New Zealand Flax family. *Yucca aloifolia variegata* is one of the best of the greenhouse Yuccas, leaves variegated with yellow. Besides the above, the different varieties of *Coleus* form very attractive specimens for the greenhouse during the summer months. We have not included any Ferns, though most of them come under the heading of beautiful foliage plants. A good dozen of easy culture are: *Adiantum cuneatum*, *Adiantum decorum*, *Asplenium bulbiferum*, *Davallia bullata*, *Lastrea aristata variegata*, *Oncidium japonicum*, *Polypodium aureum*, *Pteris argyrea*, *Pteris cretica aloifolia*, *Pteris serrulata cristata*, *Pteris serrulata major*, *Pteris tremula*, *Pteris Wimsettii*. The hardest Palms are: *Chamaerops excelsa*, *C. Fortunei*, and *C. humilis*, *Corypha australis*, *Kentia Belmoreana*, *K. Forsteriana*, *Latania borbonica*, and *Rhapis flabelliformis*.]

Seedling Cyclamens.—Please tell me what I should do with over a dozen pots of seedling (pericum) Cyclamens which show no signs of flowering? They were sown in February, 1901, but I was not so fortunate as your correspondent "R. B. Rogers." The little plants are in 60-pots, full of leaf, free from any disease, and quite healthy, but I fancy they were grown too slowly at first, or that the temperature of the greenhouse varied too much. I had the pots plunged in fibre in a wooden box standing near the hot-water-pipes. I now want to clear the greenhouse, and would like to know what to do with my Cyclamens, so that I may have flowers next autumn?—R. K. R.

[Place your Cyclamens on a bed of ashes in a cold-frame, so situated that the mid-day sun does not shine directly on it. Continue to water carefully as before, till in another month or so many of the leaves will in all probability die off, when the plants must be kept somewhat drier, but on no account should they be pashed up at any time. Then, early in July, repot your plants, at the same time removing as much of the old soil as can be done without injuring the roots. A suitable compost for the Cyclamens is two-thirds good fibrous loam to

one-third leaf-mould, and a liberal sprinkling of silver-sand. Take care that the pots are clean and well drained, and above all avoid over-potting. After this, watering must be very carefully done, being particularly careful against an excess of moisture, while an occasional light syringing two or three times a day will be very beneficial. The plants will need to be shaded from the direct rays of the sun. If these directions are carried out the plants will by autumn have formed neat specimens that will furnish a good display in the greenhouse later on. You need not reproach yourself because your Cyclamens have not yet flowered, for very few attain a measure of success equal to that referred to, unless the plants are grown in quantity and an entire house given up to their cultivation, so that their requirements can be exactly followed, which is not possible in a structure containing a miscellaneous collection of plants.]

Hydrangeas.—Young plants of Hydrangeas that were propagated last year should now receive special attention, encouraging the growth in every possible way, as few plants are more fitted for window-decoration when one takes into consideration the long time they remain in bloom. For pot culture it is a favourite plan to restrict them to one or two beads of flowers, and they grow best in a compost of sandy turf and leaf-mould. Hydrangeas are thirsty subjects, and inattention to plants in pots in this respect is at the expense of blossoms. Old plants in pots often benefit by an application now of a stimulant. They are most useful for a cool greenhouse, corridors, and in some places where it is customary to "stand out" plants on lawns during the summer. Hydrangeas are easily propagated from cuttings, which should be procured from plants that have stood out-of-doors in the sun-lit, and so have thoroughly ripened their wood. Indeed, it is futile to attempt to propagate from any but ripened wood. August is the time for this, selecting sturdy shoots, each having, if possible, three pairs of leaves, cutting away the first pair and inserting them firmly in separate pots of loam in which sand has been largely incorporated, placing them in a frame or under a bell-glass, and keeping them close until rooting has begun. Just keeping them away from frost is sufficient during the winter, as they will probably lose their foliage. Plants treated in this way will be going ahead now, and will make nice specimens suitable for a 6-inch pot.—W. F. D.

Celsia cretica in pots.—This, allied to the *Verbascum*, is a very showy annual for the greenhouse. Seeds sown now in heat will soon germinate, and as soon as fit to handle prick off the seedlings into pots or pans of light soil 2 inches apart, keeping near the glass in a little heat, and shade for a day or two. In three or four weeks pot them off singly into 5-inch pots or place three in a 7-inch pot, using principally loam, with a little leaf-soil and sand, potting firmly and placing in a cold-frame. If shaded, with a dewing overhead twice a day, the plants soon recover and grow away strongly, each one carrying a central spike 18 inches to 24 inches long, closely studded with pretty yellow flowers. I have tried pinching of the shoots, but the flower-spikes are much more slender when this is done. Another sowing made at the end of May would supply a nice batch of plants for late autumn work, when, if given a little fire-heat, such as afforded Tree Carrotons, they will continue to expand their flowers for some time. The plants may be cut down after passing out of bloom and repotted when nicely on the move, when they will soon come into flower again. They can also be increased by cuttings, but seedlings make much the strongest and also healthiest plants, and are much the best when given fairly cool treatment. No insect appears to trouble this *Celsia*, but towards the dark, dull days of November it is liable to turn black in the stem and decay if too much moisture is given or if the plants are crowded among others.—J. M. B.

As many of the most interesting notes and articles in "GARDENING" from the very beginning have come from its readers, we offer each week a copy of the latest edition of either "STOVE AND GREENHOUSE PLANTS," or "THE ENGLISH FLOWER GARDEN." To the sender of the name, address, or interesting letter or short article published in the current week's issue, which will be marked thus "I."

ROSES.

ROSES ON ARCHES.

Now that the so-called Garden Roses—a term that is applied to all those that do not produce show blooms—have gained such a hold on popular estimation their numbers are yearly on the increase, and amateurs often experience a difficulty in making a selection for their purpose out of the wealth of Polyantha Roses, Ayrshire Roses, Evergreen Roses, Provence Roses, Moss Roses, Hybrid Chinas, Alba, Musk, Briers Penzance and Austrian, Damask, Wichuriana, Rugosa, &c., that fill nearly one half of the Rose catalogues of to-day. Arches, pergolas, pillars, and trellises are among the most favoured methods of displaying the beauties of the Garden Rose, and something answering one of these descriptions is generally to be found even in the smallest of flower plots. The long straight walk, spanned at intervals of 4 feet or so by iron arches, covered from end to end in the summer with a wealth of Rose-blossom, is a feature in any garden. Much has been

over trellises or arbours. Many exhaustive articles have been printed in the pages of GARDENING ILLUSTRATED during the past year or so on the best Roses of the several sections for decorative work in the garden, whether as climbers, trailers, or bushes, and any amateur anxious for information on this point can easily obtain it by turning to the back numbers.

S. W. F.

— It would be difficult to overpraise the Rose in all arrangements of climbing plants. Many of the more vigorous wild Roses of the northern world are naturally almost climbing plants, and some of them are seen 20 feet high or so among trees. In gardens many varieties might be mentioned which in past years were a great source of beauty and produced a fine effect when well used, but in our own time and within the past generation or two since the raising of Gloire de Dijon a noble series of climbing Roses quite distinct from the old climbing kinds has been raised, these being among the most precious flowers that have ever adorned the Rose-garden. The old climbers and Garland Roses were almost too

autumnal-flowering single, of which our collections are at present very much in need. Many charming Roses of this description could readily be obtained by anyone having means of procuring Tea Rose seed from the continent, where it ripens so readily. Sow the seed in January in a cold-frame facing south. Remove the bottom soil and put in a good layer of corks, then a few inches of soil, sifted loam, and a liberal sprinkling of sand. Draw very shallow drills and sow the seed, covering it very slightly. Previous to sowing, the soil should be watered, but not afterwards until seedlings appear. When this occurs in April, paint the glass with some whitewash and give plenty of air. As soon as the seedlings make their third leaf prick them off carefully into thumb-pots, using a compost of sifted loam two parts and sand one part. Plunge the pots into a cold-frame with glass slightly shaded for a few days, then expose to full sun, and afford as much air as possible. In June the plants may be planted out in a sheltered border, where they can be protected from birds and insect pests. Some of the little plants may flower the first year,



Roses on arches. From a photograph by F. Mason Good, Winchfield.

written against the employment of iron arches, but where these consist of simple rods bent into arches and so stayed together that they are secure against the effects of gales, they are so speedily covered by foliage and flower as to be entirely lost to sight. Another merit possessed by such arches is that being so slight they throw no shade, and, if not set too close together, the sunlight filtering through the loosely-trained growths permits Roses to form and expand beneath the arches as well as above them. In the accompanying illustration the growth has attained such thickness as to throw a dense shade on the under side of the arch, where the flowers are few or lacking in comparison to their countless numbers at the sides and top of the arch, where they are exposed to the full sunlight. A judicious thinning-out of the old wood, in order to allow the sun's rays to penetrate the foliage, is often advisable with arches and pergolas. Where Roses are allowed to grow in masses at their own sweet will pruning is unnecessary, since the outer surface of the bloom-studded bushes is all that meets the eye, a remark which applies with equal effect to Roses grown on pillars or

vigorous for the garden and did not last long enough in flower to justify their getting a place there, but now, with the fine climbing Tea Roses we have from the southern parts of these islands, we may count on bloom for many months. In these Roses we have the most precious of all ornaments for walls of houses, trellis-work, and pergolas. Apart from these homo-raised Roses we have some Wild Roses of the greatest value in warm districts and good soils, particularly the Indian R. Brunonis, and R. polyantha of Japan. These Wild Roses will usually be best in places where they can be left alone. No good can follow giving choice garden ground to such as these, which are even more vigorous than our own wild Dog Rose.

A CHARMING SINGLE ROSE.

A very lovely little Rose is Miss Willmott. It is perfectly single, the petals of the colour of L'Heal, from which presumably it is a seedling, although I do not detect the sweet fragrance of the latter. This novelty is dwarf in habit and should prove very useful as an

but it would be advisable to pinch off the buds in order to better prepare them to stand the winter. As our winters are so uncertain, a frame, on which a light could rest, should be placed over the plants. This, together with placing a handful of burnt earth around each plant, should bring them safely through. Only those who have raised seedlings can form any idea of the fascination which the work brings, and there is always a chance of obtaining one or more good double kinds among the number, although the majority will be single. The main point is to save the seed from the lovely tinted Teas that are now so abundant, and even the Chinas, such as Mme. F. Resal and Queen Mab, should yield some pretty offspring. Beryl is little more than a single Tea, but what a lovely colour; and Irish Beauty, Irish Modesty, and Irish Glory are also good.

ROSA.

Pruning Rose Marechal Niel.—I have in a small greenhouse a Marechal Niel Rose which has flowered well. There are still a few buds, but when these are over I should like to know how to treat the plant, as it is beginning to get rather crowded. Should I cut out all the old wood, leaving only those rods which were

thrown out from the root last summer, and which have not yet flowered? There are several of these, and the lateral growths from them during next summer should, I think, fill the space I can spare. Any hints will be gratefully received by—LOVER OF GARDENING.

[As much wood as possible that has been produced this summer should be retained, and spread out as much as possible, in order that it may get well ripened, as this gives the best blossoms. As a rule, it is preferable to do such pruning as is necessary to this Rose soon after its spring blossoming, then it has a long season to mature the growths which follow, and we rather favour a practice now much adopted of pruning rather severely every alternate year.]

OUTDOOR PLANTS.

HARDY PLANTS FOR MID-SEASON FLOWERING.

IN continuation of the article which appeared on page 43, mentioning some of the best hardy flowers for the spring months, those plants which provide the most ornamental effect during June and July, when the garden picture attains its brightest and most varied colouring, are now to be considered. Many of the subjects alluded to in the former article retain their beauty through a part or the whole of the season now under review, noteworthy examples being: *Achillea ptarmica* fl. pl., *The Pearl*, *Aquilegia*, both species and hybrids; *Erigeron speciosus* and *E. marianus*, *Geum*, *Day Lilies* (*Hemerocallis*), *Incarvillea Delavayi*, Spanish and German Irises, *Lily of the Valley*, *Paeonies*, both tree and herbaceous; *Oriental Poppies*, and *The Prophet's Flower* (*Arnica montana*). In the wilder portions of the garden, and especially in the neighbourhood of water, the Monkshood (*Aconitum napellus*) has a handsome appearance with its tall blue spires, and the *Aconitum*, of which the best is *A. latifolium*, is the personification of noble form when allowed sufficient space to express its natural contour, plants in good soil often throwing up towering flower spikes to a height of 7 feet or 8 feet above their shining, gracefully curving leaves. *Acaena microphylla* is interesting when covering rough stonework with its countless rosy-spiked blossoms, and *Agathaea celestis*, though not hardy except in the extreme south-west, is a pretty sight when bearing its pale blue flowers. *Agapanthus umbellatus* and its white form are particularly handsome plants in sheltered and well-drained gardens in the south-west, where they form giant clumps, sometimes as much as 15 feet in circumference, and bear their great blue and white flower umbels by dozens during the summer months. In none but exceptionally mild localities, however, can this plant be recommended for permanent planting out, but where this is inadvisable a fine show may be made by keeping the specimens in large pots or tubs under glass shelter during the winter and standing out in the summer. *Anonathes cruenta* is a pretty little liliaceous plant bearing spikes of red flowers about 6 inches in height, and providing a pretty picture in the border or rock-garden. It increases rapidly from self-sown seeds. *Hollyhocks* (*Althaea*) are stately flowers that add much to the beauty of any border. They are, unfortunately, a prey to a disease that destroys their foliage, known as the *Hollyhock fungus*, but this has fortunately been less virulent during the past few seasons. Seedlings possess a more vigorous constitution than plants raised from cuttings, and, therefore, enjoy a greater immunity from disease. Semi-double varieties are much to be preferred to the forms whose flowers are a mass of crowded petals. The single yellow *Althaea ficifolia* is also a charming plant, well worthy of a place in the border.

Alstromerius should be grown in every garden, for there are few more ornamental flowers than the hybrid *A. chilensis*, whose tints range in colour from cream to crimson, and which, when once established, increases year by year. The tubers should be planted at a depth of 6 inches, and though they will endure 20 degs. of frost it is safer to provide them with a winter mulch. *A. aurantiaca* is a handsome orange-flowered species; and *A. pelegina* and *A. p. alba* are two lovely flowers, but too delicate for open air culture in the majority of gardens. The large form of

St. Brauo's Lily (*Anthericum Liliastrum majus*) is a valuable plant with fine white flowers, and is far superior to the type or to any of the varieties of *St. Bernard's Lily* (*A. Liliago*). A fine, large-flowered form of *Anchusa italica* has lately been distributed, which is a great advance upon the type, and which, from its lengthened flowering period, makes an excellent back-row plant. The *Sea Pinks* (*Armeria*) in their many species and varieties are invaluable for edgings, and may be cultivated with a minimum of trouble; while the handsome *Plumo Poppy* (*Bocconia cordata*) is a striking object at the back of the border when rearing aloft its tall heads of ivory-white inflorescence. The *Calochorti*, though extremely beautiful, are not everybody's flowers. The hardiest and one of the handsomest is *C. venustum Vesta*. A warm situation and porous soil are imperative. Of tall-growing, summer-flowering *Campannulas* the following are good: *C. grandis* and *C. g. alba*, *C. lactiflora* and *C. l. alba*, *C. latifolia* and *C. latifolia alba*, which is also excellent for the wild garden, the *Chimney Campanula* (*C. pyramidalis*) and varieties of *C. persicifolia*, of which the best are *Backhouse's variety* and *C. p. Mochreimi*. Of lower-growing *Campannulas*, *C. carpatia* and its forms *C. e. turbanata* and *C. e. polyvarium*, *C. caespitosa*, *C. isophylla*, and *C. l. alba* are all good. *Cyananthus umbellata* is a showy little plant with brilliant magenta-crimson flowers, and *Callirhoe involucrata* and *C. Papaver* are two charming plants, whose crimson and purplish blossoms are seen to best effect when trailing over a rock face.

Cornations are at their best in July, and should find a place in every garden. Self-colours are the best for effect. The yellow-flowered *Cretan Mullein* (*Celsia cretica*) is an ornamental plant, and *Chelone* (*Pentstemon barbata*), with its tall spikes of drooping scarlet blooms, is bright and graceful, while *Chrysogonum virginianum* bears its yellow flowers through many weeks. *Cimicifuga racemosa* is too uncommon in gardens, but its long, pendent, white racemes render it most decorative when in bloom. It grows to a height of 6 feet, and is of the easiest possible culture. *Conopsis ovata* bears French grey, bell-shaped flowers, marked in the interior with a purple ring, and both the white-flowered *Convolvulus Cuesum* and the blue-flowered *C. mauritanicus* are most desirable plants, while for lengthened brilliance nothing can excel the golden-flowered *Coreopsis grandiflora*. *Delphiniums*, ranging in colour from palest blue to purple, are one of the most striking features of the summer garden. They require deep and rich soil to attain their finest proportions. The old *D. Belladonna* is not yet surpassed in its delightful pale blue. White varieties have of late been introduced, and we may look for great improvements in this direction in the near future. The scarlet-flowered *D. nudicaule* is attractive when well grown, as it can be, in porous soil. Of Pinks, none can rival in colour *Dianthus Napoleon III.* and *D. Atkinsoni*. Unfortunately their freedom of flowering often causes their death, so that it is well to keep some plants denuded of flower, in order that they may blossom the following season. The common white Pink and the improved varieties *Mrs. Sinkins* and *Her Majesty* are invaluable for their fragrance, which is unrivalled in the long June twilights. *Dictamnus Fraxinella* and its white form make fine border plants if allowed to remain undisturbed for a few years, and *Desmodium penduliflorum* (*Lespedeza bicolor*) is a pretty picture when its shoots are thickly set with drooping carmine flowers.

Globe Thistles and *Sea Hollies*, from their distinct colouring and striking form, are valuable in the border. Of the first, *Echinops Ritro* is a good species, while of the second, *Eryngium amethystinum*, which, by the way, is seldom to be met with true to name, *E. Oliverianum*, and *E. Bourgati* are among the best, the metallic blue of the flower bracts being quite unique in the garden. The *Rocky Mountain Willow Herb* (*Epilobium obcordatum*) is a beautiful rock plant, and the white variety of the common *Willow Herb* (*E. angustifolium*) is worth growing. The *Plantain Lilies* (*Funkia*) are especially desirable on account of their fine foliage, but *F. grandiflora* bears large white blossoms, and is in addition a handsome flowering plant. *Gaillardia* and

Gazania are amongst the brightest of our summer flowers, and for tall subjects, *Gallega officinalis* and its white form, the *Cape Hyacinth* (*Galtonia candicans*) and *Gaura Lindheimeri* are worthy of attention. Among *Geraniums* are many pleasing species, one of the most attractive being the white variety of *G. sanguineum*. *Oarbera Jamesoni* is a gem, bearing large, single Daisy-like flowers of a vivid orange. It is, however, difficult to establish, except in hot, dry soils, and resents excessive wet during the winter season. *Gypsophila paniculata*, with its billows of flower-lace, is indispensable in the border, and no plants can excel the *Sun Roses* (*Helianthemum*) for gorgeous summer effect over stone edgings. *Inula glandulosa*, with its wide-spread stars of deep orange, is a showy plant, and the tall Irises, *I. orientalis* or *ochroleuca*, *I. anrea*, and *I. Monnierii*, the first white and the others deep yellow, are most effective, as is *I. Kämpferi* in damp positions. *Jalovaca integrifolia* is a little-known plant, producing fragrant white flowers like a glorified *Nierera lergia*. The green-leaved *Lobelia cardinalis* commences to bloom in July some weeks in advance of *L. fulgens* and its varieties, and three *Mallows* are then at their best—namely, the white-flowered *M. moschata*, the reddish-pink *M. Munroana*, and *M. lateritia*, the last bearing exquisite flowers of pale salmon hue, marked with a carmine band in their interior. *Modiola geranioides* is another seldom-grown plant bearing bright rose-red flowers about an inch in diameter. *Libertia grandiflora*, with its flower-heads 3 feet or more in height, thickly set with white blossoms, is strikingly beautiful, and of the *Linums* the yellow *L. arborescens* and *L. flavum* and the blue *L. narbonense* are charming when in flower, and the deep blue of *Lithospermum prostratum* has a telling effect when draping a rock very luxuriantly. *Lupines*, blue and white, are almost as necessary as *Delphiniums*, and bright colour is provided by the scarlet *Lychnis chalcidonica* and *L. Haagena*, and by the rosy *L. Viscaria splendens*.

The *Bee Balm* or *Bergamot* (*Monarda didyma*) creates a fine effect with its crimson flower-heads when boldly massed, and the sweet-scented *Nicotiana affinis* and the more recently introduced *N. sylvestris* add beauty and fragrance to the garden. Many of the *Evening Primroses* are lovely flowers, especially the white (*E. marginata* and *E. speciosa*), and the yellow *E. frutescens* and *E. macrocarpa*. *Ornithogalum pyramidale* is a fine *Star of Bethlehem*, growing to a height of 3 feet, and *Ostrowskia magnifica* is a splendid plant, sometimes 6 feet high, and bearing numerous flowers 5 inches and more in diameter. There are purple-flowered and white-flowered forms of this plant, of which the latter is to be preferred. *Onosma tauricum* produces its tubular yellow flowers in profusion in a warm, well-drained site where *Pentstemon Scouleri* is smothered in its purple blossoms. Of the handsome *Herbaceous Phloxes* two of the best are the white *Mrs. E. H. Jenkins* and the glowing *Coquelicot*, *Aëna* being very similar to the latter. No washy, undecided colours should be grown. *Phygelius capensis*, with its drooping scarlet flowers, is both pretty and uncommon, and *Platycodon grandiflorum* and *P. Mariæi*, crowded with their large blossoms, are most attractive. *Jacob's Ladder* (*Polemoniumeruleum*) is an old-fashioned garden plant that is not without its charm, and, besides the glowing *Oriental Poppies* already noted, we have the *Island Poppies* in their colours of yellow, orange, and white, the apricot-buff *Papaver pilosum*, and the drooping yellow *Welsh Poppy* (*Meconopsis cambrica*). Many of the *Potentillas* have extremely beautiful flowers, and the *Pyrethrums* have of late years been so marvellously improved that the brightest colours are obtainable, both in single and double varieties. *Ranunculus pyrenaica* is best suited in a perpendicular chink in a shady rock, but it sometimes does well in a north border. *Ranunculus aconitifolius* fl. pl., which shares with *Saxifraga granulata* the title of *Fair Maids of France*, is a cottage garden favourite, as is the double *Sweet Rocket*, one of the most fragrant plants in existence, and one that should be in every garden. It requires yearly division and fresh soil, or will not retain that

abundant vigour that is necessary for it to produce its perfumed flower-heads to perfection. *Campanula Coulteri* is a lovely flower. The plant grows from 6 feet to 9 feet in height, and often bears hundreds of large, single, white flowers, quite 6 inches in diameter, with petals like white crepe, and a splendid boss of golden stamens, which possess a pleasing fragrance. The best results are obtained by cutting down the previous summer's growth as soon as the roots break from the base in the spring. The pale blue *Scabiosa caucasica* and its white variety are pretty flowers, and there is now an improved form of the first-named—*S. c. magnifica*—while the tall, pale yellow *S. clata* and *Telekia grandiflora* should be placed at the back of the border. *Sidalcea Listeri* is a beautiful plant, and is by far the best of its family. Two Coneflowers—the orange *Rudbeckia Newmanii* and the rose-crimson *R. purpurea*—are reliable border plants. *Tigridius* are now to be purchased at a cheap rate, and in warm soils will come to no harm if left over the winter in the open border. Scarlet, rose, yellow, and white varieties can be procured, which will give an indescribably

grand effect. Perennial Delphiniums should be provided with a bed at least 2 feet 6 inches in depth, the soil of which should be richly manured, while a mulch of well-rotted Mushroom-bed or hot-bed manure in the early summer will have a beneficial effect both in keeping the surface soil moist and in acting as a fertiliser. In dry weather copious supplies of water should be afforded and periodical waterings with weak liquid-manure will add greatly to their vigour. If treated in this manner Delphiniums, when at the zenith of their comeliness, will be the glory of the garden. In the innumerable varieties now in commerce every shade from palest blue to purple is represented, some having white eyes, some black, while in some the inner petals are rose-coloured. A large proportion of these have double flowers, but on the whole one cannot but conclude that the varieties with single or semi-double flowers are preferable both for distant effect and for closer inspection. Of late years a new departure in colour has been achieved, two white Delphiniums having been brought out by Messrs. Kelway and Son, namely *Beauty of Langport* and *Primrose*.

take up, arguing that frames can be better occupied with *Calceolarias*, etc., in winter, which are of service in a garden during the summer months, but if it is only for the fact that in the darkest days of winter, when all flowers are acceptable, their fragrant blooms may be gathered under the shelter of a frame, then the utilising of frames in this way is surely not a mistake. Those who have once had a good crop of, say, the Neapolitan Violets in the middle of January will scarcely object to the space they require, and as just now it is necessary to consider the treatment they need to ensure blossoms next winter, these noles may be of service to someone who is setting apart a frame for the first time for them. Now that Violets in frames have practically ceased flowering is the time to set about making use of the runners. In the first place, then, a piece of ground should be set apart for their reception, and into it should be dug manure partly decayed, as, for instance, manure from a Mushroom-bed or that which has stood in the garden for a few months. Some leaf-mould and sharp sand incorporated with the soil will help the plants. In selecting the site for Violets during the summer, one should bear in mind that a north or west aspect is the best, inasmuch as it is where partial coolness is experienced that the plants become vigorous, and although a south position is undoubtedly the quarter where one should place them during the winter, too much sun is likely to be harmful to young plants; at any rate, this has been my experience. One cannot always be watering Violets—a necessity if during the next few months a south aspect is selected for them. To be successful with Violets, one must not forget, too, when planting the runners to first make the bed firm, either beating it with a spade or trampling down the soil, then dibbling the runners in. Too much attention cannot be given to this point, as if the bed is simply dug over and the runners planted therein useless growth ensues, but given a firm root-run at the outset plump crowns will result. I do not wish to infer that because planting is not done on a south border watering will not be needed; on the contrary, needful attention must be given in this respect, but by choosing a somewhat cooler position moisture will not be needed to such an extent. Early in October frames should be prepared for their reception, and the warmest position the garden affords should be selected so as to have the earliest blossoms. The nearer the glass Violets can be planted the better, as if too far away from it damping off often occurs; but the need for ventilation of the frames will be patent to the grower. Many cultivators of Violets object to their being removed in the autumn for fear of the roots being disturbed, and grow them on in beds, so that all one has to do is to drop the frame over them. There is a deal to be said in favour of this, as if care is not exercised in digging up the clumps their progress is retarded for a time, but a spadeful of soil taken with each clump will minimise any root disturbance. I have, however, seen Violets that have been grown on raised beds on a south border expressly for convenience of frames, but they have not compared very favourably with others grown under cooler conditions. For winter quarters there is nothing for Violets like a south border—one, if possible, shielded by a wall at the back, as there from November to April one may always cut blossoms. A market grower once told me that he only covered his beds with frames in severe weather and times of continued wet, and as a winter crop they paid well, sending as he does to market from November onwards, but he lives in the west of England. WOODBASTWICK.



Delphiniums in the garden. From a photograph sent by Mr. H. H. Powell Cotton, The Manor House, Westerham, Kent.

brilliant effect when in flower. Globe-flowers (*Trollius*) succeed admirably in a damp position. Orange Globe is a magnificent variety of recent introduction. Lilies, which are one of the features of the summer garden, must be treated separately. S. W. F.

DELPHINIUMS IN THE GARDEN.

Of the numerous noble perennial flowers that add to brightening the summer garden few can rival and none excel the Larkspurs. The annual species are pretty, but they lack the decorative value of the perennials, which, when well grown, often reach a height of 9 feet and more, and bear aloft as many as seventy towering flower-spikes. To attain such freedom of flowering and dimensions, however, the needs of the plants must be carefully anticipated and provided for. It is useless to expect them to display their beauty to the fullest possible extent when relegated to a bed of poor, shallow soil, where they lack the needed sustenance and where their roots are parched by the summer droughts. In such a site they will not do, indeed they will very probably compare favourably with other inhabitants of the border in these adverse circumstances, but they will give but little idea of their capabilities for

Both have white petals, the former having a pale buff eye and the latter a primrose eye; both are beautiful flowers. The old favorite *Belladonna*, though by no means a strong grower, is, with its clear azure-blue flowers, one of the most delightful of the whole race.

Delphiniums are best divided and transplanted in spring, when they have made about 3 inches of growth. The clumps should be lifted and divided with a sharp knife, and the sections planted in rich, porous soil, a little lower than was the case in the site from which they were lifted. Should dry weather intervene care must be taken that they are not allowed to lack moisture during the time that they are becoming established in the fresh soil. S. W. F.

VIOLETS AFTER FLOWERING.

THESE, the sweetest of winter and early spring flowers, should be grown by all who have cold-frames. In the south-west of England Violets may be, and are, cultivated and bloomed in the open throughout the winter with much success, but in colder localities one has to take into consideration the rigours of winter, and therefore a garden frame is essential to them. So many people, it is true, begrudge the room Violets

grower. Many cultivators of Violets object to their being removed in the autumn for fear of the roots being disturbed, and grow them on in beds, so that all one has to do is to drop the frame over them. There is a deal to be said in favour of this, as if care is not exercised in digging up the clumps their progress is retarded for a time, but a spadeful of soil taken with each clump will minimise any root disturbance. I have, however, seen Violets that have been grown on raised beds on a south border expressly for convenience of frames, but they have not compared very favourably with others grown under cooler conditions. For winter quarters there is nothing for Violets like a south border—one, if possible, shielded by a wall at the back, as there from November to April one may always cut blossoms. A market grower once told me that he only covered his beds with frames in severe weather and times of continued wet, and as a winter crop they paid well, sending as he does to market from November onwards, but he lives in the west of England. WOODBASTWICK.

Hops.—The beauty of a field of Hops when in bloom is admitted on all hands, but few think of them as being suitable for growing in gardens. Have you any wire arches where you

have found it difficult to grow other climbers? Then try Hops. Have you a damp corner in your garden where other things will scarcely exist, or walls want covering quickly? Then give Hops a trial. You will find they will soon accommodate themselves to almost any position. Plant them now if you desire their beauty this season. Galvanised wire is a poor medium for many plants to climb, but Hops will thrive on it.—W. F. D.

WALLFLOWERS.

No spring blossoms are so welcome as Wallflowers, but the culture of them is often attended with disappointment, more especially after a hard winter, the beds where they have been planted presenting a "scrappy" appearance. This obtains particularly in town gardens where the walls and fences surrounding them seem to afford but little shelter, and some friends I know who used to grow them every year have now given them up, because of being able to rear so very few that are worth anything. Whilst some of the plants in my own garden died away owing to the severe frosts we experienced in January and February, plants I had in another garden a short distance away from home, quite unprotected, and practically in the country, have all turned out well. For one reason I attribute the success of the latter plants, which, at the time I write, are sturdily and full of buds, to the early sowing of the seed—viz., end of April, 1901, whereas those grown in the home garden were sown a little later. Many defer sowing the seed until they have finished their summer bedding, which is frequently not until the end of June, and the consequence is, instead of being good-sized, well-established plants by November, they are not nearly so large as they ought to be. Undoubtedly the better plan is to sow the seed not later than May, as the plants then, with the whole of the summer before them, have ample time to develop, and consequently are able much easier to stand the winter. Admirers of Wallflowers are waking up to the knowledge that there are other varieties than the Blood Red. Do not suppose that I have no liking for this old sort—I would not be without it on any account. The sorts I have under cultivation comprise: Blood Red; Harbinger (brown); Faerie Queen (lemon); Vulcan (purple); Eastern Queen (apricot), and Golden King (golden-yellow). By doing this I get a display rather longer than usual where only two sorts are grown, and when planted in beds the effect is very pretty in May.

I doubt whether it is always the wisest plan to plant Wallflowers, in the place where they are to bloom, as late as November, a practice which many people follow, with results not always satisfactory. I have come to the conclusion that, provided the plants are not unduly crowded in the seed-bed, it is advisable to leave some of them until spring, and then do the necessary transplanting. An illustration as to the undesirability of removing quite young plants late in the autumn came under my notice last November, when in passing through some gardens I noticed men busy at work "dibbling" in Wallflowers that had evidently been drawn out of the beds, for there was little soil attached to the roots, and the plants themselves were not half the size they should have been. No wonder that they could not withstand the sharp frosts we had in February, and that since then they have nearly all been pulled up and thrown away. I think, too, that sufficient notice is not paid to the state of the ground when Wallflowers are planted in the autumn; this should, of course, be well dug, and manured if needed, for in an impoverished soil one cannot expect success, yet it is strange that those who grow them often overlook their requirements in this respect. I have no objection to a mulching of manure during the winter round my beds of Wallflowers, as there is no question many tide over the worst part of the year when this is done. It behoves all who desire plants for blooming another spring to be a little beforehand with the sowing of the seed, for if it should turn out that the seedlings are growing too quickly, a pinching of the leader will induce a bushy habit, which even in a Wallflower is often desirable.

WOODBRIDGE.

WHAT TO GROW ON NORTH BORDERS.

VERY frequently enquiries are made as to what plants will grow and succeed on a north border. Some who read these notes, and whose experience of growing plants on north borders has been more of failure than otherwise, will not perhaps admit that there are subjects which thrive best where they are under influence of shade as well as sunshine. Nevertheless, it is true that our north borders—although on them we cannot expect to gather the earliest blossoms—retain for the longest period, during the heat of summer, flowers in a much fresher condition than in almost any other part of the garden, and, this being so, it is worth while considering what plants are better suited for the coolest position. I have observed in gardens where hardy plants are grown that subjects which would be best served by the coolness to be found on a north border are often planted on the south side of the garden, where in the sun nearly the whole of the day their blooming period is but a short one, and they may be seen in a dry summer flagging day after day, having the appearance of being worn out before the season has half gone. Anyone who has had to do with exhibiting flowers knows very well that to ent a certain number of blossoms it is desirable to have a good number to select from, and whilst it is necessary to have blooms well advanced, it is also quite as essential that they should be well developed, cut fresh, and stand removing without dropping to pieces. It is here, then, also where the advantage of a north border is seen. But those who do not grow for show like to have flowers in bloom as long as possible in their gardens, but how often do we hear the remark, when planting something new, "I have put it here, where it can get the most sun" as if that were the one essential to success, little thinking that shade as well as sunshine is beneficial to some subjects. I have seen Peonies, Delphiniums, Phloxes, Pyrethrums, Spiraeas, and other similar plants that like a fair amount of moisture, planted on borders that have been dried up by noon, in consequence of the little depth of soil and a too sunny position, that ought to have been on the north border, where the partial coolness aids in the better development of the flowers. Very many of our hardy plants would grow there—Lupins, Delphiniums, Montbretias, Campanulas in variety, Kniphofias, Lilioms, like tigrinum, candidum, speciosum, Lathyrus latifolius albus, Erigerons, the Day Lily (*Hemerocallis flava*), *Dicentras*, *Polemonium coeruleum* (Jacob's Ladder), Foxgloves, *Spiraea arifolia*, *S. Aruncus*, *Nicotianas*, and *Heleniums*. All these are suitable, and should be given a trial by those who are at a loss to know what to plant. I do not exclude annuals, for I know that if Stocks, Asters, Zinnias, Pansies, and all the summer bedders, are a little late with their blossoms, they invariably are finer, because of that slow development. In making a rockery, I would also choose a north for preference to a south aspect, for there Ferns, Mosses, and alpine plants that delight in moisture are likely to do better. Ferns especially are best served, and those prettily-marked leaved herbaceous subjects—which ought to be on all rockeries—the Funkias. *Anemone japonica alba* blooms remarkably well with me on a north border, as do clumps of Flag Irises. When in the springtime plants are a little longer in revealing themselves where thus grown, it is as well we should think what effect north borders have on flowering plants in August, when so much watering has to be done in other parts of the garden. It is on this side, too, where one can place a cold-frame from June to September, in which winter-flowering plants, like Primulas, Cinerarias, and Cyclamens, etc., are brought on, with the satisfaction of knowing that they will not be unduly hurried nor suffer from overpowering sun.

LEATRIST.

NOTES AND REPLIES.

Aster Townshendi and A. hispidus.

—In Vol. XVII. of *The Garden*, for 1890 (p. 346) is a coloured plate of two beautiful Asters, one violet and the other rose colour, named respectively Aster Townshendi and A. hispidus, and the latter is stated to be synonymous with *Diplopappus asper* (Lessing). I have searched numerous catalogues, but

cannot find these Asters named in any of them. Can any of your readers kindly inform me where they can be procured, and whether they are hardy?—N. B.

[A synonym of Aster Townshendi is A. Bigelowii (Gray), seed of which you can obtain from Messrs. Thompson and Morgan, Ipswich, who might also be able to get you the other plant you inquire about.—Ed.]

Lilium candidum.—The accompanying photograph shows that lifting and replanting do no harm to the bulbs of *Lilium candidum*. In the summer of 1900 there were in my garden two or three clumps of this Lily, and but one solitary flower. On investigation it proved that overcrowding was the trouble, as there were from forty to sixty bulbs in a space about 2½ feet across. These were lifted early in August, dusted with sulphur, and replanted almost at once. The result certainly justified the experiment.—MRS. T. H. BARNARD, Bedford.

[The photograph showed a fine group of healthy, well-flowered spikes, on one of which we counted fifteen open flowers and buds, several of the others being quite as good.—Ed.]

The Night-scented Stock.—I have little doubt but that the plant about which your correspondent "Salf" enquires is *Mathiola tristis*, which may be distinguished from *Mathiola odoratissima* by its linear downy leaves, and from *Hesperis tristis* by its sessile flowers. A peculiarity of the plant, according to my experience, is that it never produces seed. I have had it in cultivation for over twenty years, but although I have time after time pollinated the flowers, and have grown it in the open where insects could have free access to it, I have never seen a seed produced. It is, to my thinking, one of the most deliciously scented of flowers, and the ordinary *M. bicornis* bears no comparison with it in this respect.—J. ROSE, *Randwick-road, Oxford.*

—With regard to the Night-scented Stock, alluded to by your correspondent "Salf" in your April 12th issue, I thank Messrs. Thompson and Morgan are quite right in identifying it with the old-fashioned plant *Mathiola odoratissima* (syn. *M. tristis*). This is a greenhouse perennial much grown in former years, but now almost driven out of cultivation by the annual variety *bicornis*. They are both very sweetly scented at night, but the perfume of *odoratissima* is far superior, one small spray filling a whole room with fragrance. I have cultivated it for nearly fifty years, and if your correspondent "Salf" will send me a directed and stamped label I will forward him a cutting of the plant by post. It is a constant bloomer, and I enclose a spray for your inspection.—THEODORE H. MARSH, *Gawston Rectory, Norwich, April 16, 1902.*

Mesembryanthemum roseum.—I enclose pot of creeper, and shall be much obliged if you will give me the name and any hints on cultivation! I have a large plant, but it has never bloomed. I believe I ought to have a pink flower.—T. K.

[The enclosed specimen is that of a *Mesembryanthemum* (probably *M. roseum*), but as there are over 300 species it is quite impossible to state which of them it is without blossoms. Nearly all the *Mesembryanthemums* are natives of South Africa, and need a soil composed principally of loam, lightened by an admixture of about one-third leaf-mould, and a liberal sprinkling of sand in order to keep it open. The pots must be effectually drained with broken crocks, and the plants given all the sunshine possible. During the summer they may be placed out-of-doors (always in full sun), and in winter stood on a light shelf in the greenhouse, or, failing that, a sunny window where they are safe from frost. From their succulent nature they are in a native state enabled to resist long periods of drought, and under cultivation they need throughout the winter months very little water. If you treat your plant as above, it is very probable that you will be rewarded by a crop of blossoms.]

Hybrid Columbine.—I was recently somewhat surprised to read that the hybrids of *Aquilegia cœrulea*, *chrysantha*, *Skianerct*, and others, were less robust than were the original species. That assertion is entirely contrary to my experience; indeed, that is, to the effect that one result of the inter-crossing, apart

from the remarkable variety of colours and beauty seen in the flowers, is to create a strain of even more robust plants than are the original parents. I have had them growing in diverse positions, and especially in exposed ones, and have found the plants not only to winter well, but each year, up to about the fourth, to become stronger. If then they decline in robustness, it is not due to lack of constitution, but rather to poorness of soil, as the plants are somewhat gross feeders, and need ample manuring. But, seeing they seed so freely, and it is thus possible to save every year some from the very best, a strain can in that way be rapidly improved, and some seed should be sown each year. Last summer I sowed seed in a very open position at the end of August. Now I have myriads of plants to dilble out.—A. D.

Fragrance in the garden.—A word before the spring sowings of annuals are completed may remind someone of the beautiful sniffs obtained from a scented garden, perhaps a little suburban patch, with Honeysuckle clambering over the railings, or Mignonette in little tufts, or, maybe, a hel or row of Night-

grows 3 feet to 4 feet high, and is well worth the slight attention its superb qualities merit. Mignonette emits a sweet perfume at all times, but stronger in the early morning. It does not transplant easily, so should be sown on rich, friable soil and thinned to 12 inches apart: sowings may safely begin by the middle of April. No artificial manures should be given to Mignonette at any time. After the later sowings flower, plants of the earliest sown may be cut back beyond their flower stems, when they will break freely and produce quantities of bloom throughout autumn. Sweet Peas are beautifully coloured, deliciously fragrant, and supply cut flowers in greater quantity than any annual I know. H. H. Grasson, *Ballygunnartin, Belfast*.

Gold-laced Polyanthuses.—It is interesting to learn that there is growing up a demand for these pretty Gold-laced or edged Polyanthuses. Two or three years since, even of a fine strain, seed could not be sold. Now seed is badly wanted. Unfortunately, there are few good strains in the country, and beyond the old named varieties, such as are still grown

thrum or a tiny cluster of pollen anthers. Round the cup must be a clear circle of pure yellow, and next that, with well-defined edge, a ground or margin of either black or red. This, again, must be clearly edged with a narrow margin of yellow of the same hue as the centre, and the edges must in every case cut clean through to the centre ring as well as through each petal. Each flower should have five petals.—A. D.

THE NEW ZEALAND FLAX IN DEVON.

The illustration shows the New Zealand Flax (*Phormium tenax*) growing in the grounds of Parracombe Rectory, Devonshire, at an altitude of about 800 feet above the sea level. The plant has weathered very severe frosts during its existence in its present position, where I planted it about ten years ago, but owing to its exposed situation it has to be protected during the winter months. It is of great thickness through the centre, and many of its long and graceful leaves are from 10 feet to 12 feet in length. It has not yet flowered, and is the admiration of all who have seen it. Being, I believe, the only one of its kind in the neighbourhood. Being a regular subscriber to your valuable paper, and seeing a short article on the New Zealand Flax in your issue of February 15th, I thought this might be of interest to your readers.

JOHN GAMON.

The Chimney Cam-

panula (*Campanula pyramidalis*) is a perennial, but far better results are to be had if treated as a biennial, sowing seed every spring. Sown now in pots of sandy, moist soil, and barely covering the seed, germination will soon take place if given glass accommodation and shaded from the sun. Prick off into pans or boxes of similar soil when fit, and care for until re-established, when stand out-of-doors. Transfer into 4-inch or 5-inch pots before the roots get matted together, as the foliage of all Campanulas is very brittle and soon gets broken. Repot into 8-inch and 9-inch pots when ready, using mostly loam, with a little decomposed manure, a little soot, and enough coarse sand to keep the whole porous. When the pots get full of roots, a little weak manure-water weekly will keep the foliage of good colour. Protect under cold-frames

during the winter, with the pots plunged in

ashes and the lights drawn back by day when fine. The plants will make a grand show during July and early August the following summer. Some gardeners plant them out and place bark in pots towards November; but the plants do not lift very well, and the roots of this variety are so quickly broken that it must give them a great check and be detrimental to their flowering. The plants are hardy, and will make a decent show in the herbaceous border; but to see them at their best, glass accommodation must be given them, as the rain and winds so soon spoil their beauty when in the open. The plants should not be placed under glass until the flowers begin to expand. Blue and white are the only two colours we have at present.—J. M. B.

Dwarf Nasturtiums.—There used to be a pretty variety of the compactum type of *Nasturtium* called *compactum roseum* that was very free, and bloomed for a long season. It was a sport or break from the scarlet *compactum*. I do not know whether good stocks of these *compactum* forms still exist. They were plentiful some twelve to fifteen years ago.



The New Zealand Flax (*Phormium tenax*) in a Devonshire garden. From a photograph sent by Mr. J. Gamon, The Rectory, Parracombe.

scented Stock (*Maltholia bicornis*), or dwarf edgings of Virginian Stock, with its pale rose, lilac, and white flowers; or a Rose-tree covered with flowers trained to the wall. Speaking of Rose perfume makes one wonder why our raisers of Roses pay so little attention to the fragrance of new kinds. Those of us who have lived long enough may remember the country cottage wreathed in the white blossoms of Alma, pink flowers of Gallica Bellard, or the sweetest of the good old Roses of long ago, Gallica Damascena, or Gallica phoenicea, the former blush, the latter crimson, and overflowing with sweet perfume. The Sweet-scented Tobacco (*Nicotiana affinis*) is a noble plant and richly scented, especially in the evening, when its pretty flowers unfold the white petals which close up during the day. Those who are from home all day should grow this plant. It is a half-hardy annual, so should not be sown outdoors before the middle of May. Gardeners sow it in boxes during March and protect it with glass; thus they get large plants to put into their beds in the first week of June. Lower grown, *Nicotiana* like *glauca* and *glauca* in

in Lancashire and other northern counties, there are very few of these named varieties about, hence there is but a poor stock to furnish seed. Common strains of Gold-laced Polyanthuses are often the merest of rubbish—useless for exhibition, and as garden flowers a long way inferior to the good showy border Polyanthuses. Just a few of the named varieties, though seldom seen in proper condition, may be as a rule found at the customary exhibition of the National Auricula Society, held in London at the end of April, but they are seen in much better form at the midland and northern shows. If it were possible to get a seed strain that would furnish flowers of fair show quality it would be a great gain, as old named varieties that have to be propagated by division are difficult to keep, especially in the south. Gold-laced Polyanthuses have both black and red grounds, but reds are very scarce. The flowers or pips should be of moderate size, rounded and flattish. They should be carried on stout main-stems, and form a small but neat compact truss. To meet a judge's requirements each flower must have a purple centre filled with what is called a

These differ materially from the well-known Tom Thumb type, which includes Ruby King, King Theodore, and several others. These come very freely from seed, but their flowering period is rather brief, because foliage so soon dominates and hides the bloom. The compact forms, on the other hand, if the soil be fairly firm and not rich, will spread about, the leafage lying near the ground and flowers breaking up profusely for a long season. Whilst well set and isolated forms come true from seed, any variety can be propagated most readily by means of cuttings inserted in pots early in September and kept in a greenhouse all the winter.—A. D.

ROOM AND WINDOW.

DORONICUM PLANTAGINEUM HARPUR-CREWE.

THIS is the best of a handsome family of hardy spring-flowering plants. There are several fine *Doronicums* in gardens, but there are more



Flowers of *Doronicum plantagineum* Harpur-Crewe in a vase.

names than distinct varieties, which leads to some confusion. It is important to know and grow the best of them. The varieties found in gardens can mostly be referred to two species—namely, *D. pardalianches*, which is distinguished by its rounded woolly leaves and tall flower-stems, 3 feet to 4 feet in height, and *D. plantagineum*, with larger flowers on shorter stems and more ovate leaves, resembling those of the Plantain. The variety named Harpur-Crewe originated in the garden of the gentleman whose name it bears, and its great merit is that of continuous blooming. From early spring to late autumn it will maintain an abundant succession of its fine flowers if rightly treated. In common with all the *Doronicums*, it is easily increased by division, which should take place frequently at different times, so as to secure strong batches of young plants succeeding each other in flowering. Besides the brilliant effect it gives in beds and borders, mention must be made of its merits as a cut-flower, for which it is useful and lasting. Those who have reserve gardens to supply flowers for the house will find this plant of great service.

CHRYSANTHEMUMS.

TWELVE BORDER SORTS FOR PRESENT PLANTING.

(REFER TO "R. S.")

Your inquiry for a dozen early-flowering *Chrysanthemums* suitable for a town garden, and for present planting, we are pleased to respond to, as we know the value of these plants in the dull months of the year. We have included a few of the better Pompons. Do not plant them too close together. None of the sorts mentioned in the following list can be regarded as of weakly and sickly growth. Plant firmly, and when the soil is moderately dry. Secure plants of the following varieties, which any of the leading growers should be able to supply you with at a low figure:—

JAPANESE.

MADAME CASIMIR PERIER.—This is one of the earliest of the border Japanese kinds, the plants producing freely blooms of rather large size. The colour may be described as white,

variety blossoms from early August until the end of October.

MARKET WHITE.—A chaste white sort, of which there are too few among the early-flowering Japanese *Chrysanthemums*. This variety is included in this brief list because the plant is of a capital bushy and sturdy habit of growth, and is also a free-flowering kind. For cutting it has an especial value. Height about 2½ feet. In flower during October.

DE LA GRILLE.—It is a matter for regret that this plant is so little known, although it has now been in commerce for some years. Apricot-tinted bronze, is a good description of its colour. The habit is bushy, and fairly compact, and it is free-flowering. Height about 2½ feet. In flower during October.

NOTAIRE GROZ.—This is taller than the others already mentioned, and is therefore well suited for a position at the back of a border, or any equally important situation. Some describe its habit as "struggling," but this can hardly be considered accurate. It is free-growing as well as free-flowering. The plant will need the support of a stout stake, to which the growth should be lightly looped. Height about 4 feet. Colour silvery-pink. An October sort.

HARVEST HOME.—This is useful for its colour, which is a shade of bright crimson, tipped golden-yellow, and with a golden reverse. It is not so free-flowering as we would desire, nor is its habit of the best, yet for September and October blossoming it is highly prized. Height about 3 feet.

POMPONS.

MRS. CULLINGFORD.—One of the best and largest of the Pompons. It is a free-flowering variety, developing a wonderful crop of blossoms, and covering a period from early September till October is well advanced. In the open the colour is creamy-white, while under glass it is of the purest white. Height about 2½ feet.

ALICE BUTCHER.—This is a reddish-orange sport from a variety named Lyon. It is very free-flowering, and unless partially disbudded, the weight of the blossoms causes the growth to overhang, so that the plant is not seen to advantage. Height about 2½ feet. In flower from the latter half of September till the severe frosts ensue.

MR. SELBY.—A pretty little kind, which all interested in these plants should grow. Its height does not exceed 18 inches, and the flowers are freely produced. The habit is bushy and compact, and the growth vigorous for so charming a representative. Colour, peach-pink. Period of flowering late August, September, and early October.

MRS. E. STACEY.—This is a pleasing deep apricot sport from the last-named variety, and, except for its colour, identical with the parent plant. We saw this in superb form last season, and are somewhat surprised its high quality has not been recognised before.

E. G.

FERNS.

* * HARDY FERNS AND THEIR CULTURE.

ALL my life I have loved Ferns. To seek after them in their own homes, by hill and dale, and in lovely shady woods in England, Ireland, and Scotland has been a pleasure to me, and when at last I found the much coveted variety, it was carried home to be carefully planted with many old favourites. Many of our native Ferns will flourish in shade, others like a little sunshine. I will begin by naming a few of the *Polystichums* as they are most of them easy of culture. Many are tall, handsome plants. Amongst our native species, *Polystichum aculeatum* var. *lobatum* is perhaps one of the finest when really well grown. *P. angulare*, *P. aculeatum*, *P. a. acutum* dissectum (this last having wonderful spores on the underside of the fronds), *Wollastoni*, *Kitsoni*, etc., all are fine kinds. They grow readily in a compost of leaf-mould and rough sand. *Polystichum Lonchitis* (Holly Fern), is not so easily suited with a home. It requires peat, as well as the compost mentioned, and some bits of limestone. Should it not flourish in one part of the rockery it is wiser to move it. It does not love shade. The *Lastreas* are very beautiful, the Evergreen *L. dilatata*

freely suffused, and tinted pink. Height from 2½ feet to 3 feet. Period of flowering, September.

MADAME MARIE MASSE.—The habit of this is branching, and it is one of the most profuse blossoming sorts we have. The colour is a shade of bright lilac-rose. Height from 2½ feet to 3 feet. In flower from late August till October is well advanced.

IVY STARK.—An English-raised seedling, possessing an ideal habit of growth. The form and colour of the flowers remind one of *Sourcil d'Or*, so largely grown for market in late October and November. The colour is generally described as orange-yellow. The plant is free-flowering, and comes into bloom in the latter part of September, continuing to bloom all through October. Height about 2½ feet.

CRIMSON MARIE MASSE.—This is a chestnut-crimson sport from *Madame Marie Masse*, the characteristics and beauty of which plant are fully described above. When the flowers first open their colour is very fine, but with age they pale until at last the shade of colour represented may be considered a good bronze. The

and the crinkled-leaved *L. recurva*, or *Foenici* (Hay-scented), as called by some. It makes a very pretty object at the back of the fernery, planted on a bank about 3 feet high, built of stones and peat, the stones just enough to prevent the peat giving way, the Ferns inserted here and there. At the foot of the bank, which is about 6 feet long, I have colonies of *Polypodium Dryopteris* (Oak Fern), and *Polypodium Phlegopteris* (Beech Fern). They are easily grown in a mixture of leaf-mould, peat, and coarse sand, but do not like sunshine. The Beech Fern is rather capricious, but it is well worth taking trouble to make it flourish. Among *Lastreas*, *L. spinulosa* and *L. cristata* are both desirable. I have never found either of them growing wild but purchased them for my fernery, and they are doing well. *Lastrea nelypteris* and *L. montana* prefer the dampest spots available. The former is a charming Fern, and lovely when seen in masses in its wild habitat. It increases rapidly, pushing its creeping caudex along the ground, and loving sand and peat. *Lastrea rigida* prefers a little rough limestone with the other ingredients before mentioned.

The *Aspleniums* are charming. *A. Adiantum-nigrum* seems at its best in a hedge, wall, or bank, as also *A. Trichomanes*. *A. viride* is an addition to any Fernery, but a rather trouble-

successfully *Asplenium lanceolatum*, although sent to me direct from its native Cornwall. Parsley Fern (*Allosorus crispus*) has also disappointed me. It requires slaty shale, and that I could not give it. There are also a few very pretty hardy foreign Ferns that are a great adornment to the fernery—as *Polystichum munitum*, rather like Holly Fern. *Adiantum pedatum* (the Canadian Maidenhair) is lovely—it requires a little protection, such as Cocoa-nut-fibre or peat-mould in winter. *Onoclea sensibilis* is very ornamental and a Fern that increases rapidly. It is rather like a Polypody. I had almost forgotten to mention *Osmunda regalis* (the Royal Fern). I grow it just outside my fernery in beds containing each about twenty-five plants. It loves peat and a moist situation, and grows from 4 feet to 5 feet high. The foreign varieties, *Osmunda gracilis* and *O. cinnamomea*, are much smaller and pretty. My fernery is diversified by raised mounds, and here and there a medium-sized rock to give variety and form miniature hills and valleys. One other foreign Fern I should like to mention—*Struthiopteris germanica*. It grows freely in loam, peat, and sand, forming large circular crowns of long green fronds, and sending up long stems from the centre with the spores.

I have often heard that it is not well to have other plants grown in your fernery, but I have

FRUIT.

UNHEALTHY PEACH-TREES.

(REPLY TO "SWISS SUBSCRIBER.")

You will find much useful cultural information in the perusal of the note to which you refer, though the complaint in that instance is not the same as that which affects your trees. From the description of your soil and roots there are certainly not the conditions present for successful Peach growth, and we strongly advise you in the coming autumn to procure fresh soil of a lighter nature, preferably turfy loam from a Grass-field, dug up in turves from 2 inches to 3 inches thick. Mix with this some lime-ribble and burnt refuse, but no manure of any sort, and provide also some drainage, coarse stones or broken bricks about 3 inches in depth, before putting in the soil. This should be chopped up roughly, and the lime-grit mixed with it, making sure that it is trod firmly together. We are not sure whether it would not be more economical to purchase new trees than to attempt to restore such unhealthy ones to a useful state. This, however, is a matter best decided by yourself. Certainly mulch the trees in May with spent manure, and let it remain on all summer, and in dry weather water freely. Probably some lime is needed in your soil, and, in any case, it would do good. Procure fresh air-slaked lime, spread on the surface not more than a 1-inch deep, extending to a radius of 3 feet or 4 feet, and if there is no rain, water in with clear water. On very hot walls Peaches must be regularly syringed in the evenings of hot summer days. A garden-engine is the best for this, unless, of course, a hose and a plentiful water supply are at hand. From this or a garden-engine there is a continuous delivery, which is much more effective in dealing with insect-infested leaves. There is every indication of your trees suffering from red-spider— one of the smallest, yet most destructive of garden enemies. If you have not given your trees this attention, you may satisfy yourself that this is one direct cause of the premature falling of the leaves. This trouble comes even in British gardens where the sun is less powerful than in Switzerland. A good drenching with water on hot summer evenings not only disposes of red-spider, but stimulates the trees. Without leaves it cannot be expected that fruit can become full grown and properly ripened, and nothing so quickly causes defoliation as drought and red-spider. With healthy trees and new soil not much feeding is necessary in Peach growing, but when well established and in full bearing an annual dressing of some artificial manure does much towards maintaining the tree and crop. It is best put on in spring, if artificial watering cannot be resorted to, for these artificial manures are not of much value without moisture. A dressing of either of these dry manures should be followed by an immediate mulching of spent stable-manure, but first point up the surface, say an inch deep, with a digging fork, so that it is well incorporated, and not so easily washed away when watering is done. On such heavy land planting must be carefully done, few trees succeeding when their roots burrow deeply into clay. Every encouragement should be given to keep the roots near the surface, which is best done by mulching to shut out fierce sun and drying winds, and an occasional watering in dry periods. Washing of the leaves, as before noted, is an important item for summer evenings, neglect of which is sure to be a cause of red-spider, and if this goes unchecked premature falling of the leaves is inevitable.

Plum-trees weak.—In January last I planted a couple of standard Victoria Plum-trees, which look to me somewhat weak and struggling in growth. The branches are about as thick as a well-grown Raspberry-cane (say half an inch or less), about 4 feet long, and tapering to a point. Buds are beginning to break on them. Ought the branches to be cut back, and if so, to within what distance of the stem? Is it now too late to cut them back? I do not want, of course, to run the risk of damaging the trees.—LISTER GIBBS.

[It is unfortunate that a few weeks after you planted the shoots on them had not been shortened back to fully one-third their length. Had this been done, the dormant buds on part of the cut shoots would have broken and



A group of the Royal and Male Ferns in an Irish garden.

some one, as it requires moisture with good drainage. *Ceterach officinarum* is curious from the dense fructification at the back of the fronds. It is easily grown, doing best between stones at the edge of the fernery. A good companion for it is *Cystopteris fragilis*, so pretty and delicate-looking. *Cystopteris Dickiana* is a good variety. After many trials I have at last succeeded in establishing *Cystopteris montana*, being kindly sheltered by a large plant of *Athyrium Filix-femina* (Lady Fern). *C. montana* has been found near Ben Lomond a few years since. The Lady Ferns in my fernery are a great feature, as I have many very nice varieties, from the tall crested and tasselled var. to the curious Victoria, in which the segments of the fronds seem to cross each other. The stately Male Fern (*Filix-mas*) ought not to be forgotten. It is represented by the common one, and also many cultivated vars., such as *cristata*, *polystichum*, etc. The fine green sword-shaped fronds of *Scelopendrium vulgare* are quite a novelty to any fernery. Very easily-grown and many pretty and quaint varieties can be purchased at a small price. Late in the autumn when the Lady Ferns are losing their first freshness, we are cheered by the bright green of the Polypodiums. Good vars. are *P. cambricum*, *P. semilacorum*, *P. omnilacorum*, etc. *Blechnum Spicant* (Hard Fern) makes a nice change, and a pretty plant when it grows well, but it requires a good deal of peat. I have never been able to grow

allowed two or three charming guests to take up their abode here. Patches of Snowflakes, *Leucunum vernum*, not the taller *astivum*, a few double white and double lined Primroses, and my great favourites—the pink and white autumn-flowering *Cyclamen neapolitanum*. They are very attractive just when some of the earlier Ferns are turning yellow.

M. S. KNOX-GOUR.

Belleek Manor.

Wall for hardy Ferns. I was much interested in the article on page 105 about a Fern-clad wall in a conservatory. I want to try it in the open, on a wall facing east, and sheltered by trees from morning sun. Kindly tell me which hardy kinds would do, if properly watered? The whole house and garden are in a very sheltered dell, away from biting winds.—BELGIAN READER.

[The following Ferns would succeed under the conditions named by you—that is, if carefully planted and watered when necessary: *Asplenium Adiantum-nigrum*, *Asplenium Trichomanes*, both evergreen; *Athyrium Filix-femina* and its numerous beautiful and dissimilar varieties; they are, however, all deciduous. *Blechnum Spicant* and its forms are evergreen. *Lastrea Filix-mas* (Male Fern) is partially deciduous; there are several varieties of this. *Polypodium vulgare*, some of the forms of which are very beautiful, is evergreen. *Polystichum angulare* is nearly evergreen, and many varieties. *Scelopendrium vulgare* (Hart's-tongue Fern) is evergreen, and numerous beautiful forms of this are in cultivation.]

carried three or four new shoots from each, and thus have formed on each tree a sturdy head, fairly close home. During the autumn, if these shoots seemed to be too dense, a few could have been cut out. Those shoots left would have needed shortening back just a little in the succeeding winter, and afterwards the heads would simply need thinning only. Now, with the long shoots you have on your trees, many of the buds will not break, but will, no doubt, form fruit-buds, so that probably next year these branches may be thickly hung with fruit. That is a source of danger always to Victoria Plum-trees, as because the fruit becomes so heavy and the wood is so brittle branches break off freely, and the trees are thus greatly damaged. Where such heavily-fruited long branches exist, each one should be supported by a tall stake, to which it should be tied. It is not even now too late to prune these long branches, but if you resolve to shorten them let it be to one-half their length now, as in that case the summer shoots will be less gross, and may be more easily ripened. These may be pinched at the joints at the end of August, and that will induce them to harden or mature earlier. Whichever course you may take with the trees, see that each one has the support of a stout stake, and also that a mulch of long manure is placed about over the roots to check loss of moisture. If your soil seems dry, give the roots an occasional good watering, unless heavy rains come.]

GARDEN WORK.

Conservatory.—Sow Chinese Primulas for early blooming in heat, as in a low temperature the seeds are a long time germinating. Cover the pans or pots with glass, and keep in a shady part of the house till the seeds germinate; afterwards place in a light, cool place. Double Primulas which have done flowering may be mossed round at the base to encourage roots to form there in preparation for cutting up later on. A few of the plants in 48's may be shifted into 6-inch pots to make large plants; but the flowers on young plants are the finest. Double Primulas must not be overwatered at any time, and from May onwards we keep our plants in a cold-frame lightly shaded, watering carefully only when really required. Celosias, both the plumose section and the old-fashioned Cockscorn, when well grown are useful plants. The seeds should be sown now in heat. They do famously at the start in a hot-bed like the early Cucumber-frame, and kept close for a time. Balsams should have similar treatment for a time at the beginning, and when fairly started air must be given freely. There is great virtue in the hot-bed for improving little plants at the start, but they must not be kept in the bed too long. At this season young stuff must be kept continually on the move. Young Tree-Carnations should now be placed in single pots, and the best place is a cold-frame, well ventilated. Later they may be placed on a coal-ash-bed outside. Any plants should be stopped to induce several shoots to start. When the present pots are filled with roots, shift into 5-inch pots and put a stake to each plant. In the 5-inch pots the plants will flower. In the second year they may be shifted into 6-inch or in some cases 7-inch pots, and after flowering the second year throw them out. Thus, when the flowering season arrives, there will be yearlings flowering in 5-inch pots and older plants in larger pots. The latter will, of course, produce many flowers. Strong plants of *Campanula isophylla* alba, C. i. Mayi, C. Balchiniana, and C. garganica are all useful conservatory plants for baskets.

Stove.—The plants grouped as "Bromeliads" seem to have gone out of favour; nevertheless, there are several things among the *Bilbergias*, *Echmeas*, and *Tillandsias* that would be appreciated by those who are looking for more variety. *Echmea fulgens* is a quaint, interesting plant; *Bilbergia Leopoldi* and *B. Sanderiana* are striking things; and the same may be said of others of the same group which have disappeared from many collections. None of these are difficult to cultivate, and they will do in an ordinary stove temperature. This

the best time to fill baskets with Ferns and other suitable plants. Growth now is vigorous and rapid and things soon get established. These may be suspended under Vines if there is no room in the stove. Years ago we used to grow a lot of things in baskets in this way that were afterwards, when well established, taken to the conservatory. *Achimenes* do well in the shade of Vines when making growth. There is a large Grape grower in Norfolk who grows *Dendrobium nobile* in baskets under the Vines: the plants are of large size and produce thousands of flowers, which help to compensate for the falling price of Grapes during the last few years. There should be plenty of cuttings of *Poinsettias* now; soft young shoots 3 inches long will soon strike if kept close in a brisk bottom-heat. Look out for thrips on *Croton* and other smooth-leaved plants. It is a singular thing these troublesome little insects never attack hairy-leaved plants. They require a clear field for their work. Nicotine in vaporisers is the best remedy for insects; it is more penetrating than smoke from Tobacco.

Orchard-house.—If there are Grapes in the orchard-house, the canes should be trained thinly so as not to unduly shade the trees beneath. Peaches want plenty of sunshine, and the fewer Grape-Vines trained on the roof the better. But if a few Grapes are wanted, the Vines may be grown in pots or tubs, or be planted in the border and trained perpendicularly. I was in an orchard-house last summer where a series of arches were formed over the central path of a rather lofty span-roofed house, and over these Black Hamburg and Foster's Seedling Vines were trained alternately, and appeared to be doing well. In this case the path only was shaded, and the house being roomy, the Grapes were a decided improvement in every way. Every item of the usual routine work is important now, and arrears in this respect cannot be fetched up, or in other words, delay means injury. When the sublaterals on a Grape-Vine are permitted to run out, harm will certainly result. The same thing occurs when the young wood on Peaches remains too long in an over-crowded condition.

Cucumbers.—This is a time for increased attention to stopping, training, top-dressing, and other routine work, which must not be delayed. It is a time, too, of planting hotbeds, and the time is near when Cucumbers may be grown in cool-houses without fire heat, beyond a little, it may be, just to start them on their way. I have had good summer crops of Cucumbers in cool-houses in the following way: A thick layer of warm stable-manure is laid in a ridge along each side of the houses, which are span-roofed. A layer 1 inch thick of soil is placed on the manure to keep down the harmful effects of the ammonia, and as the small hills of soil are placed the Cucumbers are set out. No air is given, but the atmosphere of the house is kept in a constant state of saturation. The growth is very rapid.

Outdoor garden.—Seeds of biennials and perennials may be sown now. Anything choice should be sown in a box or boxes if there are many seeds, as thin sowing is desirable, even when it is possible to prick the little plants out in nursery beds to get strong as soon as they can be handled. The advantage of sowing the choice things in boxes lies in the fact that they can be kept close and moist, and, if necessary, shaded. We prefer to keep the seed-boxes in a cold-frame, though, in some cases, the frame is of a temporary character, and only covered with oiled calico. Of course, common things, such as Wallflowers, Sweet Williams, Canterbury Bells, and robust things generally, may be sown outside. Among the most useful things for cutting are Everlasting Peas, the roots of which may be divided now they are just breaking into growth. The plants do not come true from seeds, though all the forms are useful. Two years ago we saved seeds from a very fine white-flowered form and raised quite a number of plants. Most of them flowered last season, and there were several among them with coloured flowers. Iceland Poppies are charming in a mass, and a good way of getting up a stock of plants is to let them sow themselves, and then transplant. The seeds are very fine, and soon lose their vitality. New seeds are best. Bedding plants of all kinds should be hardened in cold-frames.

Fruit garden.—Cracks, if any, must be stopped in the clay where grafting has been done, and as soon as the grafts are growing freely short stakes must be attached to the trees to support the young shoots and prevent injury from winds. Apples on the Paradise and Pears on the Quince should be mulched with good manure, but do not pile it up round the main stems. The Cape Gooseberry (*Physalis edulis*) will grow very well against a warm fence or wall. I once had a small span-roofed house planted with it along the side and trained up like Tomatoes. Recently-planted Raspberries must be cut down nearly to the ground. Let them have one season to make strong canes, and then for some years, six or seven at any rate, we are sure of a crop. A mulch of manure will be useful in keeping the roots moist. Strawberries in pots must never be permitted to get dust-dry or the fruit may be hard and flavourless. Dishful Figs under glass. Stop newly-planted Melons in frames, so as to get at least four breaks to be trained towards the corners of the frame. When top-dressing is required use good heavy loam and make firm. The blossoms on fruit-trees are most abundant. If a good setting time comes a good crop is assured. See that the roots of trees against warm south walls are sufficiently moist. Up to the present the rainfall in some districts is below the average. Spring-planted Strawberries should be watered till established.

Vegetable garden.—Stirring the soil among young crops just up is most important work, and should not be delayed a single day when the weather is suitable. There is a double advantage in this—it kills the weeds when small and encourages the growth of the plants. Make new plantations of Globe Artichokes and mulch heavily with manure. This is a crop which requires high feeding to do its best. Use a proper knife in cutting Asparagus and do it carefully. Use the hoe freely among young plants just up. Asparagus-beds usually are weedy places, but a good dressing of salt at the proper season will do much to keep down weeds. Salt may be used freely on porous land as a check against drought. Half-a-pound per square yard will do no harm to anything at any season. We have used it at this rate among growing crops. It must be scattered evenly. Soot will be useful sown thinly over young Onions, and nitrate of soda will rush the crop past the attacking time of the Onion-fly. Sow French Beans and Scarlet and other Runner Beans to meet all demands likely to arise. Prick out Winter Greens if crowded in the seed-beds. Cardoons may be sown now in the trenches, 15 inches apart. Prick out Celery and sow a few seeds in cold-frame for late use. Plants from this late sowing will not bolt so soon.

E. HUBBY.

THE COMING WEEKS WORK.

Extracts from a Garden Diary.

May 5th.—Potted off cuttings of several kinds of *Campanulas* with drooping habit, and which are so useful for basket work. If we want to make a specimen speedily, three plants are placed in a 5-inch pot, which is afterwards shifted into a pot a size larger. All early-struck *Chrysanthemums* are being shifted into 6-inch pots. Certain kinds have been stopped previous to repotting. Tuberous *Begonias* intended for conservatory are now in the flowering pots on stages near the glass.

May 6th.—Planted more seeds of Vegetable Marrows and ridge Cucumbers. Sowed more Marrow Peas. One never has too many good Peas in July and August, and several sowings will be made during this and next month. Planted more French Beans and Scarlet Runners. Canadian Wonder is a reliable kind of the former, and, for home use, a good type of the old Scarlet Runner is quite as useful as the very large podded kinds. We are growing Veitch's Climbing French Bean, and shall sow the white seeds later.

May 7th.—There is likely to be a large demand for bedding plants, especially those with red, white, and blue flowers, this season, and we have made provision for having masses of those three colours with hardy plants, such as *Dolichiums*, *Chrysanthemum maximum*, and red *Epilobium* groups of *Clematis Jackmani*

LAW AND CUSTOM.

Trespassing poultry.—My neighbour's meadow adjoins my garden, and his fowls enter my garden and damage my crops, etc. I have complained to him in writing, but he contends that I must so fence my garden as to keep his fowls out of it. What is my position?—W. H. M.

[The tenant or occupier of a garden adjoining a Grass field may be under an obligation to fence against ordinary stock running on the Grass, but no such obligation extends to poultry. Unless your neighbour can prove an express obligation on your part to fence out his poultry, he must keep them out himself or be liable in damages. Your remedy is by action in the county court. But if you had covenanted to build a brick or stone wall between the garden and the meadow, and you neglected to fulfil the covenant, your neighbour would not then be obliged to keep his poultry at home, as their trespass would be due to your own breach of covenant. It is only under such circumstances that you are required to fence the poultry out.—K. C. T.]

Quitting market garden.—In 1894 I took 4 acres of land for market gardening, and in September last I received a year's notice to quit. I sell all my flowers, garden stuff, etc. When I quit can I claim compensation for crops not ready for removal? I have also put up a greenhouse and some buildings. Can I claim compensation for these?—R. T. L.

[Your tenancy commenced before the Market Gardeners' Compensation Act came into force, and so unless you had, previous to January 1st, 1896, and with the knowledge of your landlord, executed some of the improvements mentioned in that Act, it does not apply to your tenancy. If it does apply, you may on quitting claim compensation for the greenhouse and buildings since erected, and for such garden crops as continue productive for two or more years, but you cannot claim under the Act for crops sown or planted during the last year of your tenancy. You may claim under it for fruit-trees and fruit-bushes permanently planted out, but not for flowering plants and shrubs. If you cannot claim under the Act for the greenhouse and buildings, you may put these down and take them away.—K. C. T.]

BIRDS.

Death of Canary (Silver Plated).—This fine bird appears to have died from atrophy, a wasting disease very frequent amongst cage-birds, and unless the treatment of it be undertaken at the very commencement there is very little chance of recovery. It is usually brought about through errors in diet, a prolonged course of unnatural feeding provoking so great changes in the digestive organs that they become incapable of assimilating any kind of food. You fail to furnish any particulars whatever as to diet, general treatment, and so forth. Feeding and indulging birds with sweet, pampering food, and keeping them too warm, or in an impure atmosphere, tend very much to weaken the constitution and bring about this complaint.—S. S. G.

Lovebird plucking out its feathers (Mrs. Sheffield Neave).—The habit of feather-eating when once acquired is very difficult to cure. When a bird is kept in an over-heated temperature a gross condition of the system is often produced, with irritability of the skin, giving rise to this bad habit. Sometimes it arises from the cage being infested with parasites, which at night issue forth and torment the inmate. Maybe your bird plucks out its feathers from want of something else to do, and you might supply it with something on which to exercise its beak, such as a small bundle of twigs or a small piece of soft, non-splintering wood. Smearing the body with vaseline has been found to have a beneficial effect in a case of this kind. Occasionally a bird will leave off feather-eating as suddenly as it began, and after a week or two look as well as ever; but, as a rule, it is just the reverse, and it will keep up the habit until at last it dies from taking cold through its lack of plumage. Supply your bird with abundance of coarse grit sand, having some old powdered mortar mixed with it. The diet, while nourishing, must not be of too stimulating a nature. A little diluted-milk may be given occasionally, but no sweets of any kind.—S. S. G.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in *GARDENING* free of charge if correspondents follow the rules. All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of *GARDENING*, 11, Furnival-street, Holborn, London, E.C. Letters on business should be sent to the Publisher. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as *GARDENING* has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being nipped and otherwise poor. The difference between varieties of fruit are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Aconitum (Belgian Reader).—All the Aconites are dangerous from their poisonous roots. They should never be planted where the roots could by any chance be dug up in mistake for edible roots, as they are so deadly. We should certainly not allow them to be grown where children are.

Hyacinths after flowering (C. H. A.).—It is of no use relying on these for flowering in pots the second year. You ought to plant them out in a sunny border. They will then yield you a crop of bloom every year; certainly not so fine as bulbs in pots, but such as will repay your trouble. You will find such flowers very useful for cutting.

Destroying woodlice (Hilda).—We destroy them by cutting Potatoes in halves, scooping out a little from the centre, and laying them down, flat cut side under; the pests crawl under the Potato, they are found there in scores in the morning. Another good plan is to wrap a boiled Potato up in dry hay, put it in a small pot, and lay the pot on its side. This is a favourite haunt for them. They can then easily be destroyed by dropping them into a pan of boiling water.

Renovating a lawn (Pochman).—Your lawn has coarse Grass on it only because it has not proper lawn Grass. You could now roughly rake the bare places, add some sifted soil, then get and sow proper lawn Grass seed. At the same time get sulphate of ammonia very finely crushed, and sprinkle that over the lawn, at the rate of 1½ per rod; or, failing that, some sort of guano. Next autumn get 4 lb. of basic slag per rod to wash in. Ask the seedsman for Grasses suited for a clay soil.

Cyclamens after blooming (Penbrook).—When they have done blooming you should stand in a cold-frame, watering as carefully as if in bloom. Cover if there are any signs of frost, and do not grow in any way. As they show signs of going to rest lessen the water supply until June or July; they will not need much. If you put a little moister after this the young leaves will soon start, when they may be shaken clear of the old soil and repotted in a mixture of loam, leaf-mould, and sand. It is advisable to sow a pinch of seed every year to have young corns coming on to take the place of the old ones.

Pinks from seed (C. H. A.).—If, as we assume, you refer to ordinary garden Pinks, then certainly they can be raised from seed. Still, it depends on the quality of the strain. You can purchase seed of double flowers at from 1s. 6d. to 2s. 6d. per packet, which should give some good double varieties. You can also purchase more cheaply seed of single-flowered garden Pinks, all very beautiful, but not so well liked as are double-flowered ones. If you get seed and will sow it at once, either in shallow pans or boxes, and place in a greenhouse or frame, or outdoors under a handlight, you should soon have plenty of plants.

Cactus Dahlias (Amateur).—Twelve good varieties are Keyne's White, Mrs. J. C. Crewe, lemon yellow, Lady Penzance, white; Major Tuppenny, outer petals orange-carmine, centre yellow; Arachne, petals white, siler crimson; Emperor, rich plum; Mary Service, pinkish heliotrope; Mrs. Carter Page, velvety crimson, lit up with yellow; C. Woodbridge, crimson; Magnificent, buff; Banjil, dark; and Harmony, apricot. Good early-flowering Chrysanthenums are Miss Peckgraves, white; Mrs. Hawkins, Marie Masse, Harvest Home, Roi des Precoques, and Queen of the Earlies. See article in present issue on "Early Chrysanthenums," p. 132.

Growing Coleuses (A. B.).—Coleuses are very tender plants, and can only be kept alive through the winter in a warm greenhouse. During the summer they do well in pots in an ordinary greenhouse frame or window, or even planted outdoors about the second week in June. They grow very fast, and if grown in pots must be given at the first potting 3-inch pots, then as they grow stronger they must be moved into 5-inch ones, and if large plants are wished into 9-inch and 10-inch pots. If you desire to have dwarf, bushy specimens you must pinch occasionally. Coleuses must have a rich, light, loamy soil, to which have been added some well-rotted manure and leaf-mould.

Camellia and Lapageria leaves injured (Constant Reader).—The enclosed leaves look as if they had been growing in a close, warm structure, with little, if any, ventilation, and they are burnt by the sun shining directly on them while moist. Both plants need a free circulation of air for their successful culture. As you give no details of the treatment or conditions under which the plants are growing we can give but little advice in the matter, but may say that no fire heat will now be needed for either the Camellia or Lapageria. Water from a newly painted structure would also injure the leaves. When speaking of the plants give more details, as they are very necessary.

superba and Henry (white) we hope to have in good condition. Phacelia campanularia, blue, Godetia, white, and Scarlet Flax will give us the same colours. In annuals our aim is to have large masses. Cucumbers in bearing are top-dressed frequently. Young plants are always kept in stock.

May 8th.—Most of the bedding plants are hardening in cold-frames; some are under temporary shelter. Calceolarias and Pentstemons will be planted out immediately. Holly-hocks have been mulched with manure, and a good soaking of water has been given. Dahlias are in cold-frames hardening off. We grow chiefly Cactus varieties. Specimen Fuchsias have been pinched for the last time, and the plants are staked securely as pyramids. Younger plants are still in course of training.

May 11th.—Shifted a lot of Tomatoes into such pots to get strong for outside when safe. Early Tomatoes under glass are setting fruit. We are still using a little fuel to hasten the growth of the fruit. The plants have been mulched with Moss-litter-manure to save labour in watering. All side shoots are promptly removed and the main ones secured to stakes as they advance in growth. The ventilation is as perfect as possible. Cold-houses are being planted with Tomatoes. Violets recently planted are watered and the surface of the ground hoed.

May 10th.—Pricked out more Celery outside. The plants are kept thoroughly moist, but no shade is used. The Peach walls are looked over twice a week. We have not removed the coverings, but we are watching the weather with a view to their removal. Work in the vinery and Peach-houses now is incessant, and must not be neglected. This is the time the foundation for a good crop next year is laid. The young fruits are thinned early. We want quality as well as quantity, but the former stands before the latter.

POULTRY.

Red spots in eggs (Fluffy).—You are probably feeding your hens on food of a too stimulating character, for when blood-red spots appear in eggs they show that the ovaries are ruptured, and this is caused in numberless cases through over-feeding. If you can find out which of your hens lay the discoloured eggs, separate them for a time from the others, and feed on very plain food, and that in very limited quantity, with the object of checking egg-production, that they may rest for a while. Feed all your hens more sparingly, and avoid a too liberal supply of Maize. The free use of Maize in the poultry yard is the cause of a greater number of ailments than many people suppose.—S. S. G.

Chickens dying.—My chickens are dying off as they did last year, and I cannot account for it. The eggs, and apparently the healthiest, are first affected. It begins with an unsteady walk, and the legs quickly become paralysed; in some cases the feet are drawn up. This lasts for some days, and then one morning the bird is found dead. A few recover, and after a time seem none the worse for the attack. These chickens are about a fortnight old. They are in a run in Grass; the run is 6 feet by 4 feet, and is changed every two days. The coop for the hen is boarded floor raised 1½ inches from the ground, so is perfectly dry. The food is shelled Oats, barley-meal paste, and a little shredded meal every second or third day.—A. BLAIR.

The feeding and management of your chickens could not be better, with the exception of the coops having wooden floors, and this is probably the cause of the trouble, as chickens are very liable to cramp when kept on wood. Wooden floors when used should always be covered with dry earth or road dust, which should be frequently changed. It is, however, best to have no bottom, but to put the coop on loose dry earth or ashes, 1 inch or 2 inches deep. Possibly you let the chickens out too early in the day, while the Grass is yet damp and cold. When chickens suffer from bad feathering, caused either by the coldness of the season or delicacy of constitution, they require to be lightly fed. Some poultry keepers give their chickens bread soaked in ale once or twice a day in cold weather, and this is a very bad plan. Bread and ale are excellent for young chickens. Weakly chickens are often produced when a hen sits closely upon her eggs. Avoid in-breeding.—S. S. G.

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PLANTS AND FLOWERS.

OUTDOOR PLANTS.

SOME APRIL FLOWERS.

A retrospect of the month's display in the early flower garden is always instructive, because there is a reminder to take special notice of those things that have been a success with the view to increase them at the first opportunity. The outdoor flowers of April, then, are naturally the product of perfectly hardy plants, and within the reach of all, either in large or small quantities. So far as the April-flowering shrubs are concerned, the display has been remarkably good, and in all cases where any one particular family or special varieties are wanted together in considerable numbers the effect has been quite up to the average. In the matter of this particular style of planting we do not mean huddling them close together so that they lose their individuality; this is by no means necessary. The plants should stand just clear of each other and be kept so by careful and judicious pruning, close enough so that when viewed from a distance a mass of colour is shown, and not with a perceptible drop between the plants so that a table-like surface is avoided. The *Ribes* family rank among the best of early-flowering shrubs, and some of them seem as if imperfectly known. *R. sanguineum* is, of course, common enough, but it is not the case with a *album* and *atro-rubens*, which flower with equal freedom and make a fine display when planted in large clumps. All the forms strike readily from cuttings and make capital little bushes by the end of the second year. Beautiful white-flowering shrubs in the same season are *Spiraea prunifolia* and *S. Thunbergii*. The foliage of the latter is of a very vivid green, showing off to advantage the sprays of tiny white flowers. A variety of colour is furnished by the *Cydonias* in different shades of scarlet, pink, flesh-colour, and white. Yellow tints have been supplied by *Forsythia suspensa* and *F. viridissima*, two very useful April shrubs. The Daffodil is the early flower of April, and *Barri conspicuus* is one of the best kinds. Other varieties such as the trumpet and star sections may rank higher as individual flowers, but for furnishing a grand display *en masse* commend me to the more named sorts. Flower-stems thrown up from strong selected bulbs were of extraordinary vigour. Common sorts naturalised where the soil and situation have suited them have flowered well. The *Doronicums* have helped to increase the prevailing yellow shades furnished by Daffodils and some of the *Polyanthuses*, and have flowered well. A very fine display of pink tresses of flower, both as to size and quality, is still to be found on the old *Megasea* (*Stavirga*) *cordifolia*. We saw a lot of this the other day at the back of a sloping border raised by a good breadth of a terra-cotta coloured *Polyanthus*, and the effect was very pleasing. The white *Arabis*, the purple *Arabis*, and Tufted *Pansies* (of which

shades of colour also make an effective display when associated with the *Megasea*. We saw the Daffodil was the flower of April, but a thoroughly good strain of *Polyanthus* runs it very close indeed. A north-west border, 200 yards long by 4 feet wide, has been a lovely sight, and furnished us with a wonderful wealth of cut flowers. The plants were arranged as near as possible in colours for the sake of seed-saving, but a general mixture is the more effective. If all the different shades are well mixed together, the result is a beautiful display that can hardly be furnished by any other flower.

TUFTED PANSIES—VALUE OF OLD PLANTS FOR EARLY FLOWERING.

The present season is giving conclusive proof of the value of old plants for making an early spring display, as they are now literally covered with blossoms of the most dainty kind. In the case of the old plants, their culture is of the simplest. The old stools in my case are out back in the autumn to provide cuttings. The thinning-out of the stools for the purpose just alluded to gives more space to those which remain, and they grow strongly. Before the autumn is far advanced it is a good plan to give the beds a good mulching of well-rotted manure, working this well into the crowns of the plants, and also covering the intervening spaces with a liberal dressing. This may seem to be unnecessary with established plants, but it is here where so many err. The mulching feeds the roots, and also affords protection during very severe weather. Then, as the days lengthen the newer growths, which through the bad weather have been protected by the mulching, push their way through the soil, and with the advent of more genial weather the shoots bristle with buds in all stages. As soon as the cool easterly winds have lost their sting, and April showers come, then it is the old plants reward us with a remarkable display of blossoms. Since the second week of April there has indeed been a brave show, and one cannot help wondering why more is not made of the old plants. The late Dr. Stuart, of Chirshill, used to advocate this method of treating the plants, emphasising the fact that some sorts are never seen in their true form until the second and third season of their growth. I heartily support this view, as the results obtained from several of our best tufted kinds, of which the late Dr. Stuart raised so many excellent varieties, have exceeded my expectations. The older type of plant is hardly so well suited to this system of culture as are those represented by such sorts as *Klondyke*, *Blue Gown*, *Floralis*, *King of the Blues*, *Virginius*, *White Empress*, and *Councillor W. Waters*. These plants are now veritable tufts, and studded with their dainty rayless blossoms. These old stools, too, may be kept in excellent condition for a long time by the persistent removal of old and spent blossoms, and also by frequent copious supplies of water in the dry weather. An occasional application of manure-water will impart renewed vigour to the plants, and when they are at the best the younger plants will

take their place. The old stools may be cut back in late June or early July to provide cuttings, which, when rooted, come in well for autumn planting. D. B. C.

VERBENAS.

If these charming flowering plants be employed for the production of special effects in the garden, without doubt they are best when planted in masses of distinct colours. Where employed to furnish mixtures irrespective of colour effects, they are then also very beautiful. There are, however, in the latter case advantages and disadvantages. There is first the fact that *Verbenas* are easily raised from seed, and thus obtained cheaply there is great temptation to put these plants out into beds, with the result that they present a very bizarre appearance, colours being oddly intermixed and the habit of growth of the plants much varied. That such beds have attractions for some persons there can be no doubt, but all the same the effects obtained are not all that can be desired. When *Verbenas* are propagated in sorts or colours and so planted, the mass is usually of a more striking character than when so intermixed. However, in the case of mixed beds it is best to employ propagated plants that can be intermixed in three colours at the most and of even habit of growth. These mixed beds may be found very attractive. It is the case that very careful saving of seed from plants that are remote from others of diverse colours may produce very fair results in evenness of habit and colour, but these can only be obtained by purchasing seed in colour packets. When, however, beds of seedlings are found it is very easy to secure cuttings in the autumn, put them thickly into 6-inch pots, root them in a frame, and keep them clean. Grow all the winter on the top shelf of a greenhouse, and in the early spring they will give scores of cuttings, which may be multiplied almost indefinitely in a few weeks if there be some bottom-heat at command. Thus it is very easy to secure a good stock of selected sorts even from a batch of seedlings.

ROCKETS.

The sweet old *Rocket*, a flower most of us have known from our earliest days, still has its admirers, although it is all too scarce in gardens generally. The time when *Rockets* bloom is a lovely one, for the early summer flowers are gay in great variety. Then especially are the simple roadside cottage plants so bright and sweet, when *Rockets* spring out from carpets of *Pinks* and *Pansies* and lift up their tall spikes to meet the drooping clusters of the *Monthly* or *Maiden's Blush* *Rose*. Happily this flower is much loved by cottagers and it will linger long among them, but in larger gardens we seek it in vain—it is neglected. This neglect arises not from lack of appreciation of its beauty and fragrance, but because, although in every respect a hardy plant, it does not go on growing and flowering year after year. It wants a little special attention, and this can be given at the right time. If left to grow and extend as most

hardy things do, it resents such treatment and soon disappears. It should not be included among the true perennials, as it cannot be treated like them, and yet there are many pretty ways in which it could be grown. The essential thing is to always have young plants. Although occasionally a group may stand a second season, the safe way is to always have a batch of young plants. These may be raised from cuttings, which root readily even in the open ground if shaded from bright sun, whilst another excellent method of keeping up a stock is to take up and divide the plants as soon as they have ceased to bloom, replanting them in another spot. In a well-managed garden there should be a reserve plot where stocks of this and kindred flowers requiring similar treatment might be raised. With such an aid much could be done to reduce the number of tender plants still put out in gardens and show the best flowers of each season in the most perfect way. There are several distinct forms of the double Rocket varying in colour from pure white to lilac, all of them pretty, sweetly scented, and worthy of the best rare and culture.

AQUILEGIA (COLUMBINE).

ALPINE or mountain cove perennials, often beautiful in habit, colour, and in form of flower, widely distributed over the northern and mountain regions of Europe, Asia, and America. Among them may be found great variety in colour—white, rose, buff, blue, and purple, and intermediate shades even in the same flower, the American kinds having yellow, scarlet, and most definite shades of blue flowers. The Columbines, though often taller than most of the plants strictly termed alpine, are true children of the hills. The alpine kinds, living in the high bushy places in the Alps and Pyrenees, and North Asian mountain chains, are among the fairest of all flowers. Climbing the sunny hills of the sierras in California, one meets with a large scarlet Columbine, that has almost the vigour of a Lily, and in the mountains of Utah, and on many others in the Rocky Mountain region, there is the Rocky Mountain Columbine (*A. caerulea*), with its long and slender spurs and lovely cool tints, and there is no family that has a wider share in adorning the mountains. Although our cottage gardens are alive with Columbines in much beauty of colour in early summer, there is some difficulty in cultivating the rarer alpine kinds. They require to be carefully planted in sandy or gritty though moist ground, and in well-drained ledges in the rock-garden, in half-shady positions or northern exposures. Most wild Columbines, however, fail to form enduring tufts in our gardens, and they must be raised from seed as frequently as good seed can be got. It is the alpine character of the lime of many of the Columbines which makes the culture of some of the lovely kinds so difficult, and which causes them to thrive so well in the north of Scotland while they fail in our ordinary dry garden borders. No plants are more capricious; take, for instance, the charming *A. glandulosa*, grown like a weed at Forbes, in Scotland, and so short-lived in most gardens. Nor is this an exception; it is characteristic of all the mountain kinds. The best soil for them is deep, well-drained, rich alluvial loam.

It is probable many of the species are biennial, and that it is well to raise them from seed frequently; and to avoid the results of crossing it is better to get the seed, if we can, from the wild home of the species. The seeds should be sown early in spring, and the young plants pricked out into pans or into an old garden-frame as soon as they are fit to handle, removing them early in August to the borders; select a cloudy day for the work, and give them a little shading for a few days.

Mr. Whittaker, of Moseley, near Derby, has been very successful with both *A. glandulosa* and the blue variety of *A. leptoceras*, and he told Mr. Niven that he grew them in a thoroughly drained, deep, rich, alluvial loam soil; the same were the conditions of Mr. Grigar's success.

Mr. Brockbank speaks hopefully of growing the finer kinds from seed. He says, "I attribute failures to plants sent by nurserymen in very small pots. I believe it will be better

that you can never get up a good stock of *Aquilegias* by purchase. The proper way is to grow your own from seed. Sow in shallow wooden trays, or in pots, and grow the plants out carefully in a cold-frame. When the seedlings are sufficiently large, prick them out into the places wherein you wish them to grow—some in pots and some in the garden—and plant them in various situations, here in the shade and there in the open, so as to have as many chances of success with them as possible. I always plant three plants in a triangle, 4 inches apart, so that any group can readily be taken up and potted if we wish it. Once planted, leave them alone ever afterwards, or if you move them, take up a large ball of earth with them, so as not to loosen the soil about



A white Columbine.

the roots more than can be helped. When the plants have flowered and the seed has ripened, my practice is to gather some for future sowing and to scatter the rest around the plant, raking the soil lightly first, and shaking the soil out of the pots every three or four days. From the seed thus scattered young plants come up by hundreds, often as thick as a mat, and may be transplanted, when suitably grown, into proper situations. In this way I have here abundance of Columbines, and amongst these plenty of *A. glandulosa* self-sown, and as strong and hardy as any. Further details as to culture and position will be found under the various more important kinds.

The late Mr. J. C. Niven, of the Hull Botanic Gardens, one who knew alpine and hardy plants so well, suggests that all the Columbines, except the common one, should be

looked upon as biennials rather than as perennials. The seeds should be sown early in spring, and the young plants pricked out into pans or into an old garden frame as soon as they are fit to handle, removing them early in August to their permanent positions; select a cloudy day for the work, and give them a little artificial shading for a few days. Carry on the same process year after year, the old plants being discarded after flowering. Any attempt at dividing the old roots usually fails. There are, however, instances, especially on the soils and hilly districts, where several of them remain good for years.

A. ALPINA (Alpine Columbine).—A pure alpine plant, widely distributed over the higher parts of the Alps of Europe, the stems from 1 foot to 2 feet high, bearing showy flowers. There is a lovely variety with a white centre to the flower, which, from its colour, is certain to be preferred, and many will say they have not got the "true" plant if they possess only the variety with blue flowers. It does not require any very particular care in culture, but should have a place among the tall plants of the rock garden, and be planted in rather moist but not shady spot in deep, sandy loam, with leaf-soil.

A. BERNINI.—A pretty little alpine, about 1 foot high, with violet-blue flowers, having short knobby spurs.

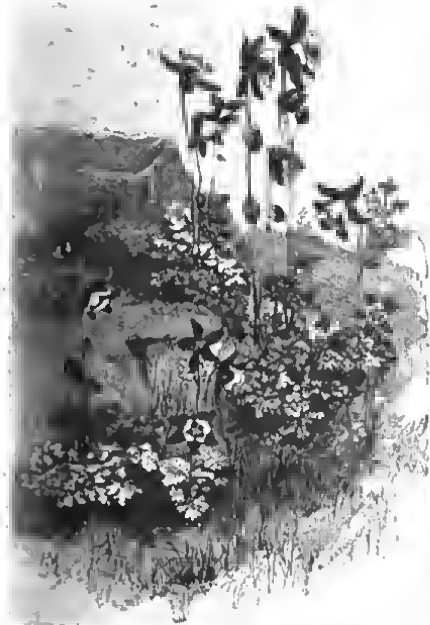
A. CALIFORNICA (California Columbine). One of the stoniest of the American kinds, its spurs are long, bright orange, more attenuated than in Skinner's Columbine, but to appreciate the full beauty of the flower it must be taken up from its naturally pendulous position. As the beautiful shell-like arrangement of the petals is seen, the bright yellow marginal line gradually shading off into deep orange. The seeds of this kind should be carefully looked after, as having once blossomed the old plants are liable to perish. I have never been disappointed with the seedlings diverging from their parent type in character. This plant thrives best on a deep sandy loam and moist soil. *Syn.*, *A. eximia*, *A. truncata*.

A. CANADENSIS (Canadian Columbine). The flowers of this are smaller than those of the Western American kinds; this, however, is compensated for by the brilliancy of the scarlet colour of the sepals and the bright yellow of the petals. The true *A. canadensis* is a stouter grower, scarcely exceeding 1 foot in height, with sharply notched leaves. Easily raised from seed. There is a yellow form. It is a plant for borders or the shrubbery, but placing here and there among dwarf shrubs and plants in the rougher parts of the rock garden. Writing of this species, Mr. Falconer says: "To see it at its best you should see it among the rocks, where it grows in abundance in our woods and always in high rocky places there it springs from the narrowest chinks of little bush of leaves and flowers, or maybe an earthy mat upon a rock you find a colony of Columbines, Virginian Saxifrages, and pale *Corydalis*; they usually grow together."

A. PURYSANTHA (Golden Columbine). The plant was at first by persons who look at the barren distinctions only erroneously supposed to be a variety of the Rocky Mountain Columbine, and named such by Torrey and Gray. After cultivating the plant, however, for several years, and comparing it in a living state with the Rocky Mountain Columbine (*A. caerulea*), Dr. Gray described it as a new species. The plant comes from a different geographical range, grows taller, flowers nearly a month later, and blooms for two months continuously; these peculiarities added to its full yellow colour, seem to warrant it to rank as a species. Like the Rocky Mountain Columbine, it has a very long and slender spur, often over 2 inches in length. It is quite hardy, and thrives even on the stiff clay soil north of London and enjoys wet, though it is none the less free in more happy situations. It comes true from seed, which is most satisfactory raised under glass, the seedlings being pricked out carefully when young. Attaining a height of 4 feet under good culture, it becomes an important plant for grouping among the shrubs of the rock garden. Should seedlings from it prove crossed with inferior kinds, seed must be obtained from wild plants, which cannot be difficult through the American houses. It would be a great pity if such a distinct, beau-

tiful, and hardy plant should degenerate in our gardens.

A. CERULEA (Rocky Mountain Columbine).—Beautiful and distinct, the spurs of the flower almost as slender as a thread, a couple of inches long, twisted, and with green tips. It is in the blue and white erect flower that the



The Siberian Columbine (*Aquilegia sibirica*).

beauty lies, the effect being even better than in the blue and white form of the alpine Columbine. It is a hardy plant, blooming rather early in summer, and continuing a long time in flower. It grows from 12 inches to 15 inches high, and is worthy of the choicest position in the rock garden. Unlike the Golden Columbine, it is not a true perennial on many soils, though a better report in this respect comes from the cool hill gardens. To get strong healthy plants that will flourish freely, seeds of this kind should be sown annually, and treated after the manner of biennials, as it rarely does well after standing the second year, and in many cases dies out before that time. The flowers are, however, so lovely and so useful for cutting that it is deserving of care to have it in good condition. All the Columbines delight in a deep rich sandy soil, where they can find plenty of moisture below for the roots, and as they make their growth early, the friendly shelter of shrubs or rock to keep off cold cutting winds and frosts is of use.

This is one of the many good plants which deserve a home in the nursery department, so to say. It deserves a choice little bed to itself, from which its lovely flowers could be gathered for the house. The seed is best sown as soon as may be after it is ripe, in cool frames near the glass, or in rough boxes in cool frames. With abundance of fresh seed there will be no difficulty in raising it in fine beds of soil in the open air, protecting the beds from birds or slugs, but the seed is usually too precious to risk in the open air.

What is supposed to be a white variety of this plant is sometimes called

A. IAPPOCENSIS, which was indeed the first name given to the plant.

"M." writing from Utah, says: "Some plants of this species seen in Utah seem to belong to a distinct variety; their colour is not blue, or blue and white, but pure white or yellowish-white. They were flowering in great quantity 10,000 feet above the sea wherever any tiny stream trickled down the mountain slopes, and the flowers at a little distance reminded me more of those of *Eucharis amazonica* than anything else. The plant grows in handsome tufts 2 feet or 3 feet high, the flowers large and broad, and the spurs very long (2 inches at least), with rounded ends at the top."

A. FRAGRANS (Fragrant Columbine).—This is very distinct, growing about 1 foot high, with downy, somewhat clammy leaves, and very free-flowering. The flowers are pale yellow or straw, with short hooked spurs. Himalayas.

A. GLANDULOSA (Glandular Columbine).—A beautiful species, with handsome blue and white flowers, and a tufted habit, flowering in early summer—a fine blue, with the tips of the petals creamy white, the spur curved backwards towards the stalk, the sepals dark blue, large, and nearly oval, with a long footstalk. A native of the Altai Mountains, and one of the best kinds for the rock garden, in well-drained, deep, sunny soil. Increased by seed and by very careful division of the fleshy roots, when the plant is in full leaf. Mr. William Jennings informs me that, if divided when it is at rest, the roots are almost certain to perish—at least, on cold soils.

The Forbes Nurseries, in Morayshire, have long been famed for the successful growth of this plant; it has no special care there, and there is no secret about the culture, which is wholly in the open air. The soil is described as "a rich mellow earth, partaking a little of bog or peat earth, and rather cool and moist than otherwise." It flowers the year after sowing, and when full grown is impatient of removal, but if not transplanted when more than two years old, it continues to flower for at least five or six years, sometimes for more. Those who can get true seed of this fine plant will do well to raise it with care and plant out when very young into well-prepared beds of moist, deep peaty or sandy soil, putting some of the plants in a northern or cool position. It would be well, also, to sow some seeds where the plants are to remain, and in various other ways to try and overcome the difficulty which has hitherto generally attended the culture of this lovely plant. The seeds of other Columbines have a bright perisperm, while those of this species are unbarbarished, arising from little corrugated markings with which the microscope shows them to be covered.

In many cases a different inferior plant bears the name *glandulosa*. Mr. Brockbank says: "I have referred to the original specimen of *A. glandulosa*, sent by Prof. Regel, of the St. Petersburg Botanic Gardens, from the Altai Mountains. It is a different plant from the *A. glandulosa* *jeanla*, being more than twice as tall and in every way more robust. The specimen at Kew is nearly one and a half times the height of the large folio paper in which it is preserved, and the flower measures 4½ inches in diameter. The plants in Kew Gardens are not this variety—the true variety—of *A. glandulosa*, and, as far as I know, it is not to be found with any of our nurserymen."

A. GLAUCA (Grey-leaved Columbine).—A distinct and interesting plant, though not so showy as some of the other kinds. It grows from 18 inches to 2 feet high, with glaucous foliage, the spurs of the flowers being rather short and red, and shading into the pale yellow of the other parts of the flower.

A. SKINNERI (Skinner's Columbine).—A distinct and beautiful kind, the flowers on slender pedicels, the sepals being greenish, the petals small and yellow; the spurs nearly 2 inches long, of a bright orange-red, and attenuated into a slightly incurved club-shaped point, the leaves glaucous, their divisions sharply incised; the flower-stems 18 inches to 2 feet high. Though coming from so far south as Guatemala, owing to the fact that it is met with in the higher mountain districts, it is nearly, if not quite, hardy. Here, again, crossing steps in and too frequently mars its beauty. While the name may be often seen, the plant is rare, nor are the conditions that insure its thriving well known if they exist with us. It is a late bloomer.

A. STUARTI (Stuart's Columbine).—This, a cross between the true *A. glandulosa* and *A. Witmanni*, was raised by the late Dr. Stuart, who tells us that it is, in his opinion, an improved form of *A. glandulosa*, refined in colouring, free-flowering, very large and attractive. It is perfectly hardy, flowers three weeks before any other Columbine, and always comes true from seed. He recommends that a hill be trenched 2 feet deep, with plenty of manure at the bottom, sowing the seed in rows and allowing the seedlings to flower when

they are to stand. The plants may be thinned out to 8 inches apart, allowing 12 inches between the rows. In time the foliage will cover the entire bed, and the plants will produce an abundance of bloom. By top-dressing in the autumn the plants improve in vigour every season, a three-year-old bed being a mass of bloom.

A. VERIDIFLORA (Green Columbine).—A modest and very pretty kind, the Sage-green of the flower and delicate tint of the leaf forming a striking contrast. Out-of-doors in the border the plant may not be noticed, but if a flowering spray or two is cut and placed in a small glass its great beauty of form and colour, too, may be seen. There is a variety of it known as *A. atropurpurea*. The sepals are green, but the petals are deep chocolate. The plant is a strong grower, a native of Siberia, and is the same as Fischer's *A. dalurica*. It has a delicate fragrance, too. It is a rare plant in gardens. Easily raised from seed.

A. VULGARIS (Common Columbine).—The only native Columbine, and as beautiful, I think, as some of the rarer alpine kinds, and no one who has more seen it will readily forget its beauty. It would be most desirable also to select and fix varieties of the Common Columbine of good distinct colours. Being a native of mountain woods and cusses, this may be grouped with good effect in the shrubby part of the rock garden. The best white form of this plant is a beautiful and stately Columbine, which sows itself freely in various positions when once brought into the garden, and looks well wherever it comes. The hybrid forms raised in gardens and much grown and talked of are not so beautiful as this and other wild kinds.

NOTES AND REPLIES.

Passion-flower not blooming.—I have a Passion-flower, bought in a pot three years ago. It was then 2 years old, as evidenced by its having been cut down. It has been planted 2½ years on south aspect, and has for two seasons made good growth, shoots, say, 1½ feet long, and plenty of side growth from old wood. It makes good foliage, and keeps it until mid-winter. It starts in spring rather late—has not moved yet (April 24). The old wood is firm and healthy-looking, and the three 15-foot shoots are more than 1 inch in diameter, but it has never yet shown any sign of flowering. I have cut off the small spray at end of season and slightly shortened main shoots. What can you suggest as to cause of non-flowering? It is planted in good ordinary soil, and would have unlimited run into old brick rubble and mortar and soil, forming a raised terrace to house.—G. W. T., Fulham.

[There is no doubt that the non-flowering of your Passion-flower is due to the roots having



The Common Columbine (*A. vulgaris*) in the wild garden.

obtained an unlimited run into some congenial compost, as is shown by the great length of new shoots made last year. When in proximity to a dwelling-house the roots sometimes find their way into cell drain-pipes, and their

the results are much as you describe. You might, if possible, try curtailing the root-room; but if this cannot be done without difficulty, we should advise leaving it alone for another season, when, if the richness of the soil is partly exhausted, it is very probable that you will this year be rewarded with a crop of blossoms. The only pruning needed will be the removal of any weak and entangled shoots.]

Daffodils, Snowdrops, and Crocus.—Please say how Daffodils, Crocuses, and Snowdrops should be treated after they have flowered? They are in the open, and have not been disturbed for years.—WINDSOR.

[You cannot now do anything beyond developing as much as possible the growth of the year. In the first week in July you may lift the Daffodils and separate the bulbs, which may have become too crowded, and are not giving satisfactory flowers. Dig the ground deeply and thoroughly manure it, or replant the bulbs in a fresh piece of ground that has been well prepared. The others may be treated similarly, and all will benefit by the change. In replanting select a slightly shaded place for the Snowdrops and a more open one for the others. Plant the Daffodils thinly and about 5 inches deep; the other bulbs at about 4 inches deep.]

Lavatera trimestris.—This fine Mallow is not nearly so often seen in our gardens as it deserves to be, and there are not many plants—among hardy perennials, perhaps none—which produce so much effect for so little trouble. Sown in any fairly good soil in an open position, at the end of March or beginning of April, according to the season and the district, it requires no care beyond the routine thinning and a hoeing to kill weeds before the plants cover the ground. The seed is best sown in shallow drills about a foot apart, and for all such work as this there is nothing like the excellent, much-neglected tool—the triangular hoe. Clumps in mixed borders are not amiss, but the effect of a good mass—a group, say, 4 yards or 5 yards square—must be seen to be appreciated. The *Lavatera* grows stoutly, requiring no sticks or tying whatever. The flowers are all charming form, and of a peculiarly fine silky texture, and the colour is a distinct and beautiful pink, with just a tint of the mauve shade of its wild congener—the Mallow of the fields. There is a pure white variety, pretty, but not very distinct; and an "improved" strain, which appears in some catalogues under the name *splendens*, and is really a fine and richly-coloured flower. The *Lavatera* apparently defies the dread fungus of the Malvaceae. In a garden where Hollyhocks are almost destroyed, and where the closely-allied *Malope* suffers badly, it has for years continued perfectly clean and healthy.—G. F. S., *Lywood House, Ardingly, Sussex.*

[With the above note was sent a photograph showing a fine mass, but, unfortunately, it was impossible to reproduce it with any satisfactory results.—Ed.]

ROSES.

ROSES UNDER COOL TREATMENT.

To have Roses in bloom during the latter part of March and early in April there is no better method than growing them without artificial heat, especially when one has a lean to greenhouse. Generally speaking, this is built on the warmest and most sheltered side of a high wall or building. Roses in such a position, even without any further protection, are often very forward at these dates. By pruning them about the first week in January and encouraging the sap to rise steadily and more naturally than when under warmer treatment, together with plenty of air on bright days previous to their having broken into leaf, one may secure the full advantages of such a warm position without danger or harm from late spring frosts, which so often ruin the prospects of Roses upon a warm wall without glass protection. Keen winds seldom have much effect upon a house in this position, as they do not come from the right quarter. Under cool treatment Roses break quite as stoutly as when grown in the open air, and will generally throw equally as good blooms, with the great advantage of better shape and cleanliness than June Roses without glass protection. It is surprising to find a

steady growth without fear of severe checks from night frosts. Roses will bloom fully six weeks to two months earlier, while the foliage comes of better colour and is stouter in texture. As soon as the young growths are from 3 inches to 4 inches long let the borders be well watered and occasionally forked over, taking great care that from this time onwards only what air is absolutely necessary is given, and that early precautions are taken to keep down insect pests.

Under two circumstances only should air be given—when the atmosphere is so fully charged with condensed moisture that the young growths show signs of fogging off or damping, and when the sun shines bright and warm, with scarcely any air moving, thus causing the temperature to rise too high during the middle of the day. With due attention to syringing, together with careful ventilation, mildew and insect pests are easily avoided. When liquid manure is applied with the object of feeding the roots, let it be weak, and give a thorough soaking; small doses of this are not so beneficial. Early in the morning a little manure-water sprinkled on the soil, so that the ammonia may rise and feed the foliage, will be found of great value during bright and trying days, when it is often impossible to admit air without risk of a cold draught. The bright weather of the last few days has made it necessary to afford slight shade; this, however, must be very thin. Do not shade the whole of the glass; a little down the centre of the panes is enough; this, with the bars, will throw sufficient shade and relieve the different portions of the plants as the sun works round.

MILDREW ON ROSES UNDER GLASS.

THERE are some rather sweeping remarks on this subject in your issue for April 26th. It is stated at the outset that "mildew will not attack a thoroughly healthy plant." Such a statement, however, is more readily made than proved. When we see the way that mildew attacks such vigorous weeds as Dandelions, Plantains, Groundsel, Sow Thistles, and the like in the open, while smaller weeds, as Chickweed, Clover, and Landeress, in and around and almost carpeting the other things, remain unaffected, it appears most difficult to determine accurately the causes leading up to any attack, whether under glass or otherwise. As for the Roses under glass, it is stated they "require frequent syringing if they are to be kept clean." This statement I do not at all agree with, and, in fact, I am strongly of opinion that the syringe is largely responsible for the "attacks" of mildew. I did not always think so, but as a grower of several thousand Roses under glass I have not the faintest suspicion of mildew on the one hand, and no syringe has been used in any one of my several Rose-houses. I used, say ten years back, to syringe my Roses occasionally, and I am by no means sure in doing so that I did not supply "that slight check" which is said to render the plants "more susceptible to attack." My Roses are perfectly free of the dreaded pest, and it may certainly be worth considering how much or how little the syringe is responsible for the presence of mildew in those instances where both are known. My Roses get mildew in late or early autumn while in the open, but though pruned after being housed, and one would naturally imagine with the germs of mildew present upon them, the plants never develop it under my treatment indoors. Therefore the absence of mildew would appear to strongly favour the treatment accorded. My paths, too, and, indeed, the entire internal conditions, are kept much drier than in many instances of Rose growing known to me, and where mildew abounds every season. E. J.

FERNS.

FERN-CLAD WALLS.

IN reference to the inquiry in a previous issue respecting information for Fern-clad walls, I venture to offer my experience. Some years ago I had a bare blank brick wall in my vineery, which I determined to make more beautiful. I have, like most others, an accumulation of clinkers on the cinder-heap from the fire. I got a bag of Portland cement, and selected a

lot of large flat pieces, and after soaking them in water I then well syringed the wall, and, having the cement ready mixed, set the gardener to work, and dabbed them in cement and plastered them against the wall, a pair of old driving gloves saving the fingers. In a short time I had the wall covered. I then set to form pockets of the same clinkers as large as might hold a Turnip, and the whole was well set and firm in the course of a couple of days. There is no need of cork, Moss, or wire-netting, all such things tending to harbour snails and woodlice, and I did not put any soil about it, except in the said pockets, in which I put a few Begonias, and perhaps for the sake of colour a scarlet Geranium. It should be borne in mind that there is a fernery through another door, and I found with the occasional syringing that in a couple of months it was covered with greenery. The Fern spores had settled on it, and for the last twenty years it has been a source of beauty and joy. Two or three years ago I had a small lead pipe run along the top and bored a few pin-holes every few inches, that all syringing might be saved. This was done with good effect, and during the last few years I had *Adiantum* fronds 18 inches long. The only trouble I have had—the pretty *Ficus repens* got in, and it got so strong that I had to cut it out, as it was smothering the Ferns. There is no reason why every spare wall may not be utilised in this way, as sun is not needful for Ferns. R. G.

Hale Nook, Warrington.

CHRYSANTHEMUMS.

SIX OF THE TALLER EARLY-FLOWERING JAPANESE SORTS. (IN REPLY TO "C. E. S.")

YOUR request is a rather novel one, as most of our readers ask for selections of dwarf-growing plants. These taller-growing kinds have a special value in that they make an excellent background to a large border, and where large beds and borders are devoted exclusively to these plants, those taller kinds enable the cultivator to group his collection all the more effectively. Any time between the first week in May and the close of the month is the time to plant them out. You cannot do better than plant the following sorts:—

NOTRE DAME.—This is a free-flowering silvery-pink kind. The plant, too, has a bushy habit. Height about 4 feet. In flower during the whole of October, and later when the weather is not severe.

MARQUIS DE MONTMORT.—Although this variety was introduced quite a decade since, it is now rarely seen. The colour is silvery mauve, and the plant is a profuse bloomer. Height about 4 feet. In flower during October.

MILLE. SABATIER.—This is a good companion to the first mentioned variety, and possesses a free growing habit. It is a profuse-flowering sort, developing blossoms of a purplish-crimson colour. Height about 4 feet. In flower from middle of October onwards.

WHITE QUINTUS.—In this variety we have a pure white sport from the popular early-flowering sort, O. J. Quintus. The blossoms are of beautiful form, with pretty twisted florets. The plant blooms all the way up the stem from the axils of the leaves. Habit bushy and sturdy. Height between 3 feet and 4 feet. In flower October.

GLOIRE DE MEZIN.—Some ten years ago this was thought much of. Little has been heard of it in recent years, yet it may be classed as one of the best of the October-flowering kinds. It comes into bloom during the second week of that month. The colour may be described as chestnut red, and the flowers, which are much larger than in the majority of early sorts, are also freely developed. Height about 4 feet.

CORAL QUEEN.—This is another sort which has been some little time in commerce, and still valued for its distinct and pleasing coral-coloured blossoms. Like most of the taller-growing sorts, its habit is not so compact and bushy as is desired. Height about 4 feet. In flower from middle of September onwards. E. G.

TREES AND SHRUBS.

PIERIS (ANDROMEDA).

This at one time was known as Andromeda, but there is in reality only one Andromeda—viz., *Andromeda polifolia* (Moorwort), a native of Britain and other parts of Northern Europe, as well as the northern United States and Canada.

In growing the varieties of *Pieris* the leading points to be observed are selecting a cool, moist position, and not necessarily a peaty soil always free from lime, as naturally heavy soils can be made to suit them by deep trenching, and adding plenty of leaf soil, with, towards the top, a little peat. Being slow-growing and compact-rooting they cause little

trouble in pruning or moving. The beds in which they grow suit many species of Liliaceae, which thrive well planted between the shrubs. The best-known varieties of *Pieris* are:

P. floribunda.—A native of the United States, and forming a neat, compact evergreen bush. The racemes, which form in October and do not open until the following spring, are terminal and branching, as may be seen by our illustration, and carry numerous white flowers.

P. japonica.—In seaside and west-country gardens this is a valuable shrub, the leaves when young of a reddish colour, changing with age to a deep green. The flowers, which are porcelain white, are borne in a cluster of erect branching racemes terminating the shoots. The flower is pendulous and almost globular.

P. japonica is without doubt one of the finest

evergreen shrubs we have, its graceful habit and handsome leafage alone entitling it to a place in our gardens. It is of slow growth, and always keeps in a shapely form, thus requiring very little pruning. The flowers, borne at and near the ends of the shoots in clusters of drooping racemes which are each from 2 inches to 5 inches long, are pitcher shaped and white. It comes, as its name implies, from Japan.

Other kinds of less importance from a garden point of view are: *P. Mariana*, from N. America. The leaves of this, which turn a brilliant red before falling, are said to be poisonous to animals. Then we have *P. nitida*, a native of Florida and the southern United States, and *P. ovalifolia*, in which the flowers are pinky-white and showy, like the leaves, which when young are redish-purple.

the ball of earth with the roots—but incline the growth quite to the wall at the surface level of the soil. Plant quite firmly and treat the soil about the plant, but not to the extent of smashing the ball of earth. Water thoroughly to soak the whole of the soil when planting is completed. It may be necessary, and certainly very helpful, to water once a week for some time to come and so insure a good start. The *Roses* named are good, but in either south or east are not so lasting, and the blooms of W. A. Richardson are apt to come pale. But you may plant them in company with the *Aboretum* or with *Clematis Jackmani*, which is a strong doer and free-flowering. Another excellent plant as a climber is *Clematis montana*, with snow white blossoms in May. This plant will require some training, like the other kind and the *Roses*. *Roses* and *Clematis* together constitute quite a happy mixture, and virtually give two crops of bloom from the same area in one season. But the *Clematis* should not be planted with the *Ampelopsis*. All the plants should be obtained established in pots; it is now too late to plant the *Roses* from open ground.]

Evergreen shrubs for fence.—I shall be much obliged if you will give me your advice on the following matter: I have lately put up a fence lined of old railway sleepers and wire netting, dividing off from a field a piece of ground in front of my house, which I am turning into a flower garden and pleasure ground. I have planted on this fence a number of *Roses* and *Clematis*, *Honeysuckle*, and *Sweet Peas*, which, doubtless, will in a short time cover the fence well for the summer months. I am afraid, however, that the fence will be very bare in winter, and shall be glad to have your advice as to what plants would be best to use, so that the fence may be as attractive as possible all the year round? The sleepers, when bare, are unsightly, and so they would want to be well covered. The fence in question is about 50 yards long, and about 10 yards of it at one end are rather shaded by trees.—C. J. L.

[As your fence is already furnished with climbing plants, it is difficult to see how you can use subjects of an evergreen character to take off the bare appearance in winter, as if you plant a screen of shrubs they will in the summer shut out your flowering plants from view. If you have sufficient space you might plant an evergreen alternately with the existing deciduous plants. For the shaded portion *Ivy* commend themselves, and of these there are so many beautiful and distinct varieties that a good selection is, when in a thriving state, always attractive. Other plants available for a similar purpose are *Cotoneaster microphylla*, *Crataegus Pyracantha* (the Fire Thorn), whose berries in winter form such a brilliant feature, *Escallonia macrantha*, *Garrya elliptica*, *Passiflora caerulea* (blue), and *Passiflora Constance Elliot* (white), while *Pyrus* or *Cydonia japonica*, though deciduous, commences to expand its bright-coloured blossoms by mid-winter.]

The Flowering Currant (*Ribes*).—Were this plant less common than it is, it would receive more attention, for nothing in early spring in our gardens can excel it as regards attractiveness. The ordinary form is well known, but there are some varieties that merit more extended cultivation, the chief of which is the double-flowered, which not only differs in being double and of a deeper shade of colour, but has the desirable property of expanding a week or so later than the ordinary form, thus considerably prolonging the season of the Flowering Currant. Remarkably deep-tinted forms, almost a blood-red, are those called *Billardieri* and *atro-rubens*. Continental varieties are very desirable on account of their rich tints. Then there are a few lighter-coloured varieties, and one named *albida* is almost a white, the flowers only being suffused with a delicate blush. Another called *pallida* is of a somewhat deeper shade than the last. The yellow Flowering or Buffalo Currant (*R. aureum*) deserves extended cultivation. It has large flowers of a rich yellow, which appear about the end of April or beginning of May;



Pieris (Andromeda) japonica. From a photograph by G. A. Champion.

NOTES AND REPLIES.

Climbers for house.—I have just moved into another house with a small garden, but two sides of the house are rather bare, and I am anxious to cover them with climbers. Can you give me any ideas as to what is best for the purpose? I have been recommended *Ampelopsis Vitifolia* and *Roses* (W. A. Richardson and *Gloire de Dijon*). Is it too late to transplant these from a nursery? The two sides I want to cover are the east and south. What will grow on them so as to make a good covering, and how should they be planted?—S. H. R.

The *Ampelopsis Veitchi* will do quite well for either east or south wall, and another good kind, also self-clinging, is *Ampelopsis muralis*. The latter is rather quicker and more free in growth, and by obtaining good plants in pots may be put out at any time now. In planting, prepare by digging a hole 2 feet wide and deep, and fill with good soil, to which add quite one-third well-decayed manure. Do not fix the plant nearer to the wall than 6 inches—that is,

trouble in pruning or moving. The beds in which they grow suit many species of Liliaceae, which thrive well planted between the shrubs. The best-known varieties of *Pieris* are:

P. floribunda.—A native of the United States, and forming a neat, compact evergreen bush. The racemes, which form in October and do not open until the following spring, are terminal and branching, as may be seen by our illustration, and carry numerous white flowers.

P. japonica.—In seaside and west-country gardens this is a valuable shrub, the leaves when young of a reddish colour, changing with age to a deep green. The flowers, which are porcelain white, are borne in a cluster of erect branching racemes terminating the shoots. The flower is pendulous and almost globular.

P. japonica is without doubt one of the finest

GO

the leaves, also, are smaller, more deeply lobed, and paler green in colour. The Flowering Currants are really an important group of shrubs, and deserve the best attention, and, instead of being crammed in the usual shrubbery mixture, should be grouped by themselves.

INDOOR PLANTS.

* * * THREE USEFUL WINTER-FLOWERING PLANTS.

REGINIA CLERIE DE LOURAIN.—Anyone contemplating a display should at once make a start. A few old plants that are just their best make excellent stock. Cut back the old flower-stems to their base, give the plant a short rest in a cool house and keep them on the dry side. In about a fortnight they should be brought into the stove or any house with a night temperature of 60 degs. to 65 degs., with a rise to 70 degs. or 75 degs. in the daytime. If kept moderately moist at the root they soon throw up new growth from the base. Take off the cuttings with a heel, or at a good joint, and insert either round the edge of a 4-inch pot or singly in thumb-pots, according to the strength of the cuttings, using a light compost with a liberal sprinkling of silver-sand. Water and place in a propagating-case, at the warmest and shallowest end of the stove. If they cannot be placed out of reach of the sun they must be shaded by some means. A sheet or two of newspaper will suffice, as this can be put on or taken off as required. Bottom-heat is not absolutely essential where the above temperature can be maintained. Keep the case closed, except for a short period every morning, when the light should be tilted an inch or so in let off the superfluous moisture. In from fifteen to twenty days they will be sufficiently rooted to be taken out of the case and gradually inured to the light and air of the house, and finally placed on a shelf close to the glass with a slight shade. As soon as the little pots are full of roots the cuttings will require a shift into larger pots, using a 3-inch or a 4-inch pot, according to the strength of the plant. The grower must bear in mind that at no period do the plants like a big shift. The compost at this and subsequent pottings should consist of equal parts good fibrous loam, leaf-soil, and rotted stable-manure, with a liberal amount of silver-sand. But lightly, place them back on the shelf, and carefully attend to watering. The final shift into a 6-inch pot will be large enough for most requirements, and if all has gone well with them, pinching them about twice during growth, they will show a nice lot of bloom by Christmas.

ERANthis JACQUINIFLORA is a graceful and effective plant when in full bloom; and yet how seldom does one see it well grown, considering the time it lasts in bloom? I have had plants in flower over three months. Half-a-dozen old plants placed in heat are ample to raise a stock of young plants. When the young shoots are from 2½ inches to 3 inches long they should be taken off with a heel and placed in thumb pots in sandy soil. In the same case with the *Reginias* they will soon take root. As soon as ever they are fit take them out and place on a shelf close to the glass. But as they become fit, about two shifts being sufficient during the season, the last shift into a 6-inch pot. Pinch them once or twice during growth to induce them to throw out branches. The compost for these should be two parts fibrous loam, one part leaf-soil, with enough sand to keep the whole porous. A good dash of old mortar-rubble, crushed fine and well mixed, for the final potting is beneficial.

PHENSETIA PULCHERRIMA.—Assuming one has a few old plants to begin with, these, after resting, should be cut back to within a foot or 1½ inches of the base, and at once started in heat. By keeping them fairly moist at the root and syringing the stems once or twice daily, they will soon break into new growth. When the young growths are from 2½ inches to 3 inches long, cut them off with a heel, and at once plunge the heel of the cutting into a pot of fine sand or charcoal dust to check the bleeding. Small pots should be filled with light soil, and one edged with silver-sand, allowing

a little silver-sand to trickle down to the base of the cutting. Press the soil firmly around them, water, and place in the above-mentioned case, or one similar, as here again bottom-heat is not absolutely necessary. It is important that as little time as possible is allowed to elapse from the taking of the cuttings to placing them in the case, as more they are allowed to flag they are a long time before they recover. It all has gone well they should be fit to take out of the case in from twenty to twenty-five days; here again one must be taken that the change does not cause them to flag too much. They should be stood in the shallowest part of the house for a day or two, afterwards placing on a shelf close to the glass. A 4-inch pot for the first shift, finally placing them into 6-inch, and some of the strongest into 8-inch pots. A good compost for these is three parts good fibrous loam, one part leaf-soil, half a part decayed cow-manure, with a liberal dash of silver-sand. Well mix the whole, and put firmly. During all stages of growth the plants should be stood as near the roof glass as possible to keep them short-jointed. About the second week in August the main batch should be hardened off in a cooler house or pit, where they should have the full benefit of sun and air to thoroughly ripen the wood, or otherwise poor, thin flowers will result. About the end of September or a little later, if the weather continues favourable, they must be brought back into a warmer house, and eventually into the store to get them into flower by Christmas.

W. DUNN.

The Gardens, Pimlico, Aberystwyth.

CINERARIAS.

The month of May is a good date to sow seed for an early winter display, making a second sowing at the end of June for a late spring batch. Pans 10 inches or 12 inches across are the most suitable, filling them to within an inch or so with fine soil of a sandy nature, principally loam and leaf-soil, afterwards placing a little rough material over the cracks. Sow thinly, just covering the seed, and place in a cool-pit or frame, with a sheet of glass over, and shade from the sun. If the soil is on the dry side it is best to water a few hours previous to sowing, then no more water should be required until germination has taken place. Remove the glass when the seedlings are through, place near the glass, still shading from the sun, as *Cinerarias* delight in a fair amount of shade and moisture. Before too crowded prick off into pans or boxes of similar soil, 2 inches or 3 inches asunder, keeping close for a couple of days or so until restarted, when plenty of air must be given. A light drawing overhead with the syringe two or three times daily will benefit the little plants. Place into 4-inch pots before the foliage gets drawn, carefully lifting the plants with as many roots and as much soil as possible, returning them to a cold frame on a northern aspect resting on an ash bottom. The soil for this first potting need not be quite so fine. To one bushel of fibrous loam add one peck of leaf-soil, a 5-inch potful of soot, a 6-inch potful of bone-meal, and enough sand to keep the whole porous. Water through a rose can, and keep a bit close and shaded until re-established, when afford full ventilation, removing the lights during fine nights. A strict look-out must be kept, as green-fly, thrips, and the Marguerite leaf-miner, or maggot, are all enemies to this plant, and soon cause disfigurement to the foliage if once established. Fumigating with nicotine will destroy the two former, and hand picking is the only remedy for the maggot. Shift into 6-inch and 7-inch pots when fit for potting, which will be large enough for them to flower in. Keep the plants frequently turned round, and allow plenty of space between each, for if the foliage gets drawn it detracts greatly from the appearance of the plant. As soon as the pots are full of roots, a little weak liquid-manure water from the cowshed, or clear soot-water, once a week, will be of benefit to the plants.

Usually the plants may be kept in cold-pits or frames well into November if carefully matted up at night, but care is necessary that the foliage does not decay owing to dampness. When removed to the greenhouse, open a window to the heat as much as possible, and the plants

plants are kept the better and less liable to insects. It is a wise plan to fumigate every fortnight or so. The large-flowered varieties are still admired, though *cruenta* and *stellata* are worthy of a place when lofty houses have to be kept gay, and I find these, though sown at the same time, take longer to come into bloom than the larger flowered ones, thus carrying the display well into May. The free-branching habit of the *cruenta* and *stellata* forms makes them more suitable for grouping than the large flowered kinds, the many shades of colour, too, adding greatly to their beauty.

J. M. B.

NOTES AND REPLIES.

Phyllocaeti failing.—I have a collection of *Phyllocaeti*. I find a good many are turning a reddish-brown in the leaf, some are shriveling. Can you give me the cause and the remedy? They are well attended to, and are watered plenty of light and air. They are potted in a mixture of loam; charcoal, broken brick, dried cow-dung, leaf-mould, sand, and a little peat.—CARRIE.

[Your note does not show a weak place in the treatment of your *Phyllocaeti*, and we can only suggest that they may have been kept too cold and moist at the roots during the winter, at all events, that was the cause of some plants that we inspected lately behaving as yours have done. On examination most of the roots were found to be decayed, hence we advised them to be shaken clear of the old soil and repotted in some good, sweet compost, keeping them afterwards rather closer and warmer. They already present an improved appearance. *Phyllocaeti* do best in a structure where the temperature in winter falls but little below 50 degs., and very little water is at that time needed. If on examination the roots of your plants are found to be dead, shaking clear of the old soil and repotting are certainly the best remedy. After potting be careful not to over-water, but a slight bedewing from a syringe is on bright days very beneficial.]

Plants for greenhouse.—I have a small greenhouse, about 15 feet by 9 feet, without heat, which has proved itself a splendid one for *Maréchal Niel* Roses. The north side is a brick wall to the sloping eaves, and the south side is glass. Should the Roses be grown up the north side, and what can I grow on the south side? Will Tomatoes do well? If so, what kind?—S. H. R.

[You are fortunate in possessing a greenhouse that will accommodate that magnificent *Rose Maréchal Niel*, and we would not hamper it with anything else. Rather would we develop the *Rose* and fill the house therewith, and so make it a feature. The *Rose* will certainly require to be so trained that the shoots get fully ripened by exposure to the sun, as upon this depends so much of the flowering next year. It will, therefore, depend on the size of your plant as to what you can accommodate besides, and with the *Rose*-shoots trained near to the roof on one side, Tomatoes may be grown on the other. Do not allow the plants to run wild and so overrun the place that the *Rose* will suffer. Six plants may be grown, keeping them to a single stem, not stopping until they nearly reach the roof. By planting on the south side you may train them up the rafters and not stop them at all. Keep all lateral eyes pinched out or rubbed out as they form. Challenger is a good kind and free. You had best procure the plants in pots, as having no heat, you cannot get a long season of fruiting, and perhaps it will be best when three or four trusses of fruit are set to stop all further growth and cut off the rest.]

Growing Caladiums.—I am growing a good many *Caladiums* from tubers, and also from seed purchased abroad. I should like to get my own seed, but although many of my plants have flowered, not one has yet produced any seed. I should be much obliged if you could tell me the reason. Should they be artificially fertilized? If so, in the ordinary way? In no book I have the subject mentioned. Childs, of New York, has made a great fuss about a flowering *Caladium*, which he calls the "New Century." I ordered several, and as they were sent in a growing state, they arrived, of course, dead, except one, which, by careful nursing, I have pulled through. I am very doubtful, however, whether it is worth the trouble, for I do not believe it is a *Caladium* at all. I cannot speak with absolute certainty, because I have not yet seen it in flower, but the leaves are like those of a *Utricularia* in shape and colour (glossy green), and the habit of growth is the same. Do you know anything about this so-called *Caladium*?—B. C. DAVENPORT.

[It is necessary to artificially fertilise the *Caladium* blossoms (which can, however, be readily done) in order to ensure seeds. An item of great importance is to maintain a dry atmosphere at that period, as from the shape of the spathe moisture is apt to collect there, and thus deprive the pollen of its potency.

By watching the flowers after development you will see that the low portion of the spadix has numerous protuberances, which are really the female organs of the blossom. Immediately above these the pollen will soon make its appearance, all that is necessary being to

often used, and flower well. *Thunbergia alata*, an annual plant with orange-coloured blossoms, can be raised from seed, and its long, trailing shoots will not be without flowers during the summer. The blue flowers of the looser-growing forms of *Lobelia* are also very pretty, while a common British plant, the Creeping-Jenny (*Lysimachia nummularia*), bears its golden blossoms profusely. Of variegated-leaved plants beside the Ivy-leaved Pelargonium *L. Elegante*, you may use *Nepeta glehmanni variegata* and *Messembryanthemum confilium variegatum*. Presuming the baskets are of wire, and that is the material generally used, they must, in the first place, be lined with large, closely-woven flakes of Moss, if they can be obtained. In some districts these are easily got, but failing them thin turves with the Grassy sides outwards form effective substitutes. Considerable care must be taken in lining the basket, as upon this a good deal of the future success or otherwise depends. Being finished, it will be of cup-like form, and into which your plants may be disposed at will and planted therein. In planting take care to keep those of pronounced drooping habit around the

edges, and do not pile up the soil above the lining material, otherwise it will wash off when watering. Ordinary potting compost, such as a mixture of two parts loam to one part each of leaf-mould and well-decayed manure, with a little sand, is very suitable for all the plants above mentioned. After the basket is planted, a little fluky Moss pugged over the top is an advantage, as it keeps the soil from being washed away, while a good plan is, when filled, to allow it to stand down for a week or two before hanging

have cut off some of the extra branches, and have repotted it (it is in a very large pot), but it looks as bad as ever. Can you advise me on the subject?—S. G.

[Your Indiarubber-plant is in all probability too far gone to restore to health—in fact, the shrivelling of the shoots and the leaves lying off would indicate that the roots, and very likely the base of the main stem, are dead. It is difficult to say with certainty what is the cause, but our experience is that in nearly every case that comes under our notice the soil is kept too wet, particularly during the winter months, while the pot is often considerably larger than the plant really needs, and when this is the case, even if but seldom watered, the soil is apt to get too wet. The fact of your plant failing about a month ago would indicate that the mischief was done in the winter, for some little time would elapse before the damage was noticeable. We can only advise you to throw away your old plant and start again with a young and vigorous one—if possible, a plant that has been grown in a cool structure, for in some nurseries where Indiarubber plants are grown in quantity they are pushed on in considerable heat in order to attain a saleable size as soon as possible, and consequently they are apt to sicken when removed to a cooler place. To keep an Indiarubber-plant in health the leaves should be sponged frequently, and enough water given to keep the soil fairly moist, but by no means in a saturated state. When water is needed give sufficient to wet the ball of earth thoroughly, but in no way allow any of it to remain in the pan or saucer in which the pot may be stood. If repotting is needed, do it in the months of April or May, using a mixture of equal parts of loam and peat, with a good dash of sand. See that the pot is effectually drained with broken crocks.]

Lilium auratum not starting.—In March I bought and potted a quantity of *Lilium auratum* bulbs, and then put the pots in a box, covering them with wet ashes. I have had them in a cellar till now. On examining them I see no signs of growth or of root. Kindly say in your paper if I ought still to keep them in the cellar, or put them in a heated greenhouse or cold-frame?—J. S.

[You have done quite right in potting the bulbs and plunging them in the box, but we think you erred in covering with "wet ashes." This may be no detriment, and will depend on the condition of the bulbs. There is no time



Pteris floribunda. (See page 134.)

remove it with a camel's-hair brush to these protuberances below. A part of the spathe may be cut off if it is in the way. In a dry atmosphere some of the blossoms will fertilise themselves, but to ensure success the better way is to use the brush. We have seen the advertisement of the New Century Caladium, but not the plant itself. The illustration at once struck us as representing one of the *Colocasias*, some of which have fragrant blossoms, a feature claimed for the Century. They are nearly related to the *Caladiums*, one species, indeed (*esculentum*), being sometimes regarded as a *Colocasia* and sometimes as a *Caladium*, but, of course, wholly removed in every way from the beautiful-folaged varieties of *Caladium* grown in gardens, which are the progeny of *Caladium bicolor*.]

Plants for baskets.—Will you kindly let me know (1), which are the best plants to have in a hanging-basket (in the open) to make the best and longest show of bloom (to include Ivy-leaved Geraniums), with a fair amount of fancy or variegated foliage and trailers! (2), The best way of making up a basket for planting, and also the compost used?—W. J. CURRER.

[You have a considerable choice of subjects that will do well in hanging-baskets in the open, and keep up a display of flowers during the summer months. Ivy-leaved Pelargoniums thrive under such treatment, and especial mention must be made of the double-flowered forms—*Souvenir de Charles Turner*, carmine; and *Mme. Croisse*, salmon-pink. A variety known as *L. Elegante* has the leaves broadly edged with white, which under exposure to the sun becomes suffused with pink. This is the best variegated-leaved kind for hanging-baskets. The flowers are single, loose, and whitish in colour. *Tropaeolums*, too, of the different kinds make good basket-plants that will resist drought better than some subjects. *Petunias* also are very attractive, particularly the single-flowered forms, as they are not so readily injured by wind as the double kinds. *Begonias* of the tuberous-rooted section also do well in this way, not little seedling plants, but good-sized tubers, at least as large as a penny. For the centre of the basket *Fuchsias* of a free-branching habit of growth, or brightly-colored *Zonal Pelargoniums*, bright-eyed

it in its place, as the plants will be by then taking possession of the new soil.]

Failure of Indiarubber plant.—I have an Indiarubber-plant, well grown, and in a large pot. It did not get on well in London, so I brought it down to the country in March, since when, up to a month ago, it has done very well. Now, however, it is drooping, the soil is shrivelling, and the leaves falling

lost yet, as some bulbs take a long time to start either root or top growth. It is always best, however, if the bulbs are quite sound, to use soil only just moist—certainly nothing like wet soil should be used and then covering with ashes of the same degree of moisture and richness as the soil in which the bulbs were



Pteris formosa (in a Cornish garden). (See page 111.)

may be needed till the growth was well above the ashes. The cellar is quite a good place, and in the dark, uniform coolness of such the bulbs will be safe, even if they do not so early start into growth. It frequently happens that but few roots are produced from the base of the bulbs in this Lily, and none are seen until the top growth is made and the roots appear on the stems. Such as these are not destined to make a permanent success, and, indeed, will not be a success in the first year, unless these stem-roots are encouraged by covering them carefully with good soil, for on these depends the flowering, and with this performed the bulb perishes, because, no basal roots having been formed, no fresh bulb centre is formed either. No harm will ensue if you carefully take out a bulb for examination, and if sound the bulbs will be quite safe in the cellar till growth appears.]

ROOM AND WINDOW.

CUT FLOWERS IN THE HOUSE.

THE arrangement of cut-flowers in the house appears to be, in a general sense, very little understood. Very often flowers individually of the greatest beauty are wedged together in a glass or vase so tightly as to be almost unrecognisable, and no regard whatever is paid to harmony of colour or to suitable foliage for forming a setting to the flowers. Wherever possible, the flowers should be arranged with their own foliage, and only one kind ought to be used in the filling of the glasses or vases. In the vase here figured the Narcissi look well arranged among the sprays of Laurel, and the flowers being few in number and lightly and carelessly arranged, are seen to the best advantage, which is not the case when they are luddled up together, as is often the case.

PLANTS AND FLOWERS IN THE HOUSE.

PLANTS IN POTS.—With the more congenial weather there will be far less need of fires; in fact, it will be good policy to dispense with them entirely, save in the largest of rooms. In consequence of this, more plants will in some cases be needed; more particularly is this found to occur where the fireplaces have to be filled. Such positions are not in any sense suitable for plants, being oftentimes far removed from the light. It is also a good policy, as far as the plants are concerned, to keep the chimney ventilators closed where these exist. With the tiled fireplaces and curved margins in place of the fenders, as now in use, it is an easier matter to make a good effect with such arrangements than it used to be, as the pots are not so much seen, a saving of the smallest plants being made. To start with, in such groupings, or indeed at all times, the plants chosen should be of a persistent or enduring character. Of Ferns, for instance, such as *Asplenium heidum* and *A. bulbiferum* should be chosen; whilst of the Pteris family, *P. tremula* and *P. cretica* are two of the hardiest. The *Lustreas* and *Doodias* are all suitable selections. Only the very hardiest of the Palms should be used at present; it is a pity to spoil well-grown *Kentias* by using them too soon. *Phoenix dactylifera* and *P. reclinata*, with *Seafortnia elegans*, are each calculated to stand well, more particularly the two former. Of other fine-foliaged plants, every possible use should be made of the *Aspidistra*, the green-leaved form being the hardier of the two. *Aralia Sieboldi* will also stand well; so will *Phormium tenax*. Turning to the flowering subjects, *Spiraea japonica* will be found one of the best, provided it be freely watered. *Dielytra spectabilis* is also a suitable plant. Dwarf Indian *Azaleas* look very well, but it is a pity to use them in such unfavourable positions. By aiming at the use of plants which are of no material moment after they have flowered, the results in the long run as regards the supply will be found more satisfactory. To half kill a plant and then have to expend additional labour in its restoration to health is not at all a good policy. *Eulalia japonica variegata* and *E. japonica zebrina* are excellent for the purpose.

so are *Asparagus plumosus* and *A. tenuissimus*, whilst of other flowering plants *Primula obconca* would serve a good turn, as well as late *Cinerarias*, both of which can be thrown away when of no further use.

CUT FLOWERS.—With the rapid advance of spring we have a wealth of hardy flowers from which to select; these will in a great measure relieve the demand upon plants grown under glass. It is either a mistake or a lack of appreciation of the beautiful that fails to recognise the immense utility of hardy flowers in a cut state. The earliest possible use should be made of them; by so doing, not only is the choice so much the more varied, but it affords an opportunity of turning the room under glass to a better account. The early deciduous *Magnolias* are over and gone for the season; they have, however, done good service as cut flowers. *Pyrus japonica* has lasted out well, and now we have later species from which to choose, as *P. sinensis* and *P. spectabilis*. The *Lilacs*, too, are earlier than usual this spring. *Scilla campanulata* claims notice as one of the most beautiful of its race for use in floral arrangements. If the spikes be pulled instead of cut, they can be had of greater length, whilst even with only a few flowers expanded

quite early in the morning or just before night-fall; if cut in the middle of the day with the sun shining brightly, it cannot be expected that they will keep well.

GROWER.

FLOWERS AND PLANTS IN ROOMS.

A bowl filled with Sweet Brier and single Post's *Narcissus* fills the room with sweetness, and though there are in the same room a large *Gardenia* and a bouquet of *Stephanotis*, the Sweet Brier is the winner in the competition of sweet smells. A bunch of Parrot Tulips, some all yellow, some yellow lamed with scarlet, are in a tall Dutch jar; they are of high decorative value, brilliant in colour, and fine in form, with their richly fringed and jagged petals tossed about in a lawless fashion, thrown across one another or flung right open; some have stalks standing stiffly upright, but oftentimes about in a way that makes it easy to dispose them gracefully over the edge of the jar. An upright glass holds a large bunch of *Narcissus biflorus* with pale green foliage of the yellow Day Lily. Alpine *Auriculas* are valuable as cut flowers, lasting in good condition quite a week, and retaining their sweetness to the end. From their varieties of colour many beautiful com-



An arrangement of *Narcissi* and Laurel shoots.

each spike will continue to develop up to the extremity. Before this variety is over, the other forms of it, as *S. campanulata alba* (very beautiful) and *S. campanulata rosea*, will be in flower, each doing excellent service. The common Bluebell even is not by any means to be despised. The later kinds of *Ballifolias* are as serviceable as the earlier ones, most of them being quite distinct. It would be an easy matter to multiply instances of hardy flowers which may be turned to a good account. Their use is even further emphasised when having to cut a quantity of flowers to send to a distance, far surpassing those from under glass, on the whole, for safety in travelling. From under glass cut *Roses* will be amongst the best and choicest flowers. Of these, William Allen Richardson is valuable. It is one of the very best, but, unlike many climbers, it will bear free pruning when once a large plant has been obtained. Its lasting qualities do not seem to be fully known. It soon develops from the bud stage to the expanded bloom, but it then lasts so remarkably well—better than many other *Roses*; it fades from the rich apricot shade, it is true, but the petals do not drop prematurely. *Roses* from under glass should now be cut

binations may be made, such as pale yellow, delicate lilac and white, and lilac blotched with purple; another of tawny and copper-coloured with crimson and deep maroon, observing that it is generally best to keep those together that have the same coloured central ring, whether white or yellow. A white china basket has blue *Pansies*, pale and dark, from vigorous border sorts; the shoots of flowers and leaves are cut whole, and hold themselves much better than any arrangement of the flowers and foliage cut separately. With the *Pansies* are some long-stalked single blooms of *Clematis montana*, and a well-chosen spray of *Clematis* with short-stalked flower-winds round the handle and droops over the front of the basket. A storm-broken branch of *Apple* gives material for filling a brass dish 15 inches across; the twigs of wide open flowers are in a large group towards the centre and one side, the rest is of the rosy buds and half-open flowers; between and among the blossoms, not stiffly arranged, but as if growing up here and there, are shoots of the highly-polished and brilliant green young leaves of *Ivy*. An oval silver basket is arranged with pale pink and rosy Indian *Azaleas* and *Clematis*. These *Azaleas* are still among our most valuable cut plants.

GARDEN PESTS AND FRIENDS.

Is the Globe-flower poisonous?—I enclose some of the Globe-flower (Troilus europaeus), and would be much obliged if you could tell me if the young shoots are poisonous? Nearly every spring I lose a sheep, always in the same field, and only in this same field does the Globe-flower grow in two large damp places. I think the young shoots must poison the sheep, but before fencing, digging it out, would like to know if such is the case?—U. P. S.

Many of the Ranunculaceae (the family to which the Globes belongs) are poisonous that I quite expect the Globes may be. I have never heard of its injuring sheep or cattle before; but it is by no means a common plant in woods, so that the young shoots may be poisonous, though not generally considered to be so.—G. S. S.]

Bees in bank.—Will you kindly tell me the name of the wild bees? I found thousands of them on a warm, sandy bank at Ottersham, in Surrey, each one burrowing a hole in the sand. The bank for many yards was full of them. I have never seen so many solitary bees, and they are not, in one locality.—HENRY W. POOCK.

The name of the little wild bees which you find so plentiful burrowing into a sandy bank is *Andrena fulviventris*. They are solitary bees, as each makes its own nest without assistance from others, but at the same time they are gregarious to a certain extent, as they are generally found in numbers together, the situation which suits one being equally congenial for others. They fill the cells in their burrows with honey and pollen as food for their grubs.—G. S. S.]

Plague of earwigs (*R. Humphries*).—The only way to get rid of earwigs is to trap them, unless you could shut up a rooin and are sulphur in it, which is probably not practicable. As they fly well, there is no means of expunging them out of the house but by closing the windows or doors. Earwigs may be trapped in crumpled-up sheets of newspaper, loosely folded cloths, the hollow stems of plants, such as Bean or Sunflower stalks, or small Bamboos, they are said to be very fond of hear and made. You might try smearing a sheet of newspaper with some, and then crumpling it up and placing it where the insects are. In the morning open the traps over a basin of strong water, or water that has a little kerosene oil floating on the top.

The St. Mark's-fly.—Please tell me whether the grub is the same as those mentioned in your paper March 20, and which turn into St. Mark's-fly, or are they another grub in their earliest stage? Some of our men are full of them, but they have had manure on all the winter.—MOLLSKROPP.

The grubs you sent are, I believe, those of the St. Mark's-fly, but I cannot be quite sure, they had become chrysalides before they reached me, and in this condition it is impossible to be quite certain of the species, they certainly are not the grubs of the cockle. The manure would have no effect on the grubs, except keeping them warmer than they would otherwise have been.—G. S. S.]

The Holly-fly.—A large Holly-tree is badly infested by these grubs—see enclosed leaves. Kindly suggest what had best be done to destroy them? The shrub is otherwise healthy, growing well, and with plenty of bloom.—DOE ATCK.

Your Holly is attacked by the grubs of the Holly-fly (*Phytomyza aquifolia*). It is a very difficult pest to deal with, as no insecticide can reach the grubs, safely enclosed as they are between the skins of the leaves, which are very hard and stiff, and the transformations of the insect are all undergone within the leaf. The flies lay their eggs under the skin of the leaves in May or June. If the exact time of the appearance of the flies could be found out it might be possible to prevent them from laying their eggs by spraying the leaves with paraffin solution, taking care to spray both sides. The trees would have to be kept under the influence of the wash for several days. The only other remedy I can suggest is picking off the infested leaves and burning them, which would be almost as difficult to accomplish as spraying.—G. S. S.]

Codlin-moth destroying Pear-bloom.—Kindly tell me what the larva is which is infesting my Pear blossoms, and what I am to do to prevent the loss of my whole crop? The Pear-tree is Marie Louise, situated on the wall of my dwelling house, age about 30 years. For the last 10 years I have suffered more or less from the same. I think, Dipterous larva, specimens of which I have enclosed. I have tried various remedies. I have covered away the soil round the roots, burnt it, and treated it with fresh earth, treating it as one would a raspberry-bush. This year I tried spraying the trees with Bordeaux-mixture, the recipe for which I obtained from your pages. Nothing seems of any avail, and I enclose you for information and advice.—W. H. A. POKKAND.

the enterpillars of the Codlin-moth (*Carpocapsa pomonella*), in a very juvenile condition. Spray the tree at once with 3 oz. of Paris-green, an equal quantity, bulk for bulk, of fresh lime, well mixed in 50 gallons of water. This mixture should be kept well stirred, as the Paris-green is very heavy, and soon sinks to the bottom. When this is the case part of the mixture is too weak and the rest too strong. It should be applied with a syringe or garden-engine with a spray nozzle, so that it should settle on the blossoms like a fine mist. When any of the infested Pears fall prematurely, as they are likely to do, they should at once be picked up and destroyed. In the case of standard trees, it is very useful to tie hay-bands or fobbed strips of canvas, etc., round the stems near the ground, so that the water-pillars, when they leave the fallen fruit or let themselves down to the ground from those which have not fallen, reach the stem and begin to climb up it in search of a sheltered place in which to become chrysalides, soon find just what they want. This would hardly be of much use in your case, as the caterpillars would probably find shelter in some crevices in the wall or behind the branches where they touch the wall. You might spray the tree and wall in the course of the winter with a caustic wash, made as follows: Put 1 lb. of caustic soda into half a pailful of water, to this add 1/2 lb. of pearlash, stir until all is dissolved, then add enough water to make 10 gallons; lastly, add 10 oz. of soft-soap which has been dissolved in a little hot water, and mix all thoroughly. This is a very caustic mixture, and will kill any insect life that it comes into contact with, but it will also ruin any clothes it touches, and if it gets on to the skin it should immediately be wiped off.—G. S. S.]

FRUIT.

VINE LEAVES SCALDED.

Could you kindly tell me what is wrong with the enclosed Vine leaf? This year the Vines have grown well and there is a good crop of grapes, but several of the Vine leaves have gone like the one sent.—F. W.

[To all appearance this is a bad case of scalding. The leaves received are somewhat thin, and the smaller one seems to have been pressing rather hard against the glass at some time. Far too many Vines are grown much closer up to the glass than is good for them. There ought always to be a clear space between the leaves and the glass, and instead of the wires being strained from 6 inches to 12 inches from the latter (10 inches being perhaps a fair average of what is to be met with), they ought to be not less than 15 inches, and where there is sufficient head room in the house 18 inches from the glass should be the distance. When the leaves are close up to the glass, or press against it, which is far worse, a few minutes' neglect in ventilating may, and often does, mean the ruin of many of them. Especially is this the case when the temperature during the night has been low, and not sufficient fire-heat employed to prevent stagnation of the atmosphere. Leaves in a dry state do not scald so quickly as those that are wet, whether the moisture be due to syringing, exhalation, or condensation. The sudden rise of heat from, say, about 60 degs. to nearer 100 degs.—and this may take place close up to the roof without those in charge being aware how hot the house has become where the leaves are—sometimes results in scalding, or if the leaves press against the glass they are literally parboiled. Some houses, owing to their construction, more especially as regards the quality of glass used and the close fit of same, require to be ventilated earlier and more carefully than others, and the position of the rinery has also to be taken into consideration. We should advise "F. G." if he has not previously done so, to keep a little heat in the hot-water-pipes during the night, and if a chink of top air be put on the last thing at night, the requisite buoyancy of atmosphere will be maintained and moisture prevented from collecting on the leaves. On bright mornings more air should be given before the heat rises to 75 degs., and be gradually increased. When air is given thus early, sudden dashes of cold air are guarded against and the need the ventilators be opened so widely as would be necessary when

late morning ventilation is resorted to. This treatment would probably be followed by a thickening of the leaves and a general improvement in the health of the Vines.]

NEW WOOD ON OLD FRUIT-TREES.

I THINK there is nothing more disheartening to owners of gardens than to go on year after year cultivating fruit-trees or bushes on what is supposed to be the most approved plan, and to find that there is little or no return for all the labour and expense they have bestowed on their trees. This feeling is often aggravated by seeing trees of the same varieties baled with fruit in their neighbour's garden, where hardly any trouble is taken with them. In the end we are forced to admit that a good deal of energy has been wasted on our trees in the shape of pinching and pruning, and that if more natural growth had been allowed for heavier crops of fruit would have been obtained. In looking round several gardens last summer I observed many Pear-trees that had originally been closely pruned small-trees, but from getting into a barren state they had been allowed to grow into pyramids high above the walls. When I saw them the long branches had bent right down on to the top of the wall with the weight of fruit. There can be no question that over-restriction of the growth, especially of wall or espalier-trained trees, has had more to do with inducing barren and worthless trees than all other causes put together. In my early days I have often had to prune off all the fore-right shoots of Pear and other wall-trees that were simply perfect as far as form and training went, but as fruit-producing trees they were worthless. Young trees, with no old and worn-out wood, are favoured by market-growers. The old closely cropped-in trees are giving place to more naturally grown specimens. But one need not rush to the opposite extreme and give up pruning altogether, for, except in the case of large standard orchard-trees, that course soon produces only second-rate fruit. With wall-trained, espalier, pyramid, or bush-trees the one thing to keep in view is a constant succession of young fruitful wood, to get which it is obvious that a portion of old wood must be removed to make room for it. I had that it is better to do this removal by degrees than to have any fixed season or date for the work. Now that there is a wonderful display of bloom on all sorts of fruit-trees, both trained and untrained, is an excellent time to take out any old or worn-out shoots, to give the rigorous young wood room to extend. Just after the crop is set is the best of all times for thinning-out any useless wood, for one can then insure a crop for the current year, and at the same time provide space for training in the wood that will carry next year's crop. New wood is not only necessary on outdoor fruit-trees, but especially on old Vines, for if young rods are taken up from the base every year to replace the ones that carry this year's crop, the spring of labour is enormous, and the results in weight of crop quite doubled. JAMES GROOM.

Goquat.

Liquid manure for fruit-trees.

Many people who have orchards might get double the quantity of fruit and of an infinitely better quality by pouring the liquid from the farmyard around their Apple-trees instead of letting it go to waste. House sewage is most valuable for the purpose, but where the orchard is Grass covered it should be diluted considerably, or it will kill the Grass. In an orchard which I know, and where the trees are very old and showing signs of exhaustion, house sewage was applied during the winter, with the result that fine healthy growth and abundance of large fruit were produced the next season. Farmers in particular who have plenty of horse and cow urine might preserve their orchard-trees in a fruitful and profitable condition by its judicious annual use, and that, too, without a great deal of labour. All orchards are further improved by being surface-tanned previous to the liquid being applied. This admits air and warmth the following spring, and induces the roots to come to the surface. Old trees of hardy fruit-trees, also Vines, would be equally benefited by the same treatment. If, however, the forest in which

the latter are growing is composed of strong loam or is at a low elevation, injury might ensue from the winter use of liquid-manure.

VEGETABLES.

EARLY POTATO GROWING.

SPROUTING IN BOXES BEFORE PLANTING.

Another important matter is the size of the sets, and this falls naturally to be considered with the method of sprouting in boxes or trays before planting. This method is the most powerful agent in hastening on the early Potato crop. It is now in universal use in England and Scotland wherever early crops are grown, and it has so much to commend it that in many districts it has been adopted for the late crop also. The system, however, is not well known in Ireland, and some minute description is desirable. The box or tray is 24 inches long, 12 inches wide, and 3 inches deep. The corner pieces are 7 inches in height, and strong, so that the boxes can rest on the top of each other when piled for winter storage. There is a cross handle for carrying, which is tenoned into the side pieces, and the whole forms a light, handy, and durable utensil, which, with ordinary care, will last for years. These boxes are not at all expensive, the cost being 30s. per 100 completed, or a little over 3d. each. Each box holds about 20 lb.; speaking roughly, it takes about six boxes to 1 cwt. The seed Potatoes are filled into the boxes until they are level with the sides. No earth is mixed with them, and no water applied to them. No particular care is taken to have the eyes set upwards; the Potatoes are simply poured indiscriminately into the boxes, and left to huddle as Nature suggests. If large sets are used they will be one deep in the boxes; but, if of a smaller size, they may be two or three deep. This does not matter; the sprouts find their way up through the interstices. When the boxes are filled, they are piled up one on the other to any height it may be found convenient. There is no way in which seed can be kept more safely or stored in smaller compass, and it can be examined at will and overhauled at convenience, should that be found necessary. The rule in Scotland is to fill the boxes in October, and by February the sprout is long enough. In Ireland, where the winter temperature is much higher, the trouble will probably be, not to get the sprouts sufficiently long, but to keep them from growing too long. Therefore, the end of November would be a good date to fill the boxes.

Two inches is a good workable length of sprout; if much longer they are apt to wriggle about and break off unless very gingerly handled. The length of sprout, however, cannot always be regulated, and sometimes they may be so long as to be touching the box above. There is no actual harm in this, but it is inconvenient and should be avoided if possible. The best way to check growth is to expose the boxes to light and air. When growth is desired, exclude all light. Exposure for some time before planting is necessary in any case, in order to toughen the sprout and enable it to be handled with impunity. When the boxes emerge from darkness the sprouts are very white and tender, just as they are in a pit, but after a few days' exposure they become quite hardy and do not readily break. At this stage another most valuable use of the box becomes apparent—viz., whenever exposure takes place it can be seen at once whether the stock is pure. Among the multiplicity of varieties there are scarcely two which have the same colour of stem and habit of growth. Thus Puritan has a white and spindly stem, which becomes greenish on exposure; Early Regent has a short, sturdy stem, which becomes bright red; Maincrop becomes purple. In this way it is always possible to eliminate the "rogues" before planting, although it is a very troublesome and often wasteful operation. Regarding

THE SIZE OF THE SETS.

Irish growers as a rule prefer large tubers, which can be cut. That is in the main sound judgment, but in the cultivation of early Potatoes some modification of this opinion has to be observed. Many of the first early varieties

are not suitable for cutting. Puritan, for instance, is a most risky Potato to cut. It does well enough under perfectly normal conditions, but where the plant suffers any check from frost, cold winds, or drought, and is thereby cast back upon the resources of the set, it rarely does well. The flesh is very soft and soon rots away to the skin, so that there is no vigour left to start on a new growth in May, should that be needed, and the plant becomes sickly and infertile. Something has to be risked if seed be scarce and dear, but, on the whole, it is better if Puritan and that soft class be not cut. Boxing almost precludes cutting. Of course, it can be done after exposure has rendered the sprouts strong enough to handle. But it is a tedious and expensive process, and is often rendered futile by the fact that the tuber has grown only from the first intention, and has produced only one shoot, or, if two, so close together that a knife cannot be inserted between them. If it is desired to persist in cutting, the seed should be boxed early, and when it has sent out a tiny shoot, that should be broken off, and the Potatoes will then bud from several eyes. The ideal size for boxing would be about 1½-inch riddle, but Potatoes cannot be made to order, and buyers have often a limited choice. It would be a mistake to discard a known and reliable stock because of uneven size, and take in preference an unknown lot on account of its uniformity. Crops grown from seconds appear to come earlier to maturity than those grown from large sets, but the yield is lighter. The reason of this is that the plant is not so vigorous and ceases to grow to top sooner, and consequently takes to tuberizing. Therefore if a grower is in a favoured position in point of earliness, can raise for the very earliest market, and can command the first and highest price, he need not hesitate to plant seconds. If, however, he is not so favourably placed for earliness, and has to take a secondary place in the matter of price, he has then to rely on a heavy crop for results, and that is more secure with large sets. A safe practice would be to buy "good and ware" dressed over 1½ inches, and when boxing separate the "seconds" from the "ware," and put them in a different set of boxes. Plant the small ones close, say, 10 inches to 11 inches apart, and the large ones wider apart, say, 18 inches to 20 inches. The large sets will mark themselves to a drill throughout the whole season, will give a heavier crop, and be a few days later. "Seed and ware" is a size much easier bought, as a rule, than uniformly sorted seconds. A thing to be avoided is seconds grown from seconds. Nothing deteriorates a stock so quickly as that. After the boxes have been filled and housed, care has to be taken that they suffer no damage from frost. It takes a good deal of frost to injure Potatoes in boxes, provided there are no apertures through which cold winds can reach them, and it is extremely unlikely that any risk will be incurred from this cause in those parts of Ireland where the industry will be attempted. But if there should be a protracted and very hard frost it would be necessary to apply some heat. That is not difficult. For a small house an oil-stove would suffice, and for a larger house a slow combustion stove suits very well. No vent or chimney is required if coke is used for fuel, as there is no flame to cause danger from fire, and the fumes do no harm. House accommodation is not always easily provided. Boxes are frequently piled in the rafters of stables and cowsheds, and they do quite well in such places. In the south and west of Ireland they would be safe outside, if some old sacking were tacked over them to turn the wind, and a straw stack built over the whole.

ADVANTAGES OF BOXING SEED.

Although the main purpose of boxing is to secure an earlier crop, the system has besides many other advantages. One of these is that the seed is better preserved. A crop of early Potatoes, designed for seed and raised in August or September and stored in pits, must necessarily grow to a considerable extent before spring. In handling, these growths have to be broken off, and the sets thereby suffer seriously in vigour, and, consequently, the plant is robustness. Moreover, the first intention from which Nature intended the plant to grow is

lost. All this mischief is obviated by boxing. Another great advantage is that the farmer need not hurry to plant his ground in spring while the land is in a wet and undesirable condition. The seed is doing its work better in the boxes than it possibly could in such adverse circumstances, and the land is not soured by unseasonable working. It is often urged against the boxing system that it is too expensive. That is not the case. The initial cost of boxes is not more than 30s. per acre, and seed is stored more cheaply in boxes than in pits. The cost of planting is not appreciably greater than ordinary methods. An exp-er-er, planting 12 inches to 15 inches wide will cover a statute acre per day.

MANURING.

It is now an established fact that farmyard dung alone, no matter how heavy the dressing, will not produce the maximum crop of the best quality. Dung should be supplemented by a suitable artificial fertiliser. Especially for early Potatoes is this imperative. The best crops are often got after lea without any dung at all, and there are fields in Ayrshire which have borne crops of early Potatoes for three years consecutively, and which have received no dung during that period. These instances are mentioned to show what can be done on land in good heart without dung; not by any means to encourage its disuse, but rather to give a view to illustrate the power of other fertilisers. For early Potatoes a manure of quick action should be used, as it has only three months in which to do its work. A manure with an analysis of nitrogen, 8 per cent., potash, 4 to 5 per cent.; and soluble phosphates, 18 to 20 per cent., and compounded from the most soluble materials, would be a safe manure to use. The formula being strong in nitrogen would not be suitable for rank-growing late varieties, but early Potatoes have usually very small tops, and can stand a good deal of forcing. The quantity to apply will vary according to the condition of the land and the quantity of dung applied. With a dressing of 2½ tons per statute acre of dung, 6 cwt. of artificial would be enough. Where no dung is used, double the quantity of artificial manure is required. The time to apply this is before planting, and before the sets are put down. It is not a good plan to top-dress Potatoes, and force them by fits and starts, as might be done with a forage crop or Cabbage. To do so exposes the tuber to second growths, and tends to injure both shape and quality. No injury to the sets occurs from contact with the manure. Artificial manure may be sown either by hand or by a machine; it does not matter provided the distribution is done evenly.

TILLAGE OPERATIONS

do not differ materially from those observed with late Potatoes. Of course, the crop has to be expedited all through, so that the land may be available for planting at the first favourable opportunity in spring. Where the land is to be cleaned should be done in autumn, and should be applied in autumn or winter. Whatever the method of tillage observed may be, whether the Potatoes are planted in drills or lazy beds—care should be taken that the sets are planted at an equal depth, so as to avoid having "laggard" plants. If planted in drills, the fresh opened drill should not be disturbed by passing a loaded cart along the drills. In such event the soft newly-dressed drills are badly foot-stepped and wheel-marbled, and the sets which fall into such indentations must inevitably be later. Laggard plants are the ruin of an early crop. The grower has to choose between sacrificing them or his market for the ones that are ready to raise. The expedient should therefore be used to prevent this undesirable state of matters.

MARKETING

The early crop requires no little forethought. In districts where large quantities are produced merchants appear and provide all the labour necessary for packing and conveying to market. But with an industry in its infancy grower will need to look ahead and find out how to get their produce cut he quickly disposed of. The cities and large towns of Ireland can no longer absorb a large quantity, but a considerable surplus must find its way somehow to English markets. Green Potatoes will not carry

they must be packed either in baskets or barrels. As a rule, commission salesmen are willing to supply these, and if they are filled and firmly packed on the top with fresh, green stalks and laced securely, they will carry quite safely by rail or steamer.

M. G. WALLACE.

OPEN-AIR TOMATOES.

Many err in sowing the seeds of plants intended for planting against outside walls too early; consequently, the plants become pot-bound and the wood hard long before the weather is fit for transplanting them. Where fear of this evil exists it will be well to pot the plants on, as they will soon root round the balls, and may then safely be kept in frames or a cool house for another fortnight if need be. Have a small batch of plants brought on in advance of the main lot, and finally potted into, say, 10-inch pots with a view to sinking them into the border of a south wall. This in warm districts may be done at the end of this month, and if after the cavity has been taken out a good thickness of rotten manure is placed on the bottom and the holes in the pots made much larger, the roots will soon push through the bottom, and, taking advantage of the rich food provided, will grow away freely and fruit well. The pots should be sunk just below the ground level, so that a liberal mulch of hart manure can be given in order to conserve the moisture and also to encourage surface roots. Bearing in mind the root-restriction this batch is subject to, water must always be supplied with a liberal hand, and when sufficient fruit is set, the leading growths must be pinched, all side laterals being likewise kept off. Of course, some method of protection must be devised, or cutting winds and even late frosts may cripple the plants. A very good plan is to put wide boards on either side of them, and to place some Yew or Laurel-boughs in front. These admit sufficient sun-heat and light, and yet screen the growth from harm. These plants which are to form the principal batch for outdoor work, and which will not be planted out until the beginning of June, must be gradually hardened off in frames, being fully exposed on fine sunny days, as in the case of the above-named lot. If any signs of exhaustion show themselves a good surface-dressing of hoar and artificial manure must be given. It is well to prepare the stations under walls for Tomatoes some time before actual planting, so as to give them an opportunity of setting. There is then less fear of excessive evaporation, and the plants generally go away better than when put into newly-disturbed soil. When preparing, add a little good loamy soil and rotten manure, mixing it thoroughly and making it firm. On the plants that are to be plunged a few fruits may set while in the frames. These should not be removed, as they will swell off in spite of the removal to an outdoor temperature, and, ripening extra early, prove most useful, especially where no indoor Tomatoes are grown.

NOTES AND REPLIES.

Planting Asparagus.—In most gardens this may now be done. It should be borne in mind that however much trouble and expense the preparation of the new beds may have cost, failure and disappointment must ensue unless due care is bestowed on the seedlings at planting time. Careless planting has much to answer for in the many failures in growing this vegetable. The rootlets are of such a delicate character that exposure to cutting winds for a few minutes, or even to hot sun, may destroy them. When the roots have to be sent from a nursery, arrangements should be made for packing them in damp Moss or some such material. When home-grown roots are employed, the matter of transplanting is much easier. A calm and, if possible, dull day should be chosen for the job, and, presuming that the beds are ready, the soil will now be loose and firm and need not be trodden. Some still prefer the old-fashioned 4-foot beds, but unless the soil is retentive and cold it is not necessary to raise them, above the ordinary level. Capital results may be had from planting single rows, allowing a distance of 2 feet from plant to plant and a 2½-foot alley between

For the first year or two this space can be utilised for Lettuces. Lift only a few plants at a time, sprinkling the roots and planting carefully with a small handfork. If the compost is not of the best description, work in a little fine loam and leaf-mould amongst and around the roots. Sink the crowns just beneath the surface, and if the young growths have pushed, draw a little soil over them to protect from frost until somewhat hardened. Nothing more will be needed except keeping down weeds until growth is a foot or 18 inches high, when small sticks should be placed to each plant and the shoots secured thereto, as high winds are very liable to loosen them at the base and sometimes snap them off. This precaution is not necessary the second year. On hot soils, if the summer should be dry, a slight mulch of leaf-mould will be beneficial.

Cucumbers dying off.—Can you kindly tell me what is the cause of my Cucumbers dying off? I sowed the seeds in small pots on a mild hot-bed. They came up all right, and, when they were making the third leaf, they died off. I kept them just moist after they got up. I bought two plants which looked strong. I planted them carefully on a bed made of stable-manure and leaves, the temperature of the bed being about 75 degs. when the frame was closed, but I gave plenty of air in the daytime. Will you tell me the best way to grow the 'S. H. KING'.

[You have erred in starting so early with frame Cucumbers. By your statement as to temperature when the frame is closed, it is clear the heat must have been too low during the sharp weather a short time since, particularly while the cold winds were prevalent. March and April are two very treacherous months for seedling Cucumbers, and the least check quickly brings bad results. You have now two ways open to you, and either should succeed now the days are longer and more sunlight prevails. If the frame still retains a temperature of 75 degs., sow three or four seeds in the mound of soil in the frame. This mound should be 8 inches high at least, and the seeds just inserted in the soil by making a small hole with the finger. Cover the seeds with fine soil or silver-sand. The frame should be kept moist by slightly damping with the syringe, but otherwise, if the mound of soil is fairly moist, no actual watering will be necessary. As soon as the seedlings appear dust a little air-slaked lime about the mound of earth, and with the appearance of the first rough leaf add a little rather rough soil to the stems of the plants. This will at once increase root action, and the plants, being raised in a rather cool temperature, should be proof against the fungoid attacks that kill so many young plants in the early part of the year. Plants so raised suffer little, and there is no check from the potting or transference to the frame. You had best rely on damping the mound with lukewarm water rather than watering the plants in the usual way, because plants raised on the mound of soil as suggested quickly send roots in all directions. Another way is to sow a half-dozen seeds in a 5-inch pot, covering with sand in place of soil, and potting them singly as soon as the first rough leaf is formed. Or you may sow the seeds singly as before, only half filling the pots with soil, and earthing up as soon as the stem has reached 4 inches long. Unless this is done and done quickly, the young plant will perish slowly because of the absence of the main roots that should follow the first fibrous roots from the seed. This, coupled with the many fluctuations of temperature, and the lowness of night temperatures particularly, are chiefly responsible for failures in the early part of the year. Frequently the sudden collapse of the young plants is due to a late damping down, or too much overhead moisture generally, being followed by a rather cold night. In such a case superfluous moisture is very harmful. Where a minimum temperature of 70 degs. cannot be maintained it is better to forego damping either the plants or the house later than 4 p.m. during March and April, and in these months the plants will bear with impunity a lower temperature if a comparatively dry condition of the atmosphere exists.]

As many of the most interesting notes and articles in "GARDENING" from the very beginning have come from its readers, we offer each week a copy of the latest edition of either "STOVE AND GREENHOUSE PLANTS," or "THE ENGLISH FLOWER GARDEN," to the sender of the most useful or interesting letter or short article published in the present issue, which will be marked thus:

GARDEN WORK.

Conservatory.—Barnard Andrea alba and other late-flowering Azaleas will require a good deal of water now, and well-rooted plants may have a little Clay's fertiliser or some other stimulant in the water. Where the old-fashioned show and fancy Pelargoniums are well grown they make splendid groups now. All these and most other flowering plants will last longer if covered with a thin shade during bright weather. Of course the syringe cannot be used much among such flowering plants, but there must be some amount of moisture in the atmosphere on bright sunny days in April and May. This can be supplied by dumping the floors and stages—if there are stages in the house—in the middle of the day, or whenever the sun is hot and the atmosphere appears dry. Herbaceous Spiraeas will require watering two or three times a day, unless they can stand on a damp bottom in the shade. Very charming groups can be made with Spiraeas and Maiden-hair Ferns in a cool, shady part of the conservatory. It is a pleasure sometimes to turn from the bright, glowing masses of Azaleas and Pelargoniums to the green and white Spiraeas and Ferns. Streptosolen Jamesoni is a rather showy plant just now. It has a somewhat gawky habit unless pinched freely when young, but it is so different from most things in flower just now that it is worth a little pains to make it good. It roots freely from cuttings of the young shoots, and it succeeds planted out in a light position and trained against a wall or pillar in the greenhouse. The Lachenalia, or Cape Cowslips, are pretty basket plants now. The bulbs are inserted rather thickly in wire baskets, all round the base and sides of the basket, and well mossed in, and the bulbs are planted even more thickly on the top. The bulbs may be brought on in ainery till the flowers appear, and then moved to the conservatory.

Stove.—Climbers add much to the beauty and interest of the stove, and many of them may be useful exhibition and decorative plants. Well-grown specimens of Allamanda, Bougainvillea, Clerodendron Balfourii, Stephanotis floribunda, and Dipladenia always carry weight in a collection, and the flowers of most of them are useful for cutting. To induce them to flower freely the growth must be made in the full light, and for this purpose, if grown in pots with the intention of afterwards training round a balloon or any other kind of trellis, the young shoots during the growing season are led up to the glass and kept in the light till the flower-buds are visible, when they are taken down and twined round the trellis. Jasminum gracillimum is a sweet thing to have a plant or two of. To have plenty of flowers for cutting plant out in a bed of loam and peat, freely mixed with sand and crushed charcoal. All the above may be helped with liquid-manure when the flower-buds are formed. Cissus discolor is rather out of date, but is useful for hanging-baskets. Cuttings of the firm shoots strike freely in sandy peat in brisk bottom-heat. The Indian variegated Grass (Panicum variegatum) is another useful draping plant. It has a pretty effect in rather small pots along the edges of the stages, and is one of the best plants for baskets, and the sprays when cut are useful to mix with flowers.

Early Peach-house.—The early fruits will now be putting on colour, and every fruit should be fully exposed. All overhanging leaves should be thrust on one side; a leaf or two may be removed if necessary to give full exposure. Very free ventilation is necessary to obtain good flavour, and though the roots must always remain moist it is quite possible to injure the flavour by over-watering or giving strong stimulants during the finishing. Peaches will take a good deal of nourishment after stoning, but this should be discontinued during the flavouring and finishing processes. Red-spider sometimes gives trouble in early houses, especially if the borders have been dry during the early stages of growth. When the roof is a movable one, it is a great advantage to take off the lights when the wood is thoroughly ripe, so that the autumn rains may find out the dry spots (if any) in the border.

Early Melons.—Bottom-heat is essential to the well-doing of Melons till the fruit is

pretty well finished, and though it may be possible to have the beds in which Melons are growing too dry, yet this is not likely to happen during the ripening process. Heavy, retentive soil is the best for Melons. Firm growth and substantial foliage are pretty well proof against the attacks of red spider, and it is important that the old leaves of Melons remain green and healthy till the fruits are ripe. The time to feed Melons, if stimulants are given, is after the fruits are set until they begin to ripen. There is very little difficulty in getting a crop to set when the growth is firmly limited up by planting in heavy loam. Cucumbers are often planted in soil of too light a character to obtain the best results economically. When grown in a fairly heavy soil there is not half the labour in syringing and watering.

Cold frames.—By the time this appears in type bedding plants which have been well hardened by exposure may stand in some temporary shelters in the open air, and the frames can then be filled with Cucumbers, Melons, Tomatoes, and Capsicums. Frames will also be required for growing on Cyclamens, Cinerarias, Primulas. Young seedling Ferns of the greenhouse kinds do better on ashes in cold frames in summer than in houses. Aralias, Grevilleas, and other greenhouse fine-folaged plants give less trouble and do better in cold frames.

Window plants.—There will be plenty of blossoms now on the Pelargoniums. What is commonly termed the Geranium family are favourites with cottagers. The old Oak-leaved Geranium is a sweet thing in a cottage window. Fuchsias now coming into bloom, and should be helped with a little stimulant. Balsams, if not already up, should be sown at once; they may be easily kept dwarf and sturdily by keeping them in the window in a light position. Ferns and Palms may be repotted if necessary now. Never expose them to hot sunshine.

Outdoor garden.—Finish planting Gladioli; even the late-flowering Brunelleyensis will be better in the ground now. Thin out hardy annuals in showery weather, though in a general way transplanting annuals at this season is not always a success, yet I have had grand masses of Godetias and several other things from transplanted plants. It means a little more labour in watering, etc. Among shrubs suitable for massing *Genista præcox* is just now very lovely. *Berberis stenophylla* is also good, as is also *Berberis Aquifolium*. The last grows well under trees. The *Tamarix* is a pretty grouping plant, looking well on the edge of the lawn, jutting out from the edge of the shrubbery. In breaking away from the common bedding arrangements, use might be made of *Clematis Jackmani superba*, an improvement upon *Jackmani*. Let it break from the ground at any rate for the first two seasons. This, of course, means cutting down annually. If it is necessary to prune Evergreens, such as the small Conifers, Evergreen Oaks, etc., the best time to do it is just before growth commences. The same remark applies to Hollies and Yews, but if either Hollies or Yews are cut hard back at any time the work should be done in March, early in the month.

Fruit garden.—Though it is too early to leave wall-trees which have been protected uncovered at night, if the covers are heavy curtains they should be drawn on one side, and the trees fully exposed on fine days. Disbudding, if not already taken in hand, should begin now, and the disbudder should have the Tobacco-powder handy, so that every suspicious-looking spot for insects may be thoroughly dealt with. It is promptness which saves so much trouble in the future. Disbudding is usually done tentatively, so as not to unduly expose the young fruit. Sometimes some of the shoots from which shelter can be obtained are pinched for the time being, to prevent further expansion, and are removed later when there is no need of shelter. The Plums and Cherries are very full of blossoms. The Pears, too, in many gardens in our district are very promising, but Apples are not everywhere so full, but doubtless if the blossoms stand there will be a crop. The greatest loss to Apple-growers is due to the Codlin-moth, and every means should be taken for its eradication. Many people, I notice, are lime-washing the stems of their trees, but that

though useful, is not sufficient. Grease-lime is put on in autumn; any useful; spraying as well with an insecticide is beneficial as soon as the Apples are set.

Vegetable garden.—Prick out Celery enough to meet every requirement. Two inches of good loamy soil on a layer of old manure is the best bed for young Celery plants, as then every plant can be lifted with a ball, and, if well watered when put into the trenches, will start away at once. Plant out the earliest Brussels Sprouts. Cauliflowers planted for summer will do well on north borders. Lettuces, also, will come fast enough there. West borders are also useful for salad-plants. This is one of the advantages of the walled garden; there are so many different aspects and climates, and the practical man takes advantage of them for bringing on various things in hot summers. The sites may be prepared for Vegetable Marrows and ridge Cucumbers. The best preparation is half a barrowful to each hill of equal parts loam and old manure. The loam steadies the growth and the plants grow sturdily and the fruits set better; of course, the time for planting is not just yet, unless headlights and warm coverings can be spared. Runner and dwarf Kidney Beans may be planted freely now, and this is the time to sow Marrow Peas for August. If no provision has been made for a supply of such tender annual herbs as Basil and Sweet Marjoram, sow now in a warm, sheltered spot. Usually these are sown under glass and planted out at the end of May. E. HOBBAY.

THE COMING WEEK'S WORK.

Extracts from a Gardener's Diary.

May 5th.—Beds of Tulips and other spring-flowering plants are very bright now. As it will be June before the bulk of the spring flowers will be over, Begonias and other things will be shifted into 5-inch pots for the latest beds. A heap of prepared compost lies ready for top-dressing the beds. Something short that the roots can work into at once we find better than manure. The cleared rubbish supplies a good deal of this. Tied up Lettuces; even Cabbage Lettuces are the better for being tied up to blanch.

May 6th.—We are still doing a little propagating, chiefly new things being dealt with now. Some of the newer Heliotropes have very large flowers, and more stock is wanted. Balsams and the plume-flowered *Celosias* were used for massing last season successfully, and will be repeated. The Balsams were planted thinly over a groundwork of *Harrison's Musk*, as both require plenty of moisture. Planted out border *Chrysanthemums*, *Marie Masse*, *Mytchett White*, *Queen of the Earlies* (yellow), and *Raycroft Scarlet* are in groups.

May 7th.—Pricked off more real Celery on prepared bed. Sowed seeds of various hardy perennials. Looked through the collection of alpinas and hardy Ferns kept in pots for the purpose of filling up vacancies in rock garden. Rare or choice things are divided now for stock. Duplicates of the best things are kept in pots, and are plunged in ashes where shelter can be given in winter if required. Planted more Runner Beans. Shifted on young Vines in pots.

May 8th.—Moved bedding plants from a range of pits to temporary shelters, as pits are wanted for Cucumbers and Melons. A small amount of warmth will suffice now. Planted Brussels Sprouts for first crop. Hoe is often used now among young crops in kitchen garden. Top-dressed Cucumbers in hearing in warm house. Tomatoes swelling the fruit in early house have been top-dressed, and received liquid-manure.

May 9th.—Planted Veitch's Autumn Giant Cauliflower, a part being planted on north border. Sowed Thrushes, Lettuces, and French Breakfast Radishes. Early Potatoes on warm borders have been hooped over with Hazel rods and are covered with canvas at night. Put in more cuttings of Sage and Thyme, and made new beds of Mint. Our early beds are on a south border and late beds on the north.

May 10th.—Dusted snot over the spring-sown Onions. Vines are looked over every week to remove sub-laterals. There is a good deal of

Grape thinning to do now, which is done as far as possible in the early morning or in the evening. Pinched the young shoots of Plums in pots under glass to four or five leaves. Pears are not pinched so close, but the shoots are thinned freely. The fruit on the early trees has been thinned considerably. This leaves little more to do later.

POULTRY.

REARING TURKEYS.

(REPLY TO "LANSHIRE.")

TURKEY chicks require care in rearing, cold and damp being fatal to them. The coop, mother and chicks should be perfectly weather-proof. The position of the coop must be determined according to the state of the weather. In a dry season it may be placed upon short grass, but should the weather be damp an open shed will be found the most suitable. The chicks should have hard-boiled egg for the first week, but as they are rather slow in learning to feed themselves it is a good plan to set two or three hens' eggs when the Turkey has been sitting a week; the chicks will hatch out at the same time as the Turkey and teach the latter to feed without any trouble. With the egg-food should be mixed some Dandelion-leaves cut fine or green Chopped tops. During the first week feeding should take place every three hours. Stale bread-crumbs and Barley-meal may be given at the end of the first week or so. Curds separated dry may also be given, and the egg-food gradually dispensed with during the next three weeks. Later hard grain may be supplied in the shape of Buckwheat or Wheat. In the earlier stages the chicks may have Hemp-seed in small quantities. The Turkey-hen must be confined to her coop for a month at least, after which she may be let out for an hour or two daily. The coop should be frequently removed to fresh ground, taking care that the Grass in the immediate neighbourhood is kept quite short, for if the chicks be allowed to wander on long Grass laden with dew or rain much mischief will result. At eight to ten weeks old the young cease to be chicks, and are known as Turkey-poults; at this time the distinctive characteristics of the male and female are fully established. This is the most critical period of their lives, and their food, therefore, should be increased in quantity and made more nourishing. After this period they become quite hardy and able to take care of themselves, although it is advisable to keep them from rain and cold, so as not to try their hardiness too suddenly. A liberal allowance of vegetable food should now be given, as Nettles, Cabbage, Onions. These should be boiled and mixed with Barley meal or Oatmeal. With this diet may be given Oats, Wheat, Barley, and Sunflower-seed. The process of fattening should commence when they are six months old, as they take a longer time to become fit for table than fowls. The secret of obtaining good birds is to feed abundantly from their birth.—S. S. G.

BIRDS.

Green Linnet (*Adam*).—By "Green Linnet" you probably refer to the Greenfinch (*Loxia chloris*), a bird especially plentiful in our island, doing a good deal of harm in gardens during the spring and summer in destroying buds, and picking up sown seeds. If your bush has been brought up by hand from the nest it would probably starve if now released. If, however, it is a trapped bird it would be incapable of taking care of itself if set at liberty.—S. S. G.

Canary dying (*J. Taylor*).—This was a case of heart disease. In the region of the organ was found a large clot of blood; the rupture would, of course, result in instant death. Sudden death frequently happens to covek Canaries at the breeding season. You have probably been feeding the bird too liberally, or keeping it in too high a temperature. Seed mixtures containing Inga are dangerous to supply to cage-birds, and should be carefully avoided. The staple food for Canaries should be Canary-seed, but to counteract its fattening properties other seeds should be added, such as Rape, the best of

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FRUIT.

BLIGHTED PLUM-TREES.

THE prevalence of cold winds and frosty nights as brought about an attack of aphides on plum-trees, which is a customary outcome of such weather. It is not a good plan to allow these intruders to go unmolested, for, with the amazing increase in their numbers from day to day, they soon inflict serious mischief on the tree unless quickly dealt with. The Abol insecticide, so often advertised in GARDENING ILLUSTRATED, is calculated to quickly destroy aphids on fruit-trees and plants, and so will compound Quassia extract or Tobacco-water. The latter, however, though effective, is most offensive and disagreeable in its smell and deposit on the leaves and fruit, and for that reason has gone very much out of use. Both Quassia and Abol insecticides are cheap, economical, easily mixed with cold soft water, and effective in destroying insect life. The Abol syringe is an implement that every fruit-grower should possess, because it not only does effective work by the fineness of its jet, but a small quantity of liquid is made to go far for the same reason. With ordinary syringes treble the quantity of insecticide is used than is necessary for the purpose, and as the Abol syringe is inexpensive it comes within reach of amateurs as well as gardeners. Anyone possessed of one of these little syringes will not readily give it up. An alternative, in the event of there being no insecticide at hand, is to go over the trees and pick off the curled leaves which envelop the insects. If this is done at the earliest period of attack, it would greatly assist in keeping down their numbers. This, however, is only recommended as a temporary remedy pending the application of an insecticide. It is a good idea to keep a little store of some kind of insecticide, so that when the necessity arises it is used there is no delay. When trees are attacked by aphids and they have to wait for medicinal measures to be applied, they become hopelessly crippled that there is both a loss of vigour and often a crop too before it can be harvested. Trees of any kind that are allowed to be over-ridden with insects, even if they are later, will fail to bear a crop. Thus it is seen how important it is to at once deal with insects in a practical manner.

W. S.

BURNING OF VINE FOLIAGE.

TO discuss in its proper sense, the burning, or rather scalding, of the foliage of Vines is the outcome of mismanagement, although in some instances this statement may be modified, as the structural arrangement of the vinerias is favourable for much of the injury which follows. The careful cultivator, however, when such injury can be traced to this cause, takes good care that anything which may be done to prevent it is attended to. When many of the main leaves are injured by burning, the fruit is deprived of much of its support; hence the grapes do not colour properly. When the

roof is glazed with common glass, let the structure be ventilated ever so carefully, burning is sure to follow. I refer particularly to those instances where the glass is full more or less of air bubbles. In these cases the surest cure, except, of course, reglazing the structure with better quality glass, is to colour over each bubble with some white lead thinned down with a little turpentine. The presence of air bubbles is soon perceived. If they are situated so that the sun's rays, if powerful enough at that time, strike the foliage obliquely, a "streak of burning" is seen for 2 feet or 3 feet. If one is situated so that it strikes directly on to a lateral, that portion will collapse, and it is the same with a solitary leaf if in a line with the bubble.

Other causes of burning are caused through the ventilation not being attended to properly. With this as the reason, it generally occurs after the berries are thinned and during the exhausting process of stoning. All this time there is a great strain upon the Vines, especially upon the fruit-bearing laterals, as if any burning does occur it is generally the fruit-bearing laterals which receive the injury, and which can ill afford to lose one leaf, let alone the majority. A variety that appears to suffer from this cause is the Muscat of Alexandria—that is, if the ventilation is not carefully attended to or if the glass is common. In this variety also a thin moisture settles upon the foliage at night, and if this should not be dissipated early on bright and sunny mornings by ventilation carefully applied, or before the sun raises the temperature, scalding or burning will result. For Muscats I find a slight shade applied during the hottest months of the year is highly beneficial. Not a thick shade, but merely a little whitening syringed over the roof. In all vinerias early and careful ventilation is what is needed, this being put on by degrees. Allowing the temperature to rise suddenly without any or little ventilation being on and then putting on a great amount will surely result in burnt foliage through the rapid evaporation of moisture.

WATERING FRUIT TREES IN BLOOM.

THERE is a wide-spread belief that it is a dangerous proceeding to water fruit trees when in bloom, and in the case of trees forced under glass the orthodox practice is to give the borders a good supply when the buds are swelling, and during the time when the trees are in bloom both borders and atmosphere are kept dry. We know that good crops are gathered year after year by people who do soak their fruit tree borders thoroughly so as to reach the roots, and then apply a mulching to prevent undue evaporation. But we are daily reminded that failures do also occur in the setting of crops under glass when it cannot be urged that spring frosts are the cause, for it is a very rare occurrence for spring frosts to be of sufficient severity to hurt blossoms under a glass roof. After careful observation I am convinced that dryness at the root is one of the most frequent causes of fruit trees failing to set their blossoms; in fact the blossoms drop simply from the inability of the tree to carry them further

than it has done. It cannot be always spring frosts that make the blossoms drop, even in the case of trees fully exposed. I am, therefore, strongly impressed with the belief that it is at the blossoming period that fruit trees require stimulants at the root in the shape of liquid food quite as much as when swelling their crops. During the present season I have been testing this subject in various ways, as our fruit trees both under glass and in the open air are more heavily laden with bloom than I ever remember to have seen them. Under glass I have not only given Peaches, Vines, Strawberries, and other fruits copious supplies of water at the root when in bloom, but I have on fine sunny mornings given a good syringing to the blossoms themselves, and I never remember having had so regular a set of fruit as I now have. Out-of-doors we cannot get enough liquid for all the trees that require it, and the amount of bloom is evidently a severe strain on the trees. This abundance of bloom is general in this locality. A successful grower of Peaches on open walls writing to me a few days back says, I have just had all our outdoor Peaches thoroughly soaked with liquid manure for the second time this season, as I always give them plenty when in bloom, and I would strongly urge on those who have fruit trees of any kind taxed to their utmost capacity with bloom, as they are this year, to lose no time in applying stimulants in a liquid form to the roots. The watering-pot works miracles if vigorously applied.

NOTES ON VINE CULTURE.

GARDENERS are very busy at this time of the year in the vinerias, and it depends much upon the treatment the Vines receive as to whether they will produce handsome bunches and large berries with good bloom upon them. All these houses require attention, and as I write these lines there is a keen east wind blowing, but at mid-day the sun has power enough to raise the temperature to a high point. Air of course has to be admitted, but it ought only to come in from the opening at the top of the house; it is better that the side-lights should remain closed. In one of our houses the Grapes are being thinned, and at such a time the berries may become rusty—as gardeners term the discoloration and contraction of the skin. "How is it caused?" I believe by careless handling of the berries, touching them with the hair of the head when thinning, or opening the front and top ventilators at the same time. This is sometimes done to make it pleasant for the person thinning during hot sunshine, but the cold east wind at such a time will do its work of injury. Thinning should, if possible, be done in the cool hours of the morning, and the smallest opening at the top of the house will admit sufficient air to make the atmosphere and temperature agreeable. In the second house the shoots ought now to be tied out, and stopping the growths should be frequently followed up. This is an important part of the culture of the Vine in the early stages of its growth. When growths are not wanted they should be stopped when they are about three inches in length. After stopping

from a good-sized vinery may be compressed into two or three handfuls if the work is done in good time. Some growers allow the laterals to run into shoots a yard or more in length before they are cut off. This cannot fail to be injurious to the Vines, by checking to a serious extent their growth. Stopping should be persistently followed up until the Vines have



The Wild Cherry or Gean (*Prunus Avium*).

reached the flowering stage, when it is best not to interfere with them until the setting period is over. It does not matter much as to the treatment of the Black Hamburgh or other free-setting varieties, but the Muscats and other shy-setting kinds may receive some sort of check which might have an injurious effect upon the setting of the blossoms. At setting time I raise the temperature about 5 degs. and keep up a rather dry atmosphere—not excessively dry, for the paths and borders are sprinkled daily. Thinning the fruit should be commenced about ten or twelve days after it has set. Muscats require a little artificial aid in setting, but if the weather is fine it is sufficient to shake the rods daily. It can be done by striking the wires with a hoe or a rod of some kind. W.

NOTES AND REPLIES.

The Strawberry prospect.—The present is an anxious time for the Strawberry grower. During the past winter there have been some severe spells of cold weather, which seemed to deal harshly with the outdoor beds, but the present prospects are very promising, judging from the freedom of their spring growth and the vigorous flower-trusses nestling in the crowns. I have recently given a moderate soaking of undiluted liquid-manure to the beds. Poured on between the rows of plants, this gravitates to the roots, enriching the soil to the depth occupied by them. I have for many years practised this with evident advantage. It is particularly on light soils where the value of this manure irrigation is apparent, but, of course, any land is the better for being well stored with stimulating food. Liquid-manure may be derived from the farm tanks, stables, piggeries, or from tanks provided for the reception of house sewage. Unless these means exist, there is no advantage in making liquid-manure artificially. Young plants at the present time show the greatest promise of future fruit, and which, it must be said, are always the most profitable, because their fruits ripen early and are finer than in the case of old plants. Strawberry plants that have been forced in pots, if well cared for afterwards, until they can be planted in the garden, will fruit well the following year. Such plants give

a heavy crop of medium-sized berries. Some gardeners deal thus with their forced stock of Strawberries, while others prefer to throw them away and depend on the open-air beds for their stock. With abundance of strong runners in July and August for planting after Potatoes or other summer crops, there is to me a gain of time and space by discarding the forced stock and devoting time and attention to the autumn runners. In small gardens, perhaps, planting a portion of the forced stock would be an advantage, because of the larger yield given subsequently. W. S.

The outdoor Peach prospect. From my own observations there seems every indication of a full and bounteous crop of Peaches from the open-air walls. The trees are healthy, and, though the weather has been so harsh, yet the trees are free from insect attacks and leaf-curl is quite absent. It is yet too soon to congratulate oneself on the absence of these spring troubles, but what is so remarkable is that, with weather so inviting to such tendencies, the trees should make such steady headway. Not only are the leaves and shoots progressing well, but fruits are swelling up with remarkable evenness, and with a return to more genial warmth there should be no need for anxiety as to the extent and fineness of the prospective crops. I have known in some seasons leaf-curl so rampant that every leaf would be removed twice and sometimes three times at periodic intervals. Up to the time of writing not a leaf has been removed from this cause, and it is to be hoped that with the advance of spring they will not give this trouble now. Both frost and cold winds were prevalent during the time of flowering. Past experience proves that the Peach flower is not so tender a nature as was at one time considered by many, and this year's results prove once again the truth of this. The above remarks apply to trees having a coping of glass and others without this protection.—W. S.

TREES AND SHRUBS.

SOME FLOWERING CHERRIES.

Of all the *Prunus* tribe, comprising as it does the Almonds, Peaches, Apricot, Cherries, and Plums, the Cherries when in flower are the most beautiful. The delicate beauty and grace of the blossoms reach in the Cherries their highest development. Neither are they surpassed elsewhere in the abundance of the blossoms, as may well be judged by the illustrations here given. A selection of the best of them is indispensable. Many of the best of the Cherries come from Japan and China, where long periods of cultivation have largely developed the size and attractiveness of the flowers. The same has happened at home with our native flowering Cherries, the double varieties of which almost rival the best Japanese varieties. The doubling of the flowers of Cherries is, indeed, in every way an improvement, adding to their showiness and duration without detracting in the least from their gracefulness.

PRUNUS PSEUDO-CERASUS, a native of China and Japan, is perhaps the loveliest of all flowering trees. In the best varieties of *P. pseudo-cerasus* the flowers are fully 2 inches across and of a soft rosy-white. One of the best is known as *Cerasus Watereri*.

PRUNUS AVIUM, the Gean or single-flowered Cherry, is a native of Britain, and is one of the parents of our fruiting Cherries. It makes an erect tree, 20 feet to 30 feet high, and flowers about the middle of April, when its branches become wreathed with clusters of mostly pendulous blossoms. The double-flowered variety of it is only second in value to *P. pseudo-cerasus*: it flowers with all the freedom of the type, whilst the doubling of the petals gives greater substance and durability to the blossoms.

PRUNUS PADUS, or the Bird Cherry, is another of our native trees. It is larger than

the preceding ones, reaching a height of 40 feet, and it flowers a month later. It varies considerably in merit, as might be expected from its wide distribution, for it extends from Northern and Central Europe to Manchuria and Japan. Some of its best forms have both racemes and individual flowers much larger than in others. We remember once seeing a fine variety which had racemes at least 8 inches long. One still finer is called *florapleno* and has racemes 8 inches to 9 inches long, each flower three-quarters of an inch across, double, and lasting longer in beauty than any of the single varieties. Another variety in the collection at Kew has large flowers and racemes, but is more especially noteworthy as coming into bloom at least a month earlier than our British Bird Cherry.

We hope the illustrations will lead many readers to represent the Cherries in their gardens more plentifully than they have hitherto done.

AZALEA MOLLISS.

THERE is a wealth of beauty and character in the race of *A. mollis*, and the idea that they are in any way tender is being gradually exploded. A group in the foreground of dark-leaved shrubs makes a splendid picture of various colours, and a good selection of the varieties of *A. mollis* comprises a great range of shades, from straw colour to intense scarlet, peculiarly brilliant when lit up by the sunshine of a spring day. In planting these groups in the garden the chief thing is to give them shelter from early frosts, which are apt to injure the buds and expanded flowers, but except for this precaution little need be said concerning their treatment. Many species abound in all good gardens where the hard Azaleas (*A. mollis* in particular) may be placed in shady quiet corners, away from winds and the influence of early frosts, just the position that agree with this delightful class of early spring-flowering shrubs. The soil that suits them best is peat, but fibrous loam will produce good plants. Hybrids have been obtained by crossing *A. mollis* with *A. pontica* and the Ghent varieties, and many beautiful things have resulted. A large group of *A. mollis* in full bloom is almost dazzling to look at through the rich variety of brilliant colours displayed in a good selection. The race is gradually improving. The flowers are not only very



The Bird Cherry (*Prunus Padus*).

charming for their extensive variety in coloring, but individually they are of large size, full rounded form, each segment broad, colored and firm.

VALUE IN POTS.—One great use, however, of the plants of the *A. mollis* type is their value for flowering in pots under glass. In a variety named *Anthony Koster* the flowers are especially

fully 2 inches across, well shaped, and brilliantly coloured deep orange-yellow, in which one could detect a suspicion of rose. Every twig is smothered with bloom, and in regard to the hazy Azaleas a great feature of the shrubs is their freedom of flowering, both clusters of bloom unrelieved by leafage. There are few, if any, shrubs of greater value for early blooming under glass than *A. mollis*, and either small or older specimens are a mass of flowers. When under glass all risk of injury from late frosts is removed, and the finest groups may be formed in the greenhouse or conservatory with them, mixed with a judicious selection of other subjects. Hard forcing is injurious. The plants require to be brought on gently in heat, and then the flowers last a considerable time both on the plants and when cut for vases. A few sprigs of the quieter coloured flowers mixed with Ferns or other suitable foliage are charming. In many gardens much waste occurs through the Azaleas, after they have been forced, being indifferently treated afterwards; but if they are required again for the same object, they should be well attended to. After blooming in a warm house, it is not policy to remove them at once to the open, where they are exposed to the vicissitudes of the early spring season. When the flowers are over, prune back the shoots and remove the plants to a cold-frame. It is unnecessary to coddle them, so give as much air as possible when the weather is not too cold. When they have got hardened and frosts are over, plant them out in a well-prepared bed in a moderately shady position, the soil a good fibrous loam, or, better still, peat, and in dry weather give water. During the summer they will make moderate headway, not much, perhaps, but the year after they will be in full health and strength. Even those who have only a conservatory or greenhouse may grow *A. mollis* to perfection if the plants are potted some time in the autumn, and the many varieties can be strongly recommended for this purpose.

Although there are many named kinds distinguished by their well-shaped flowers, a good selection of unnamed seedlings will give a great variety of the most refined and showy flowers. F.

NOTES AND REPLIES.

Cutting down Buddleia.—I have a *Buddleia globosa* which is very tall and ugly, as the branches for quite 2 feet are bare. Can I cut it down after it has blossomed?—W. I. L.

I moved a *Buddleia globosa*. The end buds still green. Ought it to be cut down?—(Miss) E. Jones.

May cut down your plant of *Buddleia globosa* when it has done flowering, in order that it may to a great extent recover therefrom before winter. With regard to the second plant, it may be treated in the same way.

Lonicera Standiehl.—As one of the earliest of shrubs to flower and also one of the most fragrant, this Honeysuckle has been a fairly well-known plant almost since its introduction from China in 1845 by Robert Fortune. Its flowers are not so beautiful as those of most of the Honeysuckles are, being comparatively small and of a creamy white. But in the spring every flower, however modest its attractions may be, is welcome, especially when it has so charming a perfume as this. The species is quite hardy and its blossoms stand rough weather well.

Shrubs for border.—I have a border, very open and exposed, which I wish to plant with shrubs to burn a screen. Will you kindly give me a list of suitable hardy, low-growing, evergreen flowering shrubs, with their height and time of flowering? When should they be planted?—P. P. H.

[Without any indications as to locality or soil, the difficulty of advising is increased tenfold. Still, low-growing, evergreen flowering shrubs are not very numerous, and, as they are to form a screen, it appears to us that anything less than a yard high would be inadmissible. Of evergreen flowering shrubs that will grow in ordinary garden soil may be named:—*Berberis Aquifolium*, 3 feet to 4 feet, yellow, March and April; *Berberis Darwini*, 5 feet to 6 feet, orange, April and May; *Berberis stenophylla*, 6 feet to 8 feet, yellow, April and May; *Choisya ternata*, 4 feet to 5 feet, white, May and June; *Escallonia uncinatum*, 6 feet and, summer; *Escallonia Phillyriana*, 6 feet, white, summer; *Ligustrum lucidum*, 7 feet to 8 feet,

white, August; *Oleum Haasti*, 3 feet to 4 feet, white, August; *Veronica Traversi*, 3 feet, whitish, summer; *Viburnum Tinus*, 4 feet to 6 feet, white, winter. Good evergreen screen plants, in which, however, the plants survive at all heights, are *Antennas* of sorts, Laurels, *Elaeagnus* of sorts, *Ononimus japonicus* and varieties, *Hollies*, *Osmantus* of sorts, and *Phillyrea Villmoriniana*. Where soil and conditions are favourable to *Rhododendrons* and their relatives, you have a wider choice, as *Rhododendrons* not only make a good screen, but flower beautifully, a remark that also applies to some of their allies, such as *Andromeda floribunda*, *Andromeda japonica*, and *Kalmia latifolia*.]

Jaeminum nudiflorum.—It is a wall plant that this winter-flowering Jessamine is most frequently grown. It is very beautiful in any position, but still a wall of brick or stone is not exactly the background to bring out its greatest attractiveness. It might be tried more often in the open ground in association with some dwarf evergreen. It does not flower quite so freely there as it does on a sunny wall,



The double-flowering Cherry (*Prunus Pseudo-Cerasus*). (See page 152.)

but still freely enough to be very charming. As a suitable evergreen to plant with it, the evergreen Barberry (*Berberis Aquifolium*) might be planted. Planted in the same group the dark green foliage of the Barberry is especially well adapted to enhance the brightness of the clear yellow flowers of the Jessamine. Owing to the rambling habit of the Barberry, it may need an occasional stubbing back or replanting to keep it from unduly robbing the Jessamine.

Lonicera fragrantissima.—Whilst *L. Standiehl* is deciduous, this is partly evergreen. In our hardest winters it loses most of its leaves, but in mild ones comparatively few. It is also earlier in commencing to grow. This adds a good deal to its value, for its white flowers show to much better advantage with their setting of leaves than do the naked ones of *L. Standiehl*. Yet the latter species is frequently sold for *fragrantissima*, although it is not on the whole so good a plant, *L. fragrantissima* being equally hardy and equally fragrant. It may be distinguished by the following characters: It is partly evergreen,

flowers rather later, its leaves are unpari-tively round and broad, and much less pubescent than in *L. Standiehl*. Both are certainly well worth growing, but, of the two, *L. fragrantissima* is to be preferred.

The golden flowering Currant (*Ribes aureum*).—Although this shrub has a rival now in bloom (also with yellow flowers) in the shape of *Forsythia suspensa*, whose attractions, this season especially, are so brilliant as to put it somewhat in the shade when both are seen at a distance, it is, I think, at close quarters a shrub of almost equal charm. Its neat foliage is at this early stage of a singularly pleasing tender shade of green, and intermingles most effectively with the short crowded flower-spikes. The flowers vary a good deal in size and colour. In the better varieties the flower individually is close on half an inch in diameter. The colour is always yellow, but ranges from a rather pale shade to golden or orange. The variety *aurantinum* is perhaps the best, having not only richly coloured large flowers, but it is also of a sturdier habit than is common to the species as a whole. The flower-spikes are slightly drooping and 2 inches to 3 inches long. The shrub does not often attain a greater height than 6 feet or 8 feet. Like the other flowering Currants, it can be easily and rapidly increased by cuttings. It was introduced from North-western America in 1812.

The double-blossomed Cherry Plum and Prunus Pissardi.

Very beautiful objects are these two lovely shrubs when well flowered. We have them growing close together in long rows. The plants are in their third year, and are in upright cordon form, all their side growths having been spurred in with a view to forming them eventually into standards. Anyone may make a very interesting dividing line with these two trees, which in early spring at least will be objects of much beauty, and even later on the *Prunus Pissardi* will add a beautiful tint of colour to the garden. I would suggest the planting alternately of maiden or one-year-old plants. Give them the support of a cane the first season, and pinch in the lateral growths in the same way as one would a cordon fruit-tree. In course of time these plants will be a mass of blossom from the base to the top, and with age will become dense with flowering spurs, so that each year such trees naturally increase in beauty.—ROSA.

Cydonia japonica—severe pruning a mistake.

—This, like many other shrubs, suffers considerably from a too severe use of the knife, and often the grower complains of its non-flowering, when the remedy is in the hands of the owner. Generally, it is planted against a wall, verandah, or something of this kind—frequently in a position quite unsuitable—consequently to keep it tidy-looking every bit of young wood is kept cut in close, causing it to grow coarse. The best-bowered bushes are most frequently in farm-house and cottage gardens, where the knife is not understood, or, at any rate, not used to any extent. I pass a large plant frequently. It is grown upon a farm-house at the foot of an east wall. The only attention it gets is keeping it to the wall, the very long fore-right shoots being cut in during summer, and this spring for many weeks it has been a mass of bloom. I have a very old plant, and for years it was pruned severely, with the result that there were only a few flowers. Of late I have let it have its head, and now it is satisfactory. Some years ago I saw a grand plant of the white form at Clarendon, Surrey, against one of the old walls, covering many feet. It was in bloom at the time of my visit, and I could not help noticing how little wood it made, and the abundance of bloom. Some think the Ceylon cannot be grown away from a wall, but this is not so. I have seen fine bushes in pleasure grounds. This should have a place in every garden, as it grows rapidly and costs very little to buy.

PLANTS AND FLOWERS.

CHRYSANTHEMUMS.

SEASONABLE NOTES.

This time is drawing near when the majority of amateurs and others will be giving their plants their final shift into 7, 8, 9, or 10-inch pots, as the case may be. Eight-inch pots I find the most convenient for all purposes, although, if it is preferred, three plants can be grown on in the 10-inch size; but the latter are somewhat clumsy to move about, and are not to be recommended to small growers. What I prefer for the final shift in the way of soil is good turfy loam, broken up in pieces about the size of a Nut, into which have been sprinkled a good dash of bone meal and about half a port sharp river-sand. This should be thoroughly mixed, and should neither be too wet nor too dry. Another important item is the drainage—one large crock over the hole in the pot and a number of smaller pieces above that, and on that again a handful of $\frac{3}{4}$ -inch bones. With the continual watering of the plant the bones become dissolved and form valuable material for the roots to feed upon. Care should be taken to make the soil very firm in potting, as such is essential to short, thick-jointed growth, and to an abundant harvest of flowers later on. A stick should be used for ramming the soil firmly, and nothing is better than the top part of an old spade handle, 16 inches long and sawn square across, just on the same principle as the dibbler, only in this case instead of a point being made it is left flat.

Sufficient room should also be left for water by leaving the soil not less than 1 inch from the top of the pot. Watering is another item that requires great care and judgment, and when done it should be thorough. If sufficient is not given, the roots at the surface take it all, while the roots at the bottom are dry and parched, and, if such a state of matters is allowed for any length of time, failure and disappointment are sure to follow. As soon as potted the plants should be staked, preferably one stake to each shoot, but all the branches may be looped together to one strong stake in the centre. D. G. McIVER.

Bridge of Weir, N.B.

RAISING SEEDLINGS.

THE raising of seedling Chrysanthemums is very much of a lottery. Still, when one single sterling novelty can be had from seed, it affords encouragement for still further trial. Of course, if seed is sown, a very large percentage of worthless varieties must be expected. Much might be done to encourage the raising of Chrysanthemums by offering prizes for home-raised seedlings. The conditions as to time should be unlimited, though it is not possible to treat seedlings like ordinary annuals. Two years really are required before the plants can be tested properly. There is a tendency amongst seedlings to show large eyes the first season, these in many instances being condemned as worthless. If a second year's trial of these were carried out, a greater percentage of desirable blooms would, no doubt, be obtained. Generally raisers of seedlings are so anxious to see the results, that the plants are run up with one single stem and allowed to bloom. Even well-known good kinds exhibit a marked difference both in colour and formation when allowed to develop blooms from the side shoots also. So much does this affect some varieties as to make them hardly recognisable; therefore, in the case of undeveloped seedlings we may expect similar results. The growing of seedlings occupies much space and time. A good plan is to plant them out-of-doors in some sunny, open situation and allow all that will to flower in the open, even if protection from early frost in a temporary manner is necessary. An idea can be formed of those likely to be worth a further trial, and much valuable space will be saved. Where, of course, space under glass exists for blooming the plants even the first year, I recommend strongly that there they be flowered. Pots 7 inches in diameter are large enough for the first year's growth. No check should occur to the plants in the way of allowing them to

become root-bound in their initiatory stages. The one desirable point about seedling Chrysanthemums is that the height of growth and general habit can be controlled by carefully selecting suitable types of growth as the seed-bearing parents. Not so with sports. In all instances the habit of growth partakes of that from which the sport originated, no matter whether it is desirable or not. No form or method of culture can alter this.

SOIL FOR CHRYSANTHEMUMS.

A MISTAKE is often made in making this too rich with animal and concentrated manures. Three-fourths of the compost may be loam. This differs considerably in quality, and is more or less difficult to obtain. The top spit of meadow land is what one covets, and if clayey rather than sandy, so much the better for the purpose. It should also be of a fibrous nature. If this be obtained a few months before use, one is not troubled so much by the Grass growing on the surface after potting. Chop it in pieces, but not too fine, and add the other portions. The other fourth part may consist of leaf-mould and decayed manure. Rubble, such as old mortar and brick rubbish, is used when the loam is of a very close nature. Bones in a fine state, at the rate of 1 lb. to the bushel, will greatly assist in building up a sturdy growth and give a healthy tone to the foliage. Mix all well together some time before the soil is to be used, and get it in an even state of moisture, neither wet nor dry. Pots of 10-inch diameter are now commonly used by the best exhibitors, except for the more weakly-growing kinds; in the case of these a size smaller is employed. For other than the growth of large blooms or gigantic specimen plants, the 9-inch, or even a size smaller, is large enough, and generally more convenient for Chrysanthemum culture. It is not advisable to use much drainage, but the crocks should be placed evenly over the holes and bottom of the pot. Half-inch bones may form part of the drainage, and are highly beneficial to the roots that run so abundantly downwards. Be sure that good, well-cleansed bones are obtained. Instances have been known where this material has formed into a putrefied mass when made moist, and has killed every root that came into contact with it. Two hours before the plants are turned out for repotting give the earth a thorough soaking with water. This is very necessary, for not only will the ball of earth turn out intact and without damage to the roots, but if it be not done there is danger of the older soil becoming dry whilst the new is quite moist, a serious check in the growth of the plant thereby resulting. Firm potting is an essential point. After each plant is potted it may be readily staked (if this has not already been done), and the pots stood close together in a slightly shaded position for a few days. This checks evaporation, as we want to avoid watering the earth until the roots have taken to the new soil. It may be necessary to sprinkle the foliage in the morning and early evening. When the roots get on the move again the plants can be stood in their summer quarters.

Enemies of Chrysanthemums.—

Green and black aphides are troublesome at this season. They should be dealt with promptly. Dusting with Tobacco-powder is a convenient method of destroying such. Another pest that often attacks the plants during spring is the leaf-mining maggot. It makes marks between the tissues of the leaves and is thus readily found. Hand-picking is the best remedy. This, again, should be dealt with promptly, because it spreads rapidly and the foliage soon becomes disfigured.

Potting Chrysanthemums.—One of the most important items in culture is to keep the plants growing freely by transferring them to larger pots as they require more space for their roots, putting those plants for the production of large blooms into pots $\frac{3}{4}$ inches in diameter. For specimens an inch more is not too much at this stage, and those for bushes and late flowers should have 5-inch pots. Pompon, Anemone-pompon, and single varieties succeed in 7-inch and 8-inch pots for the final shift. In all cases employ a substantial compost, avoiding much manure, although sufficient for the production

of vigorous growth must be given. Pot firmly, as if the soil is placed around the roots in a loose way the growth made is not firm. It is useless to expect deep, solid blooms without ripened wood. It is also useless to attempt to ripen or mature it in a couple of months previous to the flowering of the plants. Maturation must proceed along with growth. All newly-potted plants should be kept a trifle closer in the frames for a few days until the roots are running into the new soil, when all the air possible should be given. Plants growing in frames or pits should be fully exposed to induce a stocky growth—in fact, the lights ought to be drawn off them altogether upon all favourable occasions. It is too early to expose them entirely by night without some protection. Plants crippled at the points by exposure receive such a check to growth that they seldom recover. Abundance of space should also be allowed between the plants.

GARDEN PESTS AND FRIENDS.

Angles shades moth.—Would you kindly tell me the name of enclosed caterpillars? My Anemone japonica were so infested with them that I had to dig up the plants, shake over newspaper, and plant in another part of the garden. Do they not turn into chrysalides in the water?—KENTWORTH.

[The caterpillars you sent are those of the Angles shades moth (*Phlogophora metuculosa*), a very common insect. The caterpillars of the second brood do not become chrysalides until about this time of year.—G. S. S.]

Fungus in viney border.—Herewith I forward a specimen of what appears to be a fungus, which I have taken from the soil of my viney. I shall be obliged if you can tell me what it is, its probable origin (only observed this spring), and method for its eradication!—Gazansau.

[The white substance from the soil of your viney is, as you thought, a fungus, but it is only the mycelium, or spawn, so that I cannot tell to what species it belongs. It probably began by growing on a piece of decaying wood, and possibly will not injure the Vines, but as I cannot be sure on this point it would be better to remove all you can find and burn it.—G. S. S.]

The Swallow-tailed moth.—I received a matchbox containing a caterpillar, but there was no note or paper of any description to say from whom it had been received. The envelope was much torn, and the accompanying letter had probably fallen out. The box and envelope were enclosed in an official envelope marked that it was received in this state. The box contained a caterpillar of the Swallow-tailed moth (*Ourapteryx sambucaria*), one of the Geometridae. The caterpillars of this family can easily be distinguished from those of other families by their legs, which are placed at either extremity of their bodies, with none on the middle joints. This arrangement causes them to walk in a very peculiar manner. Holding on tightly by the feet at the end of its body, the caterpillar stretches itself out to its full length. It then, with the feet near the head, takes a firm grasp, and, releasing the other feet, arches its back and draws the end of its body as far forward as possible, forming itself into a kind of loop, from which circumstance it is commonly known as "looper." Many of these caterpillars have the habit when at rest of holding tightly to a stem by the feet near the tail and stretching their bodies into the air at an angle, so that they exactly resemble a twig. In this position they will remain motionless for hours.—G. S. S.

Cottagers' flower shows.—I greatly regret to learn that in some rural parishes it has already been determined to shunt the usual annual flower show for the present year on account of the severe demand being made on local people—the chief supporters of these shows—to subscribe to the coronation celebrations. Did this celebration but occur in July rather than in June, it might have been possible perhaps in some districts to work in with it the ordinary flower show. June is far too early for garden produce to have attained maturity. The maintenance of these cottagers' exhibitions is a matter of great importance to rural horticulture. Still further, there is the possibility that once the show is dropped it may not again be revived. The raising of funds wherewith to pay expenses and prizes is dependent on the local residents, and few have exceptional incomes to meet exceptional demands.—G. S. S.]

ROSES.

ROSE MME. BERARD.

THIS Dijon Tea Rose, with its salmon-tint flowers, is one of the most effective for covering a large expanse of house wall, as may be seen from the accompanying illustration. Making rapid growth and often producing shoots 15 feet or more in length in its annual growth, it soon ascends to the eaves of the house and wreathes the open upper windows with the soft tints of its countless blossoms. Its chief fault is a tendency to mildew, but where this can be kept under it presents a charming summer picture. The old favourite Gloire de Dijon, which is perhaps the best Rose for a standard that we possess, old plants with huge

spider gains the mastery the plants will suffer. I think "E. J." would have assisted the readers of GARDENING more if he had stated his system of Rose culture under glass—whether he forces his plants or cultivates under cool treatment. I readily grant the syringe may be dispensed with under this latter method, but I would not care to try the experiment on my forced plants, or should expect to find them with no foliage to syringe after the red-spider had done its work. It is tolerably well known that "soft" foliage predisposes the plant to mildew attacks. But I maintain we can syringe our plants and yet have the foliage hard, and this by a judicious system of ventilation. Knowing right well that the fungus spores of mildew will not germinate on a dry surface, I have found it an

The following excellent recipe for a fungicide given to me by a first-rate gardener may prove useful to the readers of GARDENING if they are less fortunate than "E. J." and find their plants attacked: One peck of lime, 1 peck of soot, 6 lb. of sulphur, boiled together for two hours. When cool use $\frac{1}{2}$ pint to 4 gallons of water (preferably soft water). RNSA.

NOTES AND REPLIES.

Rose not starting.—In February I moved to another garden a climbing Rose, either La Mirlouane or Félicité-Perpetue; I lost the name. It had grown very high. There was severe weather after it was moved, and now it shows no signs of life. Shall I cut it down to the ground, or shall I leave it, as I wanted it to cover a bare wall?—RNSA.

[As the plant was so recently transplanted, it would not be starting into new growth just yet.

Supposing the wood is green and firm, there will be no need to prune it so severely as you suggest. We should, however, advise you to prune the plant back to within, say, 3 feet of the ground, then, later on, when the roots become active, new shoots will break out. You can materially assist the plant by syringing the wood every morning early, before the sun gains much power, and a little water at the root will be helpful. If the Rose is on its own roots, new shoots will doubtless appear after midsummer. These will quickly furnish the wall. When it is decided to transplant Roses that have been for some time in present location, the work is best done early in autumn. It is always very risky to defer it until spring.]

Rose failing.—Some days ago I transplanted a Rose, digging a hole about a foot deep, and filling in after manuring well and watering. But it began to wither immediately, and now is dying. Can you tell me the reason of this, and give me any short directions for transplanting Roses, as I shall have to try and fill up the place with another. Could you name a good book on Roses that gives directions as to pruning, etc., cheap?—(REV.) J. D. PIERCE.

[If the plant was a young one, not more than 2 years old, it certainly should not have behaved as you say this one has done, but if an old specimen, the lateness of the season would largely account for the withering. Then, again, you say you dug out a hole about a foot deep, and gave the plant a liberal amount of manure. In the first place, a foot deep was not sufficient depth to dig. A hole 2 feet deep and 2 feet wide should have been dug, adding a shovelful or so of well-decayed manure with the lower stratum of soil, returning the soil to the hole. You should after such digging have taken out a spadeful or two of the soil, disposed the roots regularly around, then returned the soil and made firm. Newly-planted Roses prefer being planted in soil that has been deeply dug, and they resent strong manure near their roots. It is safer to

give them liquid manure in the summer than to make the soil manuring to the plants by adding such a lot at time of planting. Your best plan now will be to plant a pot-grown Rose, as the season is so far advanced. Rush plants that were potted last autumn are preferable. They are usually grown in 8-inch pots. When planting such, turn out the plant carefully. The ball of earth must remain intact. Such plants make grand bushes by the autumn. A very useful and practical little book on Rose culture is Mr. Wm. Paul's "Roses and Rose Culture," price 1s., from the bookstalls.]

As many of the most interesting notes and articles in "GARDENING" from the very beginning have come from its readers, we offer each week a copy of the latest edition of either "STOCK AND GERRARD'S PLANTS," or "THE ENGLISH FLOWER GARDEN," to the reader of the most useful or interesting letter or short article published in the current week's issue, which will be marked thus: *



Rose Mme. Berard. From a photograph sent by Mr. J. Cobbett, Cemetery Road, Staughton, Guildford.

heads often being seen in cottage gardens in the best of health, is also well adapted for planting against a house, in which position it is probably more used than any other Rose. Rêve d'Or is another excellent Rose for the same purpose, bearing its yellow-tint flowers in prodigal profusion during the early summer, and soon clothing bare expanses with its handsome, shining leafage, which has the merit of being practically evergreen. This Rose does best when not subjected to hard pruning, which is apt to produce rampant growth at the expense of flowers. The growths of the current season should be laid in as they mature, only the oldest wood being cut out when the wall-space becomes unduly crowded. Bonquet d'Or, with deep yellow copper-centred flowers, is a fine Rose, bearing an immense crop of bloom, as does the well-known William Allen Richardson. This latter Rose is, however, not advisable for covering hot, sunny walls in the south, as in such a site the flowers show scarcely a trace of the rich apricot tint which they should possess, but assume a dull, parchment-like colour that has nothing to commend it. In cooler districts, on shadier walls, or when associated with other climbers in the south, the flowers usually exhibit their rightful exquisite colouring. On page 53, Vol. XXI., is an illustration of W. A. Richardson covering a house-front in South Devon in conjunction with Ivy. Although the exposure was a southern one, this Rose always produced flowers of a rich apricot tint, owing to the leaves of the accompanying Ivy preventing undue heat being thrown off by the wall. With reference to this association, one would scarcely recommend the planting of a climbing Rose and Ivy together, but, where the roots of the Rose can be kept clear from interference by those of the Ivy for two years or so and are liberally fed, the plant makes such a strong start that it will often successfully contest the roof-run with the most rampant of neighbours. Ideal is another climbing Rose most desirable on account of its unique colour, in which carmine, copper, orange, and saffron are often indescribably mingled. The pale flush Climbing Captain Christy is also a charming Rose which is far more rarely seen than its merits deserve. S. W. F.

MILDEW ON ROSES UNDER GLASS.

I do not suppose such an excellent cultivator as "E. J." would tolerate an attack of red-spider upon his Roses under glass, but his advice not to syringe the plants appears to me to be rather open to misconception by the novice. I would prefer to have mildew on my Roses rather than red-spider. There is plenty of remedies for the former, but when one has

excellent plan to leave a crack of air on the top ventilators at night, so that a nice hygienic atmosphere is maintained. I could take "E. J." to several houses of Roses planted out that are quite free from mildew, and which are hoed nearly every morning with cold water just as it comes from the main, and this in houses that are artificially heated. The grower has often remarked to me that he attributed the absence of mildew on his plants to this system of syringing, which tended to harden the foliage. Mildew arises more frequently through too much or too little water at the root, and also too strong solutions of manure. Those plants from which the water passes away very slowly are also much addicted to mildew attacks, and the lesson to be learnt from this is to aerate the soil by providing a porous peat compost, and to stand the plants upon two bricks or an inverted pot

OUTDOOR PLANTS.

* * LILIUM AURATUM AS A BORDER PLANT.

This is indeed a truly glorious Lily, whether we refer merely to *L. auratum* or its varieties *rubro-vittatum* or *Wittei*. In spite of the fact that the bulbs are annually sent to this country from Japan to the tune of tens of thousands, how very seldom do we see it thriving in our gardens! Unfortunately, of late years these bulbs leave much to be desired—firstly, owing to the removal of the bulb-feeding or basal roots by the Japanese before shipment; secondly, the deliberate neglect of precautionary measures with a view to combat the "Lily bulb" disease by fungicides; and, thirdly, the close packing in powdered clay, which dries up the bulbs, and thus again diminishes their vitality.

Perhaps a few suggestions on the outdoor cultivation of this Lily, gleaned from a few experiments, may be of some little help. My experience leads me to the view that success with *L. auratum* depends more on the selection and subsequent preparation of the bulbs for planting, and a compost easily prepared for their reception in the border, than the particular site, climate, or soil of the garden.

SELECTION OF THE BULBS.—Choose those which reach this country between the 1st of February and the end of March—late enough for proper maturing of their growth in Japan, and early enough to make a start with hopes of success—of medium size, but weighty, with regularly disposed scales, free from decay spots, and, above all, bulbs from which none of the scales have been removed. Unfortunately, the basal roots, which nourish the bulb, in contrast to the stem roots which nourish the flowers, will have been removed before shipment; but I endeavour to select those which, in spite of this amputation, have a goodly portion attached to the bulb, dead and dried up though they may be. Such bulbs emit new basal roots far more readily than those which practically show no trace of their old ones. So, heavy, firm, fair-sized bulbs, 4 inches to 5 inches in diameter, reaching us in February or March, with all the outer scales *in situ* and portions of old basal roots still adhering, would be my choice. It will be noted that such bulbs have the basal roots proceeding from a slight depression. If, instead, these roots proceed from a protuberance, however slight, some of the outer scales have been removed, bringing the root-stock forward. Such a bulb is almost surely badly diseased, and the scales have been removed to hide it. Adieu to the foregoing. I should never purchase bulbs that had been exposed any length of time, either to air or light. Directly they reach us and are removed from the clay-dust packing, they should, I believe, undergo the preparation for planting, for, given promising bulbs, our object must be to get them out of their dormant state—to quicken them, as it were, into growth, without at the same time awakening the germs of that terrible plague "Lily bulb disease." No doubt this scourge claims its victims in spite of every care, but a bulb planted recklessly in any unsuitable soil whilst at the lowest stage of its vitality probably never has a chance to quicken, the fungus making short work of it. A case of bulbs may be seemingly healthy at the beginning of a week and a mass of decay at the end. I immerse my bulbs on receipt for two minutes in a fungicide, subsequently draining them, basal roots uppermost. Permanganate of potash $\frac{1}{2}$ oz., mixed in 1 gallon of water, seems to accomplish the object, and is satisfactory; but any fungicide suitable to plant life would avail, say Bordeaux-mixture. When dry place the bulbs in a box, on a layer of quite damp Coconut-fibre, covering them with the same, and keeping quite moist. Stand the box in the temperature of a living-room. At the end of ten days examine them, and remove those which show traces of the disease to a box filled with fibre, first removing all diseased portions. At the end of three weeks the bulbs will appear very different; the scales are now plump and very brittle, and they fit quite tightly toward a common centre. In the most successful cases basal roots are issuing again, and in some cases these may be 1-2 inches long. Vitality is being restored.

speaking, all bulbs seem to show—on the scales, at any rate—doubtful patches, and if these show a disposition to spread toward the base, immediately destroy the bulb; but little local rotting spots upon the scales may be lint bruises. I have never seen a perfectly sound-looking bulb of *Lilium auratum*. Given a good dusting with flowers of sulphur, the bulbs are now fit to plant. With regard to suitable

SITES FOR PLANTING in the open border and irrespective of planting among Rhododendrons, where they nearly always succeed, select a sheltered warm border, choosing, if possible, for a clump (say of twelve) the shaded side in front of some tall-growing perennial—a *Rudbeckia* or a tall *Helianthus*, for example, the object being to have the Lilies enjoying the rays of the warm sun during the later spring, but as the season advances the stems of the tall-growing perennial afford shelter and shade. Drainage must be perfect. For a clump of a dozen dig a hole 2 feet in diameter and about 16 inches or 18 inches in depth, and unless the soil be of a peaty character or a staple known to be quite suitable to *Lilium auratum*, place a layer at bottom, to a depth of some 9 inches or 10 inches, consisting of equal parts good peat and loam. It is advisable to add above this a shallow layer of Coconut-fibre and sand, upon which the sulphur-coated bulbs are to be placed. A handful of this fibre can then be thrown upon the top of each Lily as a deterrent to worms, subsequently adding 3 inches or 4 inches of the ordinary garden soil. A layer of very rotten horse or cow-mannure above this will in good time feed the stem roots, and the whole can be made level with a surfacing of ordinary garden soil. Keep the layer of rotten dung not less than 4 inches from the top of the bulbs. Peat may be dispensed with, and good results obtained with Coconut-fibre, sand, and loam, and a little good, sweet leaf-mould. Prepared bulbs of *Lilium auratum* planted in this way yield stems sometimes thicker than one's thumb, pointing to the suitability of the treatment. The flowering period of twelve such bulbs will frequently extend from mid-July to mid-October and even later. Another disease may attack the buds, stem, and leaves, but occasional spraying with the fungicide mentioned, or the Bordeaux-mixture, keeps this in check.

At all times during great heat the ground should be copiously watered. In early winter, when the stems are quite dead, they should be cut down, and, given average luck, a display the following year, little inferior to the first, may be confidently expected. At the end of the third or fourth annual display the bulbs will, I fear, be no longer worthy of their site. Experience, however, tends to show that, until this deterioration of the bulbs is apparent in growth and bloom, they are best left undisturbed.

As a supplement to the Lily display, *Ranunculuses* may be planted in the top stratum of the soil above the cow-mannure—of course, in cases where the staple suits them—and seemingly the growth of these assists the Lilies below, but both should be planted by the end of February or the *Ranunculuses* may fail.

A. J. ORKMEYER.

Beechbrook, Hyde-road, Roxborough-root, Harrow.

PLANTING OUT TOO EARLY A MISTAKE.

WHEN we get into May many lovers of their gardens begin to think all the cold weather has passed. If we may judge by the questions put and experience given in *GARDENING ILLUSTRATED*, many are too hasty in placing tender things in the open ground before the weather is settled. During my gardening experience I have often been asked, when may I begin planting out? This question is far more easily asked than answered, seeing so much depends on where the grower resides, the position of the garden, the kind of plants grown, and how the plants have been treated as regards hardening off. In seaside places things may be placed in the open a month earlier than in cold districts, and if the garden is sheltered a fortnight before they can be in an exposed or low-lying position. Plants that have been grown hardy, and well exposed may be planted out many days before those grown otherwise. Much also

depends on the kind of plants grown. *Calcocaryas* of the Golden Gem type can be safely placed in the open a month before such things as *Coleuses*, etc. As many readers of *GARDENING ILLUSTRATED* obtain many of their plants from florists, it may be wise to give them a word of warning against obtaining large plants that have been grown in strong heat and moisture. These look very well when sent home, but note how miserable they appear if placed in the open beds and exposed to cold winds, sun, and frosty nights. Frequently these lose half of their leaves, and do not commence to grow for many weeks. It would be far better to purchase a plant not half the size that has been grown hardy and well exposed. Such plants do not suffer from climatic changes, and they grow away at once. In gardens where beds are devoted to one or two sorts of plants it is easy to arrange the filling of these; but where beds or borders are large, and a large variety of plants is used, then this is more difficult, seeing they are often ready to go out at an early date. No class of plants gives so much pleasure at so small a cost as annuals, and I am convinced many a garden could be made beautiful through the whole year by growing annuals and hardy plants. A very large number of the annuals grown for summer gardening do not give half the results they ought from being grown in hot structures and then planted out without any protection. Many people pride themselves when they have plants to go into the open of *Asters*, *Stocks*, *Phlox*, *Zinnias*, and a host of other things I could name that have large deep green leaves. I prefer plants that have leaves of much less size and with a brownish look. Many annuals would be far better if they never received anything hotter than a cold frame, and if not sown too early so much the better, as then they may be pricked out where they are to bloom and make a grand show by the close of the summer. For very late blooming I have had the best results from sowing under handlights in the open border and pricking out into the beds or borders during the last half of June. Many complaints are made as to *Zinnias*, *Salpiglossis*, etc., not growing away well when first planted out. This frequently arises from being sown too early. The last few days of April and early in May are the best times for sowing *Zinnias*, and last year some *Salpiglossis* self-sown in the borders were more satisfactory than those raised under glass. J. CROSS.

A hard-and-fast rule cannot be laid down as to the date one may safely put out bedding plants, so much depending on the season and the locality in which the grower resides. It is better to wait a week or ten days than to plant and have all one's plants destroyed by a single night's frost. One should, of course, commence to put out the hardiest things first—those that have been wintered in cold frames, such as *Pansies*, *Calcocaryas*, *Antirrhinums*, *Pentstemons*, etc.; then following with *Pelargoniums*, *Pyrethrum*, *Lobelias*, *Stocks*, *Asters*, *Phlox Drummondii*, *Perilla nankinensis*, leaving until the last *Zinnias*, *Echeverias*, and *Alternantheras*. There are those who dispense with the hardening-off process altogether, considering it unnecessary, removing the plants direct from the greenhouse to the beds and borders, but this can only be done at great risk, and when practised is often attended with damaging results, as severe frosts ensuing—a not unlikely thing in May—all one's work is liable to be undone. It is therefore, best to follow the safe and sure medium of the cold-frame for a fortnight, leaving the sashes off in the day, and replacing them partly at night, until they can be dispensed with altogether. I have seen plants of *Pelargoniums* *West Brighton* (Gem, Bijon, Sunset, and fine-foliated sorts taken from a warm greenhouse to beds, with the result of loss of colour, and a check given that has taken weeks to overcome. W. F. D.

Many of our suburban and country residents round about here are tempted by the good weather we are experiencing to put out their tender plants, and to such I would say "dwt," if you wish your flower-beds to figure prominently in the neighbourhood. It does not matter how well a plant may be hardened off; it gets a few degrees of frost while in its permanent position, it is crippled all through

the summer, and fails to give the satisfaction that one expects. In Scotland, the first week of June is considered a good time for bedding out, and even then I have had Dahlias spoiled owing to frost. It is well to wait a little, until the east winds, which blight our plants even more than a touch of frost, are over, at any rate.

Bridge of Weir, N. B.

D. G. McL.

THE ARUNDOS (REED).

By some the Arundos are regarded as inferior to the Glycerium or Pampas Grass, and, indeed, it may be so as ordinarily seen and grown, and by a comparison of both at the same moment. As a matter of fact, however, such a Reed as that shown in the accompanying illustration possesses a value but little, if any, inferior to the average Pampas. Both are of about equal hardiness in British gardens, and both require

of this plant as is afforded by the illustration. The long, silky-white, drooping racemes are very showy, and remain in excellent condition for two or three months together. The strong, established plants flower in the early summer, often early in July, and remain good until autumn. In this respect the plant is far in advance of the Pampas, that often sends up its plumes quite late in the year. Where lake or pond exists this handsome flowering Reed may be planted at the margin. Root interference should never be undertaken late in the autumn or in winter. In spring, with returning activity, the plants may be divided with impunity.

A. DONAX (The Great Reed).—In this the leaves are alternately disposed on stout, reed-like stems that attain a dozen feet or 15 feet high. In colour they are glaucous green and arching. The flowers are at first reddish, but ultimately nearly white, the numerous spikelets

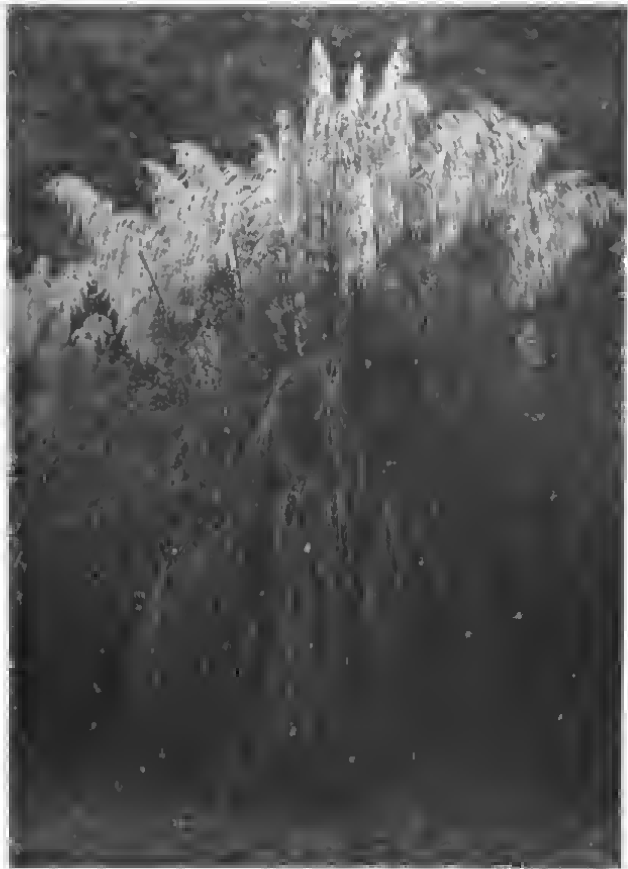
altogether, as they have had very fine flowers on them, and now the leaves, which have been very small and stunted-looking, have turned yellow. Is it from disease, or do the plants only want a change of soil? They have been in their present position three years.—M. L. C.

[Again and again we endeavour to impress upon our correspondents the great necessity of sending ample material so packed that it may reach us quite fresh. By not conforming to this very simple yet essential request, those in search of information are the losers. The few leaves you send are quite inadequate, whereas a plant, or a portion of one, wrapped in damp Moss, and reaching our office as fresh as it left its starting point, may at once give us the clue to the wrong. If this be neither conveyed in words or by specimens, we are helpless to assist. The leaves were quite shrivelled, yet judging from the colour, and from the time the plants have been in the one position, it would appear the soil is exhausted. In some soils Violets will go on for years, running about rooting here and there and flowering well. Of the kind of soil "M. L. C." grows the Violet in we have no information. Broadly, however, we may say this, that only the best growth and finest blooms are to be obtained by treating these plants as annuals. In other words, take unflowered runners in October and treat as cuttings. In early April following plant these cuttings, which have reached the stage of nicely-rooted plants, in good, rich soil that has been deeply dug and manured in the winter. Hoe and water as may be necessary in summer, and by September tufts will be formed that will teem with buds and produce flowers all the winter long. All you can do now with yours is to plant some in fresh ground to produce the necessary cuttings in autumn.]

Seedling double Violet (J. T. B., Wollaston).—The exceeding brevity of your note falls short of one essential detail in that it does not clearly convey if you desire to know how to raise stock, or whether you wish to bring it into prominence by exhibiting it. Of the actual merit of the blossoms we cannot speak. Such flowers should always be wrapped round in damp Moss, and even stood in water for an hour before packing to assist in reaching us in a quite fresh state. After about fifteen hours in water one or two of the blooms picked up, and if these are representative, the flowers are white heavily tipped with purplish violet—suggesting a mixture of Comte de Brazza and Marie Louise, or something near. One thing we can say—the flowers are very strongly and deliciously perfumed. Had you sent a small plant with the roots in wet Moss we could at once have seen its value. If you desire to raise stock quickly, the best way is to remove all flowers at once, and give the plants a slight mauling of loam and old manure. Water this thoroughly about the stems. By the end of September you may start taking cuttings, inserting these in sandy soil in any handlight or frame, and plant out in April ensuing in rich, well-prepared ground. By growing these young plants well during the summer of 1903, good tufts full of buds should result in the early autumn of that year, when your best way of bringing the variety into notice would be that of exhibiting, say, a half-dozen or dozen pots of it in flower before the Royal Horticultural Society. By entering the variety (which must be named) for certificate it would come before the floral committee of that body, who adjudicate on all new plants of this kind.

Propagating Tufted Pansies.—Will you kindly tell me the best time and way to strike cuttings of these? I have read you ought to take them from cuttings without hollow stems. I have often tried to strike them, but cannot succeed, and I can never find them without hollow stems. I tried them under a handlight, in greenhouse, and in cold-frame. Will you tell me also what soil?—J. LIZARD.

[The best way of securing stock of these plants is to plant a few reserve clumps in the border somewhere and treat as follows:—When the first flush of bloom is past, or say at the end of June, cut the plants closely over to within an inch of the soil or thereabouts. At this time the base of the plant is crowded with fresh young shoots that cannot grow by reason of the crowded tuft above, but with light and freedom quickly take on a fresh lease. After cutting down, lightly fork the surface soil round about the tuft and give a thorough soaking of water. Now obtain fine soil, well mixed with sand, and surround the plant with this to a diameter, say, of 6 inches beyond the



Arundo conspicua at Boscombe, Isle of Wight. From a photograph sent by Mr. W. E. Roberts, High Street, Thirub, Oxon.

some protection in severe weather. The value of well established clumps of these things in the landscape cannot well be over-rated, and both the Pampas and the Reed may be grown without interfering the one with the other.

CULTURE.—The chief items of culture in the Arundo group are a cool rooting medium, and generally a rather moist soil. Where a deep bed of moist loam exists, there will the Arundo be found most vigorous, the plants attaining to 10 feet or a dozen feet high when in flower. Like the Pampas Grass, these Arundos may be raised from seed and the plants increased by division. The seeds may be made the more reliable if at flowering time the heads are shaken together freely every day for a short time. Arundo seed is also more reliable as a home-saved crop, because of an earlier flowering and with greater sunlight to ripen it. The following are the best kinds of this small genus:—

ARUNDO CONSPICUA (New Zealand Reed).—No word description will give so clear an idea

forming a compact panicle a foot or more long. The growth is free and very vigorous. It has been known in British gardens nearly 300 years. Native of South Europe.

A. DONAX VERSICOLOR.—This is also called A. D. variegata, and may best be described as a dwarf variegated form of the last-named kind. Although not reaching the same fine proportions as the type, the plant is singularly effective, and in this respect superior to the original plant. The broad, handsome foliage is strongly ribboned with silvery-white, hence the striking effect of a well established clump. In the winter it is well to cover the ground, crowns, and tufts with Cocoa-nut fibre or coal-ashes to a depth of quite 6 inches, as not infrequently a sharp spell of frost may injure the coming reeds.

E. J.

NOTES AND REPLIES.

Violets in poor condition.—Kindly tell me what to do with the violet-plants from which the enclosed have been taken? The plants seem to have deteriorated

tuft, also sprinkle some of the same soil in the centre of the plant and presently wash it down with water from a fine-rose can. For a time, if the weather be dry, continue to sprinkle the plants daily each evening with water. By following this carefully the fresh growths in the centre will root into the new soil, and may, a month after the cutting down, be detached and treated as cuttings, though, in this instance, these will be mostly "really rooted ones." These young unflowered pieces you may either insert in a frame as cuttings, or, by leaving a fortnight longer, make up a border of good soil in a shady spot and transplant them there. This method produces the finest plants with a minimum of labour, and where large numbers are required from a plant or two it is best to first pull out the more prominent growths and repeat this operation as the cuttings are fit for removal.]

GARDEN WORK.

Conservatory.—Fires may be discontinued now, as when fires are used late in the season there is a danger of more heat than is necessary being present, and this leads to weakly growth and more trouble with insects. Ventilation must be carefully given. There has been a long continuance of north-east winds, and while these last the ventilation should be on the south side only. Shade will be necessary, especially for small houses where there is not much room for climbers. Though there is usually a set time for watering, at present generally in the morning, yet some plants will require watering more than once in the twenty-four hours, especially *Spiræas*, *Hydrangeas*, and *Pelargoniums*, which have consumed most of the food in the pots, and are now either in blossom or the buds are beginning to expand. Liquid-manure will be a great help to all such things now. Those who have a suitable tank may make their liquid-manure at home, and save the expense of artificials. There is no better stimulant for flowering or fruiting plants than the drainings from a farmyard where a number of well-fed animals are kept. Among the chief plants in bloom now are *Roses*, *Azaleas* (later sorts), *Pelargoniums*, *Heliotropes* (some of the new sorts have very large flowers), *Hydrangeas* (white and pink); a blue tint may be imparted to the pink flowers by mixing iron filings with the soil or by watering from a tank in which rusty iron is kept. The same tint has been obtained by growing the plants in peat; but *Hydrangeas* require a soil with more body in it than is usually found in peat to produce large trusses of bloom. *Fuchsias* are coming into bloom, and will do much to take off the stiffness of the *Hydrangea* and *Pelargonium*. *Lilies* of various kinds will come on in succession. The time of forced shrubs is now pretty well over, and the plants should be moved to another house to complete their growth, and when the young wood is getting a bit firm the plants may be plunged outside. We generally plant them out to save watering. The roots never wander far away, and those showing plenty of buds may be lifted any time for forcing again. *Palms* may be repotted now if necessary, or be helped with stimulants.

Stove.—Mixed collections of *Palms*, *Ferns*, and flowering stuff must have a thin shade when the sun is bright. Even *Dracenas* and *Crotons*, which require strong light to colour the foliage, will suffer if exposed to very bright sunshine. The best place for the plants which require light to put on colour is a span-roofed house running north and south, where the shade may be moved round as the sun changes its position, or rather, as the sun is a fixed body, when its influence bears on any particular side of the house. The smaller the house the more need will there be for shade, and the moisture should be used freely on floors and stages to keep the atmosphere genial. The suitability of the house for any class of plants has a good deal to do with successful culture. Shift on *Caladiums*, using rough fibrous stuff for the last shift. The drainage must be very free, as these large-leaved plants require a good deal of water with some stimulant in it when the roots have filled the pots. Continue to put in cuttings of *Peonies* and an

plants of which young stock is required. Nearly every cutting will strike in a brisk bottom-heat if kept close and shaded. Rooted cuttings should be lifted out of the bed, and when hardened a little, potted off, still keeping the little plants warm and close till some progress has been made. Night temperature, 60 degs.; air to be given at 80 degs.

Tomatoes under glass.—Tobacco-houses may be planted now that the bedding plants can be taken out. Sweet loamy soil is the best for Tomatoes. A little soot and lime may be mixed with it to check any fungus spores which may be in the soil. It is not wise to plant Tomatoes in the same soil more than two years. We generally open trenches a foot wide and the same in depth, and fill in with fresh stuff. Of course, some advantage would doubtless be found by clearing all the soil out, if time could be found for the work, but our system of trench planting has so far answered very well; but there is not much in Tomato growing now, anyway. Trim the plants to single stems, and keep all side shoots rubbed off when small. Give no stimulants till the two bottom trusses are set. Tomatoes do best in a fairly brin soil. A top-dressing later on will encourage surface roots and save labour in watering.

Roses under glass.—Insects will give trouble now, and mildew may appear on the foliage if the roots have received a check either from drought or if too much water has been given. My opinion is, the greatest source of mildew arises from the check given by drought, especially in the case of *Marechal Niel* or other *Roses* planted in the border. There are several remedies for mildew, of which sulphur in some form is the chief ingredient, but no remedy is really effective until the cause has been discovered and removed. Cuttings of forced *Roses* will strike with almost absolute certainty in bottom heat if kept close and shaded. If the cuttings are laid in a bed of warm, moist *Cocca*-nut fibre, roots will form in a short time, and, when the roots are a quarter of an inch long, pot off and keep close and warm till established. An old leaf bed which has been used for propagating other things will do very well.

Orchard-house.—More water will be required now. Keep out cold north-east winds and give air all along the ridge and on the south side, syringing twice a day if the water is soft, and close not later than four o'clock, to make as much use as possible of the sunshine. Give an inch or so of air at intervals along the ridge about eight o'clock in the evening, unless cold and frosty. Continue dislodging, and thin the young fruits a little if much crowded.

Window gardening.—Do not be in a hurry to place tender plants outside; but they will be quite safe in a cold-frame, and to this extent the windows and spare room may have their plant occupants thinned. Plant all bulbs which have flowered, out in the garden. *Lilies* of the *longidorum* and *auratum* types will do very well in a light window. Dust a little Tobacco-powder in the centre of the plants if there are green-fly. A good fumigating apparatus may be made with a few thin Bamboo canes or wires covered with calico or an old sheet. This can be placed over the plants on a table and the Tobacco smoke puffed inside. Five minutes will do it. *Pelargoniums*, *Calceolarias*, and *Cinerarias* are beautiful window plants, but the flies will give trouble.

Outdoor garden.—The late cold winds will check growth and increase the number of insects, which must be dealt with promptly. The outdoor garden wants rain to bring up seeds and remove the stunted appearance of the young shoots exposed to the biting north-east winds. A south wind and warm showers would help things immensely. Tufted *Pansies* are among the brightest things in the garden now, especially where the beds have been well prepared. In dry, porous soil a layer of cow-manure 8 inches or so deep in the beds will be a great help to the plants when the hot weather comes. Charred garden refuse passed through a ½-inch sieve to remove stones, etc., is the best dressing for the beds after the spring flowers are removed to prepare the soil for the summer hedges. There is yet time to strike cuttings of coloured-leaved plants in warm-frames. Such plants as *Colcuses*, *Iresines*, and *Algeria* may be easily raised by the thou-

sand in warm-frames. They will not be wanted till the weather is warm in June, and for effective massing they must be thickly planted. Mulching and watering must be freely used for transplanted evergreens. Damp the foliage occasionally in dry weather. Dust a little Tobacco-powder among *Roses* on walls. If there are no insects now, there will soon be plenty if nothing is done.

Fruit garden.—When *Grapes* are colouring the ventilation should be increased, a little air being left on all night; but there should be no lowering of the temperature, neither should the borders be permitted to get too dry. Sub-laterals will not give much trouble if they have hitherto been kept within bounds. New varieties may be planted at any time during this month or later, when the young Vines are ready. If the eyes have been started in sods, they will be ready to plant when a foot or so high, as then they will be making roots freely, and will start away strongly if planted in a good border inside and helped on with warmth and moisture. The thinning of late *Grapes* will now be in progress, and, if the fruit is expected to hang late, the bunches must be well thinned so that the air can circulate among the berries. After thinning, top-dress the borders with some good artificial manure that will act quickly. The late spell of cold, windy weather will produce an influx of insect life that will give trouble if not dealt with promptly. Many owners of moderate-sized gardens are investing in a spraying implement for destroying insects, and, as soon as the blossoms are set, it should be brought into use and kept at work until the trees are clean. The covers may be taken from the Peach wall as soon as the weather is settled.

Vegetable garden.—Thin young crops of vegetables, such as *Onions*, *Carrots*, *Pan-nips*, and *Beet*, in good time. *Beet* transplants well if carefully done, and the hole made deep enough to receive the roots without injury. One good watering after transplanting will generally suffice. Salt is a good dressing for *Seakale*, *Asparagus*, and *Beet*, but not for *Potatoes*. It may be used any time if half a pound per square yard is not exceeded. *Windsor Beans* may be planted for a late crop, and *Kidney Beans*, both dwarf and Runner, should be planted freely, and the Runners will pay for long sticks. In sticking *Peas* let the sticks slope in opposite directions, and not be thrust in too close at the top, otherwise the *Peas* will grow out of the sticks instead of growing up between. Make a good use of north borders for *Cauliflowers*, *Lettuces*, *Turnips*, etc. Earth up early *Potatoes* in good time. Before earthing up, a sprinkling of gnatso may be given if necessary. When the *Potatoes* are cleared out of frames fill them with *Cucumbers* or something useful. *French Beans* bearing in warm frames must be gathered as soon as fit for use to insure a succession, and liquid-manure should be given. Remove all flower-stems from *Rhubarb* and thin the crowns of *Seakale* just breaking into growth. Plant *Calhages* to come in end of summer and during autumn. E. HODDY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

May 19th.—Bedding plants are all in cold-frames hardening, with the lights or other covers off during the day. Hardy things, including *Calceolarias*, *Pentstemons*, and *Antirrhinums*, have been planted out. Late cuttings of coloured-leaved plants are still kept warm, especially at night. Hardy annuals sown outside which are large enough have been thinned freely. Standard and dwarf *Roses* budded last season are growing freely, and supports have been placed to the shoots to prevent injury from wind.

May 20th.—Dressed terrace and other gravel walks with weed killer. This saves all further trouble during summer, and the walks are always firm. The roller is used after rain. *Deutzias* after flowering have been cut back and placed in warm-house to break and make growth. Repotted *Azaleas* and *Epicurises* which have been cut back, and are now breaking freely. Only the best fibrous peat and sand have been used, and the soil is made firm.

May 21st.—We have made a beginning to plant flower garden; the plants are well hardened and will take no harm. We have a good deal to do, and are compelled to make an early start. The beds which are filled with spring flowers will not be ready till the middle of June. Some of these will be left for sub-tropical and other tender things, and the plants will be large when put out. Thinned late Grapes. Removed covers from wall trees.

May 22nd.—Sowed Antocrat and Ne Plus Ultra Peas. Sowed more Lettuces and planted out previous sowing. Earthed up early Potatoes and thinned Carrots and Parsnips. Dusted root over Onion-beds. The hoe is used as freely as possible. Tobacco-powder is our remedy for insects on wall-trees. The distributor is always charged with it and kept at hand. Special attention is given to disbudding the young shoots of Peaches and other trees with crowded shoots.

May 23rd.—Planted Cauliflowers on north

INDOOR PLANTS.

VINCAS.

(REPLY TO "F. G.")

THE three varieties that have been under cultivation from time to time here and there amongst hothouse plants are each deserving of more extended notice than they receive. More often than not they are badly managed during growth, whilst they are not the easiest of plants to keep safely through the winter season. I have seen plants of these Vincas trained upon trellises, a mode of culture that is out of all character with their requirements. The growths in such cases are tied in at intervals, and but rarely are the shoots increased in numbers, whilst the flowers upon these long shoots are never so fine as they should be. It is no trouble whatever to flower the plants continuously through the summer. Then having done good service in this way, towards the autumn the shoots with flowers upon them can be cut for other uses, and thus prove of good service.

after each shoot has made two pairs of leaves. By non-attention to pinching only a few shoots will push away, with the result that the plants are considered of bad habit. The last stopping should be done all at once, and in six weeks' time the first flowers will be opening. During the growth one additional shift, if not two, should be given. The first one will be by considerably reducing the old ball in the same way as Pelargoniums are treated in the autumn. The

Soil best suited to these Vincas is light loam and leaf-mould, the latter being worked through a sieve; some manure from a spent Mushroom-bed would be an assistance in after shifts, and in any case being used freely. The potting need not be done so firmly as in the case of permanent shifts. As the plants get into free growth with good root-action, they will take water very freely. When the plants are in bloom close attention must be given to the removal of falling blossoms, and during the flowering period liquid manure may be given at each other watering. As soon as the blooming season is over, the plants should be kept fairly dry until starting time comes round again.

The most useful perhaps of the three varieties under cultivation is

V. ALBA OCELLATA; its pure white flowers, each with a bright rosy eye, are very showy and attractive, and freely produced under good cultivation.

V. ALBA is a pure white variety, with the faintest trace of pale yellowish-green frequently seen in the eye; the foliage is also of a paler shade than in either of the other two kinds, whilst the growth is not, on the whole, so vigorous. This is quite in contrast with some flowering plants in this respect: the white Lapageria, for instance, is frequently a more vigorous grower than the red variety.

V. VASEI has pale rose-coloured flowers with a darker shade of the same colour at the eye; this is as vigorous a grower as V. alba ocellata, with darker and somewhat more hirsute foliage. Each of these varieties is well worthy of cultivation, being quite distinct one from the other. Those who have light houses at their disposal with plenty of room therein may do far worse than grow these free-flowering plants. In the winter season they require but little room, for by semi-pruning late in the autumn a considerable reduction can be made in this direction. GROWER.

NOTES AND REPLIES.

Genistas after blooming.—Would you kindly tell me how small Genistas ought to be treated after they have flowered to ensure their doing so another year? I have had one in a large pot, which flowered for two years, but has this year not one blossom on it. It has not been repotted. Is this the reason?—S. G.

[Genistas should be cut back directly they have done flowering, and as soon as the young shoots produced after this operation are from $\frac{1}{2}$ inch to $\frac{3}{4}$ inch long is the time to repot them, after which, do not expose them to direct draughts for a week or two, till the new roots take possession of the fresh soil.]

Balsams in pots.—I have sown some Balsam-seed in pots, and am not sure if the plants should be always kept in the greenhouse or in a cold frame. They are about 1 foot high now. I would be much obliged if you would tell me how to treat them?—R. J. H.

[Prick off into small pots when large enough, keeping moist and near the glass. Shift on when these small pots have become filled with roots, using this time a little rotten manure mixed with the soil. Finally, put them into 8-inch pots if you wish to have large plants. Air must be freely admitted to the house in which Balsams are grown, care being taken that the plants never suffer from dryness at the roots. A little weak liquid-manure occasionally will do much good. Above all things, see that the plants have plenty of room and light, and do not attempt to force them into bloom in any way, otherwise they will become very weak and leggy and the flowers will be poor.]

Ferns and plants for winter bloom, etc. (Blackton).—This is a rather unusual mixture, but you may obtain flowering plants by extending your list of Orchids, and by growing Cypripedium insigne and Masdevallia tovarensis secure two of the surest of winter-flowering subjects. It is quite possible you may succeed in flowering Begonia Gloire de Lorraine, B. insigne, Tree-Campanulas in



Vinca rosea.

under. Sowed more Turnips. Sowed a few seeds of several kinds of late Broccoli. We have had no trouble with the Gousberry caterpillar for years; nevertheless, a look round given from time to time while the moths and saw flies are about. Commenced spraying Apple trees, for eggs of the Codlin-moth are now being laid on the young Apples. Looked over climbers in conservatory to regulate growth.

May 25th.—Formed groups of Zonal Geraniums and Tuberosus Begonias in conservatory. Aram Lilies which flowered early have been placed outside to ripen, and the space has been filled with a bold group of the Trumpet Lily, which is now flowering freely. The double Tiger Lily does well in pots, and may be forced on gently. Vaporising must be done when necessary, as flies are foul of Lilies, creeping into the heart of the plants, and soon doing much harm if neglected.

CULTURE.—Propagation is easily effected either by seeds or cuttings. The present is about the best time for striking cuttings or for purchasing young plants to grow on. It is always advisable to have a few young plants on hand, as the old ones have a disposition to die off after a few years' growth. This failing, however, is quite immaterial when the younger plants can be so readily grown on to supply their place. My plan has been to prune back into the hard wood somewhat in the same way as when dealing with good-sized plants of the show or fancy Pelargoniums. In this way a good foundation can be laid for a bushy plant; those grown upon trellises I should imagine are never so treated. As soon as the young shoots are 3 inches or 4 inches in length pinching should commence, taking all the stronger ones first. This stopping of the shoots should be persisted in until a good bushy habit is the result, and it may be done

variety, with pots of Daffodils brought in from time to time to keep up a succession. Such varieties as obvallaris, Golden Spur, the old Double Yellow, Horsfieldi, Empress, ornatus, princeps, Emperor, Stella, etc., may be grown in pots in soil, or in fibre and shell, in water, ornamental vases, or bowls ready for the table. Crocuses and Snowdrops, also Snowflakes, may be similarly treated. Azaleas of the mollis and indica sections would also open in such a temperature, and those named are but little troubled with insect pests. Of Ferns, you may grow many Pterises, also Asplenium bulbiferum and A. Hillii. Another good Fern is Invalia canariensis. There are many others that could be named, but we have no information as to any facilities you possess for growing plants at other times; therefore our list is of those requiring but a minimum of culture under glass.

Celsia Arcturus.—I have grown this charming plant for the first time this year. I think if it were better known many persons who possess a cool greenhouse would find it a valuable addition to their number of easily-grown plants. The seed was given me last July, and was sown in a box plunged in an ash-bed. In October the seedlings were potted, then watered in a cold frame. Each has been brought into a cool greenhouse as the flower-spike shot up, and when in bloom has been moved to a warm sitting-room, the dry atmosphere of which does not seem to affect it in any way. The plant is about 26 inches high, in a 4-inch pot, and blooms the whole way up the stem; each flower is a bright yellow, with a reddish bee-like centre, many of the individual blossoms being nearly 2 inches across. I am told that the Celsia, if repotted when it has done flowering, will improve the second season. Perhaps some other reader of GARDENING who has been equally successful will give his experience of this graceful plant?—G. M. SANDARS, Lincoln.

VEGETABLES.

LATE PEAS.

SOME varieties of Peas are naturally late, as others are naturally early, even if all be sown at the same time. Late sown Peas of any variety, whether naturally early or late, are called late Peas because required to pod late. It is comparatively easy to grow early and mid-season Peas, but late ones do not always result satisfactorily. Sown late they have to face hot, parching weather, which is severely trying. They are too often sown too thickly, and, not least, are as often sown on ordinary prepared ground, which has not been deeply cultivated and well manured. Without doubt, very fine late Peas are Sharpe's Queen, The Glandstone, and Late Queen, each some 3½ feet to 4 feet in height, but even these will not produce remunerative crops if not sown thinly in deep trenches heavily manured, or on ground that has been deeply trenched throughout. A heavy dressing of manure, if of a half decayed and wet nature, buried well down, is of the greatest value, as not only does it entice roots deep out of the hot surface soil, but it also furnishes plant food and moisture. It is in the latter respect that animal manure always exercises an influence in plant growth in dry weather that artificial manures, which are really moisture absorbents rather than imparters, cannot supply.

Recently, at Forte Abbey, I observed that for Peas, drills, or rather shallow trenches, were opened with a spade, thus making them some 8 inches wide. In such case not only can the Peas be, but they were there, both thinly and evenly sown over the bottom of the trench, thus allowing to the plants ample room. That is much better than is the too common method of sowing thickly in a narrow bottomed drill, which causes seed and plants to crowd each other. Late Peas, apart from having to surmount the troubles incidental to root drought, also have to face insect and fungoid attacks, and these pests too often render all cultural labours useless. Thrips, singularly tiny insects, prey upon the leaves and flowers, sucking their juices and rendering them useless for good. In other cases mildew seizes upon the plants, and, commencing on the

older leafage low down, gradually creeps upwards until the whole of the leafage is white with the mould. When that stage is reached the condition of the plants is usually hopeless. To counteract these insect and fungoid troubles Mr. Crook has been for several years employing various patent liquids, especially Abol and Spimo. These made very weak, and using an Abol or spraying syringe, are gently sprayed over the Pea rows even ere insect or mould is seen, and in that way, by giving occasional sprayings later, have done wonders in keeping these pests at bay. Those who want tall Peas and will treat the ground well and sow thinly, as advised, should also arm themselves with some such insecticide or fungicide, and use it weakly but occasionally on their plants. It is only by persistently battling with such pests crops can be saved. A. D.

NOTES AND REPLIES.

Young Nettles as food.—In reply to query about young Nettles by "North Wales," in last week's GARDENING, young Nettles should be cooked like Spinach, and are very nearly as good.—A. P.

—Here, in Lancashire, young Nettles are eaten. Some people make porridge of them by boiling them, afterwards chopping them up and mixing pepper and butter with them. Thousands of gallons of beer are made from Nettles.—S. STRAZAR.

Cucumbers, stopping.—I propose to devote a greenhouse (span-roof, 15 feet by 10 feet) to the growth of Cucumbers for this summer. I should be so glad if you will give me a few simple hints as to stopping and training? When I have tried it before I got an uncontrollable mass of foliage.—EMILY McWILLIAMS.

[Grow your plants quickly, and do not stop them till 5 feet of growth is made. The training consists in stopping the laterals at the third joint so soon as the best growth is fully developed, and do not allow any more growth from the last eye, but encourage sub-lateral growth from the first joint if possible. In this way your plants will be kept well furnished near the stem. The roof wires should be 6 inches apart and 9 inches from the glass. You must pay strict attention to such details as watering, top-dressing, and the like if you wish to succeed.]

BIRDS.

Death of a hen Canary (H. M. Batson).—This bird had suffered from egg-binding, resulting in rupture, which caused speedy death. Egg-binding is frequently brought about through excessive fatness, sometimes from the egg being soft and shell-less, and at other times through cold, searching weather at the time of laying. Care should be taken to prevent breeding hens becoming too fat, also in supplying them with lime in the form of old mortar powdered fine, or ground oyster or eggshells, to enable them to elaborate hard shells for their eggs, and that they be kept from draught. They should also be allowed a liberal supply of green food to prevent constipation at the time of laying. Some forms of egg-binding are curable by the use of castor-oil, but the form from which this bird suffered always proves fatal.—S. S. G.

LAW AND CUSTOM.

Arrangement to surrender tenancy.—A tenant of a £30 house, wishing to leave, asked me, as landlord, in February if I would oblige him by letting him quit any time between then and the end of May. I agreed to do so. In the event of his not quitting, as by agreement, could he legally stop on and leave in September next if he so chose? Nothing beyond this agreement made in February has taken place, and no written notice given on March 24th to quit in September. The house was taken in the end of October, 1899, and rent paid December, March, June, and September of each year (first rent, broken rent to December). Consequently, I presume March 24th would be date to give notice on either side?—J. H. S.

[No written agreement for the surrender of the tenancy having been entered into, you cannot compel your tenant to quit, and he may remain in possession if he chooses. No notice to quit having been given, the tenancy will not determine upon September 29th, but it will continue until determined by notice to quit or by arrangement. A notice to quit need not be in writing, although it is always wise to give it in writing. If there be no written agreement of tenancy it will be presumed, if the rent receipts be merely made out for a quarter's rent, and no evidence to the contrary be forth-

coming, that the year of tenancy runs from December 25th, broken rent having been paid up to that date. Cases have been actually decided thus, but the decision seems questionable, so far as yearly tenancies are concerned.—K. C. T.]

CORRESPONDENCE.

Questions.—Queries and answers are inserted in GARDENING free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF GARDENING, 17, Farnwell-street, Millers, London, E.C. Letters on business should be sent to the PUBLISHER. The name and address of the writer are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruit for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruit, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Moving Daffodils (Robt. J. Hill).—Lift your bulbs in July when the foliage has ripened off. After drying them slightly but thinly spreading out on a hard surface, replant in August in a fresh site which has been deeply dug. Plant the bulbs so that room for development for some time may exist.

Justicia speciosa (Cheiston).—Cut down at once, and directly the old plants break into growth after having been cut down shake out and repot in a compost of 2 parts loam to one part leaf-mould and decayed manure, with a sprinkling of sand. When the roots get bold of the new soil they may be moved to a cooler structure, giving the plants an occasional dose of liquid-manure.

Watering Cacti (F. G. H.).—During the winter months, while Cacti are resting, very little water should be given. When in summer growth begins, they must be kept fairly moist at the roots. If they are growing in a compost partially composed of old mortar-rubbish, and the pots are well drained, there is no fear of their becoming waterlogged. No water should be allowed to stand in the saucers if the Cactus pots are stood in them.

Moss on soil in pots (Navy).—You evidently have very porous pots—all the better for your plants—do keep the surroundings a little too moist, or else your plants are in a shady position. You cannot kill the Moss on the surface soil of the pots without injuring the plants. If you were to stir the surface of the soil occasionally, it would not grow. It seems very strange that, although you cultivate the soil in the open-air garden, few people consider it necessary, and at the same time very beneficial, in the case of plants grown in pots. If you were to wash the pots now and again there would be no Moss on them.

Keeping Primula seed (M. May).—Yes, the seeds will keep quite well for a year. Place what you wish to keep in the ordinary seed pocket, fold it, and insert in a glass bottle or tin that can be stoppered. Filling the phial, a tin box will do as well for this short term, placing the vessel in a quite cool place where the conditions are as uniform as possible, without any suspicion of damp. In this way we have kept Primula seed for six years, at which time it germinated to at least 90 per cent. in about three weeks from sowing. In sending queries, kindly write on one side of the paper only, putting the various queries on separate sheets.

Raising Dahlias from seed (C. Andrews).—I ought to have sown your Dahlia seed in March by preparing some shallow pans, placing some crocks in the bottom, and filling up with sifted soil, consisting of one part leaf soil, one part leaf soil, and one part silver sand. Let the soil give a good watering, then sow the seed thinly, covering over with some of the same compost. Put a square of glass on the top and place in a greenhouse, and if a little bottom heat can be given, so much the better. When seedlings are large enough they should be potted off into small pots, after hardening off in cold-frames, planted out at the end of May or early in June.

Bouvardias (Joseph Smith).—In growing Bouvardias in pots, it is important that they be propagated as early in the year as possible. They should be potted on in March, required in light, porous soil, and grown on in warmth during the early part of the season. Later on they will do well in cold-pits, the lights being taken off in favourable weather. Stopping the plants requires special attention. Although Bouvardias enjoy hot, dry weather, they must never be allowed to get dry at the roots, and the syringe should be used freely in order to check the attacks of insects. Keep root-water, when the flowering-pots (6-inch) are full of roots is a good stimulant for them.

Azalea indica falling (Mrs. Murray).—In all probability your Azaleas need repotting. Turn them out of their pots and remove the crocks from the bottom of the ball, and as much of the old soil as you can. They should be repotted, using for the purpose pots that will allow a space of an inch or a little more between the ball of earth and the side of the pot. Good fibrous peat, broken up, and mixed with a fair sprinkling of silver-sand, is a suitable soil for Azaleas, and good drainage must be ensured. In potting, ram the soil very firmly. As to this, keep in a structure warmer than an ordinary greenhouse, and syringe the plants frequently in order to encourage a vigorous growth, as upon this the future display of bloom depends. When the growth is completed, or nearly so, more air must be given, and during the latter half of the summer the plants

... be stood out-of-doors, so that the wood may be thoroughly ripened. If your plants do not need repotting, keep them warmer, and syringe as above advised, watering them about every fortnight during the growing season with a mixture of soot and manure-water considerably diluted.

Mutisia decurrens (*D. Wardrop*).—What this plant really needs is shade and moisture. It is not essential that the stems and growths generally shall be in the shade, but it is important that the roots may be so protected that a cool and uniformly moist root run is maintained. No better place for the Mutisia could be found than a Rhododendron-bed which is well attended to in summer as regards watering, as this would just suit the growing season of the plant. A good compost in which to grow it is peat, with about one third of loam and plenty of sand. We know of some plants in your district (Edinburgh) that have stood out-of-doors for five years with no protection, and which have flowered well.

Asparagus Sprengeri (*A. Suberiber*).—This, during the summer months, will succeed perfectly without any artificial heat whatever. At the same time, it must be shaded from the sun, and is greatly benefited by being syringed overhead occasionally. In the winter it is all the better for being kept in a somewhat warmer structure than an ordinary greenhouse—that is, a minimum temperature of 45 degs., rising 10 degs. to 55 degs. Established plants will keep in good condition in a dwelling-house throughout the greater part of the year. When young, and it is desired to push the plants on as quickly as possible, they may be grown in a stove temperature, and in this way they make more rapid progress than under cooler treatment. They can, of course, be hardened off afterwards.

Preparing bedding Begonias (*Rachel Stephenson*).—Many failures with bedding Begonias are due to cooling the soil in the early stages of growth. Occasionally excellent beds are met with in amateur gardens, and their culture, as a rule, started into growth very gradually, perhaps in a cold-frame. Cocoa-nut-fibre for embedding the tubs in when starting them in spring is very useful. The new roots lay hold of it readily, and the tubs can be planted with a portion of it adhering to them. Even when cool treatment is given it is not wise to start the combs too early, as if only a inch of growth has been made when final planting takes place, they go away strongly and make up for what some might consider lost time, and both the quantity and quality of the blooms are better. Leave young as they are, and, if all goes well, you will have fine strong, well-rooted plants to go out about the middle of May.

Deutzia failing to bloom (*E. S.*).—Deutzia gracilis, when grown under glass, is very liable to behave in the way described. Plants that are lifted from the open ground in the autumn, potted, and taken under glass, are particularly liable to do this, while a check occasionally sets in in the same manner. When established in tubs they seldom give trouble. In this respect unless they are allowed to get too dry at the roots or experience some other check. Deutzias that have been forced or flowered in the greenhouse should be gradually hardened off, so that when all danger from spring frosts is over they may be stood out-of-doors. At that time any old and exhausted wood should be cut out, in order to allow of the development of young and vigorous shoots, while the plants may be potted if required. On this point, however, it may be borne in mind that they will stand for years in the sun and pots and flower well each season, provided they are occasionally watered with liquid-manure during the growing period.

Moss on lawn (*Mrs. E. Oldham*).—Sulphate of Iron has been strongly recommended for destroying Moss on lawns, the average quantity to be used being 6 lbs. per 100 square yards. The best way to use the sulphate is in solution, thus distributing it evenly. The solution is made in the proportion of 1 lb. of the sulphate to 3 gallons of water. It should be made in a wooden vessel, such as an old cask, and, if possible, with soft or rain-water, and also just before it is used, as it loses strength by keeping. The sulphate can be applied at any season of the year, and is known to be acting effectively when the Moss turns black, after which it withers away. If the application has been too weak the Moss only turns reddish, and after some time recovers itself. In this case a second application will be needed. It sometimes happens that the first two applications are insufficient, and the operation has to be repeated the following year. As Moss generally indicates pooriness of the soil, it is advisable after the Moss is destroyed to apply some rich top dressing, such as wood-ashes, loamy soil, and well-rotted manure mixed together.

TREES AND SHRUBS.

Moving a Myrtle (*F. J. L.*).—The best time to remove the Myrtle is directly the drying winds of March are over, though if it has not yet begun to grow you may move it now. When replanted, see that it is watered thoroughly, and take care that it does not at any time suffer from drought.

Amgdalus nana (*F. P.*).—This, the name of any plant, has much to recommend it, as it is very early in flowering and very dwarf in habit, rarely exceeding 3 feet. The colour of the flowers is deep rose, and they are produced in great profusion. For planting near the margin of shrubberies it is admirably adapted, and deserves to be better known.

Dying trees and shrubs (*Ignoramus*).—Without having seen your long-neglected garden before it was destroyed, it is difficult to give any advice, but if the trees and shrubs to which you refer are looking so badly, say, 10 inches to 12 inches thickness of soil put about them, that would certainly do harm, whereas but a top-dressing of 3 inches or 4 inches should have done good. With respect to the dead trees and shrubs that were transplanted, it was likely such death would result, knowing that they had not been moved for so many years, and had grown large and wild. In lifting them, the roots would have to be severely reduced, and the trees must necessarily suffer in consequence. It would have helped them had the heads been hard cut back also, as also would have been occasional deluges of water. Evidently, under the conditions which you called, the transplants of large trees and shrubs which was a mistake, and the fact that the latter was generally hot and dry, and in the process of very trying to transplanted shrubs.

FRUIT.

Peach-leaves turning yellow (*G.*).—Your Peach-trees are evidently suffering from lack of proper root-food. Get some artificial-manure, such as a mixture in equal parts of basic-slag, bone-dust, kainit, and sulphate of ammonia, and if you could add to this three times its bulk of wood-ashes and some lime-rubbish, then straw it about the border at the rate of 6 oz. per square yard, well raking it in and also watering freely, great good should result. You should also see that the ventilation is well attended to.

Peach-leaves blistered (*Major*).—Yours is a bad case of Peach blister, a disease from which in cold springs few outdoor trees escape. It is the product of a fungus, though doubtless generated by cold winds or frosts causing disruption of the cellular tissues of the leaves, which are just then very tender. Trees under glass never suffer from this trouble. Peaches are usually grown on warm walls, and the position naturally creates early growth. Then we get, from warm, sunny days, changes to frost or cold, biting winds which injure the leafage. The best remedy is found in gathering the affected leaves gradually, taking the worst first. Spraying the trees before the leaf-buds open with the Bordeaux-mixture or sulphate of copper solution also does good.

Decaying Apple-trees (*Chiltern*).—You had better lift your two bush Apple-trees in the autumn and replant them, make holes 4 feet across, throw all the top good soil out on to one side, and the bottom poor soil on the other; then throw the topsoil into the bottom of each hole, and bring other fresh soil—the best you can get—into and nearly fill each hole, then replant. If any of the roots are coarse or woody, and especially go downwards, cut them partially back neatly; also cut off the decaying tops of the branches. Add a small quantity of well-decayed manure to the soil when you plant, also wood-ashes. Top-dress or mulch each tree over the roots with long manure. For your soil, if you plant other Apple-trees, get those worked on the broad-leaved or Paradise-stocks. Treat each new tree in planting as advised for the old ones. After three years, a trench, 2 feet wide and deep, should be opened round each of those boles, and some manure added. The trees should then do well. Specially give them a mulch of long manure, 3 inches thick, during the summer.

SHORT REPLIES.

Wm. Shaw.—See issue of March 31, 1900, p. 58, which can be had at the publisher, price 1d., post free. **H. W. E.**—Write to the Superintendent of the Gardens at Hampton Court Palace, Middlesex.—**H. D.**—See article on Montebretias, in our issue of March 22, 1902, p. 44, which can be had of the publisher, price 1d.—**R. J. H.**—See article and illustration of Margaret Carnations, in our issue of April 10 of this year, p. 58.—**Greenmont**.—See reply to "Anatone" re *Prinnia obconica*, in our issue of May 10, p. 140.—**Mrs. Murray**.—You will find an exhaustive article on the culture of Anem Lilies in our issue of March 30, 1901, p. 55, which can be had of the publisher.—**Res.**—Not common; with care you ought to be able to preserve it.—**Dublin**.—You may fumigate your greenhouse without injuring the Vines, seeing the berries are the size you say. Weak applications two or three nights in succession will be the best.—**Beginner**.

—1, From 40 degs. to 45 degs is quite sufficient. Azaleas had better be stood in the open air during the summer. 2, Hobby's "Villa Gardening," price 6s. 6d., from this office, will answer your purpose.—**E. R. W.**—Apply to Messrs. Haage and Schmidt, Erfurt.—**Mufik**.—See article and illustration of Christmas Roses, in our issue of March 23, 1902, p. 59.—**Anon.**—You will find an article dealing with Begonia Gloire de Lorraine in our issue of May 10, under the heading of "Three Winter-flowering Plants." Tuberous Begonias are summer-flowering, and will not bloom in the winter.—**J. W. Wood**.—Kindly send samples of the fungus you inquire about, and then we will try and help you.—**Dudley**.—Kindly read our rules as to correspondence.—**Geo. White**.—The plant you refer to is no doubt *Campanula isophylla alba*, which any nurseryman in your neighbourhood could get for you.—**C. F. W.**—We have never heard of the Hydrangea about which you ask. Can you send us a shoot?—**Inquirer**.—1, Pull up the seedling Asparagus plants, otherwise they will crowd out and ruin the permanent plants. 2, You can easily take down some of the growths of Clematis montana and layer the same.—**Anxious One**.—See article on "Begonia Gloire de Lorraine," under the heading "Three Useful Winter-flowering Plants," in our issue of May 10, 1902, p. 142.

can easily take down some of the growths of Clematis montana and layer the same.—Anxious One.—See article on "Begonia Gloire de Lorraine," under the heading "Three Useful Winter-flowering Plants," in our issue of May 10, 1902, p. 142.

NAMES OF PLANTS AND FRUITS.

* Any communications respecting plants or fruits sent to name should always accompany the parcel, which should be addressed to the EDITOR OF GARDENING ILLUSTRATED, 17, FURNIVAL-STREET, HOLBORN, LONDON, E.C. A number should also be firmly affixed to each specimen of flowers or fruit sent for naming. No more than four kinds of fruits or flowers for naming should be sent at one time.

Names of plants.—**W. M.**—1, *Adiantum conopseum latum*; 2, *Adiantum gracillimum*; 3, *Pteris cretica*; 4, *Pteris serrulata*. Kindly send better specimens of the others.—**J. B.**—1, *Teucrium triflorum hibernicum*; 2, *Ranunculus amplexicaulis*.—**A. M. Wakefield**.—Several forms of *Epimedium* (Barnwort), *E. pinnatum* and *E. alpinum*.—**Five Year's Reader**.—1, *Peperomia Saundersi*; 2, *Pittonia argyrea*; 3, *Hoffmannia Ghiesbreghtii*; 4, *Pellonia pulchra*.—**Frank Piper**.—1, *Star of Bethlehem* (*Ornithogalum nutans*); 2, *Ribbon Grass* (*Phalaris arundinacea variegata*); 3, *The Mossy Saxifrage* (*Saxifraga hypnoides*).—**G. F. James**.—*Dendrobium fimbriatum oculatum*.—**Crux**.—Specimen too dried up to be able to identify.—**A. W. Brearey**.—We cannot undertake to name florists' flowers.—**Greenoaks**.—*Narcissus Tazetta* Grand Monarque.—*East Dorset*.—*Iris fimbriata* (syn. *I. chinensis*).—**E. M. K.**.—*Karyia japonica fl. pl.*.—**G. G. G.**.—*Pyrus Malus floribunda*.—*Lirely*.—1, *Carex juncus variegata*; 2, *Adiantum gracillimum*; 3, *Poly-podium vulgare cambricum*; 4, *Pteris tremula*.—**Mar. Dale**.—*Tulip La Reine*.—**E. J. P. Edgerton**.—The Shad Bush (*Amelanchier canadensis*).—**Fectia**.—*Tritonia crocata* (syn. *Ixia crocata*).—**Tie**.—1, *Phillyrea Vil-moriniana*; 2, *Olearia Gunnii*; 3, *Double-flowered Peach*.—**Franco**.—Flowers of *Cordylone indivisa*, quite hardy in the South and West of England.—**E. D. Baird**.—*Phyllocactus grandis*.—**Mrs. Hunter**.—Evidently the Puff-ball fungus (*Lycoperdon*). The name is given owing to the manner in which the spores are discharged when ripe.—**No name or letter**.—1, The Spring Snowflake (*Leucojum vernum*); 2, Blue Daisy (*Agathodes caulescens*); 3, Wood Anemone (*Anemone nemorosa*).—**Bunch**.—The Dead Nettle (*Lamium maculatum*).

Catalogues received.—**E. P. Dixon and Sons**, Hull.—*List of New and Choice Plants*.—**Dicksons**, Chester.—*List of Bedding and Border Plants*.—**W. Paul and Son**, Waltham Cross, N.—*List of New Roses*.—**M. Herb**, Naples.—*General Catalogue of Nibbs*.

Photographs of Gardens, Plants, or Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

The Prize Winners this week are: 1, Mr. Geo. E. Low, 2, Glenageary Hill, Dublin, for *Masdevallia tovarensis*; 2, Miss Norah E. Hay, Tyrrell's Ford, Christchurch, for *Cypripedium Calceolus*.

NOTICE TO ADVERTISERS.

In consequence of the Whitsuntide Holidays we shall be obliged to go to press earlier than the number of GARDENING ILLUSTRATED to be dated May 24th, 1903. Orders should be sent as early as possible in the week preceding to insure insertion. No advertisement intended for that issue can be received, altered, or stopped after the first post on THURSDAY the 15th MAY.

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GARDENING ILLUSTRATED.

No. 1,211.—VOL. XXIV.

Founded by W. Robinson, Author of "The English Flower Garden."

MAY 24, 1902

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VEGETABLES.

LETTUCES DURING HOT WEATHER.

In many gardens the Lettuce does not receive that consideration it undoubtedly should do, as after the first supply, which may have been raised under glass, or from a sowing in the open air, there is a sudden falling off. The weather, whatever this may be, should not make this difference, as during the hottest weather it is possible to get Lettuce worthy the name. True, it cannot be expected to be so fine as when grown in a cooler season, but sufficiently good enough for my purpose. The Cabbage Lettuce suffers the least from the effects of drought, but in the generality of seasons a good selection of Cos will succeed equally as well. As to which should be grown is a matter of opinion. I grow a part of each. Some varieties, again, are supposed to be better than others through remaining longer before running to seed, but to a certain extent this is a matter of culture, this having more effect upon the well-being of the Lettuce than mere variety. Of late years there has been a great improvement amongst Cabbage Lettuce, being fuller headed, consequently not so flabby in texture. When well grown the old All the Year Round is a capital Lettuce. Growing on poor soil and crowding the plants up together either when sown in beds for transplanting, or when sown where to remain, are the main causes of failure. Whether Lettuce will succeed during summer months when transplanted will depend upon the season, as with the soil dry and with hot sunshine daily for weeks together no one would think of relying upon transplanted Lettuce. Not but that Lettuces transplant much better during the summer months than they generally have credit for. My practice is always to have relays of young plants on hand, and if the weather is suitable for transplanting I do it, but if not, they are thinned out. That some people find a difficulty in transplanting Lettuce during the summer months is not to be wondered at, as the plants are raised so thickly. In consequence they are so tender that they collapse at once.

In raising plants early in the year in boxes under glass, it will be noticed how nicely rooted the little plants are when they have some flaky soil to root into either through the addition of leaf soil or even a little fresh soil. It is the same with plants raised in the open, at least those required for transplanting. When sown to come to maturity where they are to remain, of course this does not matter, although in this case even the preparation for the seed must be thorough, or if the weather should turn out very dry the seed may fail to germinate regularly, especially if on an exposed site. This is all the more desirable on heavy soils, where there is often a difficulty in getting sufficient mould for the roots to ramify quickly into or even the seeds to germinate in. The better course to ensure a succession is to make small fortnightly sowings on the eastern or western aspect, but preferably the former,

as during the hottest part of the day the seed bed would be shaded. Not that this, however, should be from trees, as Lettuces never succeed well when planted in the shadow of either trees or tall buildings. This is by far the best course to pursue during warm and dry seasons, but in cool and moist weather the seeds germinate just as readily if in the open. The seeds should be sown in shallow drills drawn a foot apart, and if the ground is at all lumpy, and some fresh soil or even old potting mould, with burnt garden refuse. Over-night the drills should be watered, the seeds being sown early the following morning. In all probability there will be sufficient moisture retained to ensure the seeds germinating freely; but if not, afford a slight shade by throwing a mat over the bed, having previously watered it. This will be much better than constantly watering and leaving the surface fully exposed to the sun. For sowing direct into the open, so as to remain without transplanting, the site must be in a free working and highly fertile condition. Sow very thinly, crowding of the plants being certainly a disadvantage. Thin early, keeping the hoe well at work being a great aid to growth. The best Lettuces I have are certainly those grown along the ridges of Celery trenches, the soil being well lined down previous to either sowing or transplanting. This would, no doubt, be too dry a site for midsummer crops during a very dry summer, an eastern or western aspect at these times being the better position.

In transplanting Lettuces during the summer, the bed which the plants are to be drawn from must be well moistened over-night, so as to ensure the plants being lifted with all available roots. These must not be drawn roughly, but be gently lifted, or the greater part of the roots will be broken off. Of course, showery weather is the best for transplanting, but, unfortunately, this kind of weather does not always occur at the time the plants are ready for removal. This is easily obviated by drawing shallow drills, these being moistened before planting, a watering afterwards fixing the plants in the soil. If there are not many plants to be set out, I find it a good plan to cover each plant over with an inverted flower-pot for a day or two, removing them at night so that the plants can derive the benefit of the night dews, replacing them in the morning. It may be necessary to water the little plants occasionally until they become well established.

A.

NOTES AND REPLIES.

Houss slops.—What vegetables are those for which house slops are most suitable? Should they be diluted, and if so, by how much?—B. T.

[This should have four times its proportion of water added to render it fit for use as liquid manure. But before using it, it is well to expose it in a large tub to the atmosphere for a few days, adding water when it is used. It is greatly helped if either a peck of snot or a couple of pounds of gunny or other artificial manure, put into a coarse bag, be soaked in the liquid. As to what vegetable slops can be used for, there are really none in a growing state that may not be benefited

by it. If the artificial manure be added, then let the diluted water be six to one of the other. The exposure softens the liquid. Great quantities of such valuable plant-food are wasted, which, if put into a large tub stood in an out-of-the-way place in a garden, would prove most valuable manure.]

Growing Celery with artificial manure.—Temler, well-blanching Celery is highly appreciated by most people, and not a few amateurs would embark in its culture that have never done so could they see their way to obtain material to grow it in. In many instances it is very difficult to obtain solid manure, and in others the garden is so placed that it is difficult to get manure to it. These people are under the impression that Celery cannot be grown without solid manure. This is a mistake, and some two years ago I put the matter to a test by planting 50 plants early in July in some soil in good condition after Potatoes had been dug. These were good strong plants, and were lifted from the nursery bed with a ball of soil. No trench was made for them; they were simply planted on the surface, giving them a good watering, and keeping them moist in dry weather. When growth had advanced somewhat I gave the soil all round them a good sprinkling of artificial manure, watering it in. It was astonishing how quickly the roots came to the surface, and growth was rapid. This was done twice. Early in November these had the first bit of soil drawn to them, and in about a month finally earthed up. In this way I had splendid Celery after Christmas.—J. CROOK.

Late planting of early Potatoes for seed.—For many years I have striven to prevent my early kinds of Potatoes from making sprouts till after Christmas, but with very poor results in some kinds, notably Sharpe's Victor and some of the early American kinds. It is strange how some kinds start into growth so quickly compared to others, and it seems well nigh impossible to keep them at rest. I used to select my seed tubers from the main crop when lifting for eating during the last half of July and early in August, spreading them out to green, and then keeping them exposed as long as I could in autumn. Frequently they had started to grow in October; thus it sometimes became necessary to rub off the shoots twice or more. Last year I resolved not to keep any seed tubers from the main crop, but to hold back all the smallest at planting time, and plant these especially for seed. This I did, planting them from the 1st to the 21st of June, according as crops came off to admit of this being done. Needing them only for seed, I planted them 18 inches apart in the rows. The ground being warm, the growth was rapid. I allowed these to remain in the ground till early in November before I lifted them, and was astonished to see the nice crop from so late planting and such small seed. These were stored out of doors, covering to keep dry and from frost, and removing them to the shelves. I generally put them in early in January in this way not even Sharpe's Victor had wanted the sprouts removed. -- J. CROOK.

GARDEN WORK.

Conservatory.—The real gardener has very little leisure. His thoughts must, without ignoring the present, range a long way into the future. At the present time he is thinking about placing his Tree-Carnations and Chrysanthemums in their flowering-pots. As regards the latter, where many plants are grown, it is a work taking up much time, and slipshod work will not do. The soil must be of the best possible character and must be rammed firmly in the pots. The pots must be clean and the drainage ample in quantity and well arranged in the pots. Turfy loam, rather inclined to adhesiveness, the Grass fibres dead but not decayed altogether, will form two-thirds of the bulk, the remainder will be composed of old leaf-mould, a little two-year-old cow-manure if obtainable, a sprinkling of soot, some sand, and about one pound per bushel of some artificial manure which I need not particularise, as several things are available and equally suitable. After potting, the plants must stand in an open situation either on boards, tiles, or a good foundation of ashes, and be securely staked, the tops of the stakes to be fastened to wires strained to stout poles firmly driven into the ground. The watering must be in very careful hands, as if over-done at the beginning the soil will be soured and failure will ensue. In watering newly potted plants the greatest possible care must be exercised not only with Chrysanthemums but all other plants. It is better even to let the foliage wilt a little than over-water, though when the wilting process begins no time should be lost in giving the plants a drink, because we are on dangerous ground. On fine days use the syringe freely twice a day. This is a great help to plants which are busy making roots. There is very often a scarcity of flowers suitable for cutting just now. Of course, there will be plenty of Roses and Trumpet Lilies, and the later buds of the Lilies will open in water. According to our present ideas, Pelargoniums are of no use for cutting and Spiræas are not very lasting. There is plenty of white and yellow Marguerites and Carnations, and outside double white Narcissis and the large form of single Pheasant-eye Narcissis are abundant. Genistas should be pruned into shape after flowering and repotted as soon as growth begins.

The warm-pit.—A well-heated low pit, either lean-to or span-roofed, is just the place we all desire at this season for growing on stove stuff, and for bringing on Geineras and other things which require heat, moisture, and shade. Young Crotons, Gardenias, and Dracænas may grow sturdily near the glass. Here too, also, one may generally find a back wall or some other spot for planting out Euphorbia jacquiniiflora for producing long sprays for cutting in winter. This Euphorbia is very often a weedy thing, but plant it out in a warm house where the sunshine can reach it later on to ripen the growth, and one can cut and come again, or if the flowering sprays are left, the wall becomes a blaze of scarlet during the winter. The low warm-pit is just the place for pushing on a few pots of Eucharis Lilies if wanted in a hurry, or to push on a specimen Ixora or any other choice plant or Orchid which may be required at any particular season. In these low places we can easily fix a shade over a plant in bloom without shading the whole house, and when the days are warmer and the plants are transferred to a cooler place we can fill up with something useful, such as Cucumbers, Tomatoes, or late Melons. Night temperature now 61 degs. to 70 degs., air to be given at 80 degs. to 85 degs.

Cucumbers in bearing.—Give frequent top-dressings of good loam mixed with a little manure. When planted in light soil Cucumbers make rapid growth, but they soon run themselves out. If Cucumbers are wanted to last through the season, plant in loam of rather heavy texture. They will make less growth, but it will be firm and strong and there will be less labour in stopping and other routine work. Nourishment, if required, can be given in the shape of liquid-manure. A cool greenhouse will grow Cucumbers now if kept close and warm by shutting up the sunshade in the

and using moisture freely on floors, etc. Always keep a few young plants of both Melons and Cucumbers in stock.

Watering inside Vine borders.—If inside borders are well-drained and made up on a foundation of rubble, it is scarcely possible to overwater just now. Many inside borders do not get enough water, and the Vines suffer in consequence until the roots can find an outlet somewhere, and after that the result depends upon what kind of a feeding-ground the roots reach. On the majority of soils the best way is to keep the roots at home by giving rich top-dressings at suitable seasons. These top-dressings are usually given early in spring, and if the roots take possession of the new stuff, which they will do if kept at home, additions in some concentrated form can be made. Keep the sub-laterals in thorough check by frequent attention. Fires must be kept going as long as necessary, but bank the fires up early on bright mornings. Night temperature now 60 degs. to 65 degs. Give a crack of air early in the morning, and add it as the sun warms the atmosphere inside the house. Close early in the afternoon. Sometimes we have very warm nights, and then a little night air will be beneficial.

Window gardening.—Repot Ferns, Palms, and Aspidistras in good loam, peat, leaf-mould, and sand, the last to be used rather freely if the loam is heavy. Pelargoniums are now in flower and must be well supplied with water. Pot off cuttings of Campanulas and Fuchsias as soon as well rooted. Pinch out the points of the shoots to make them bushy as soon as the roots have got fairly into work after repotting. Use the sponge freely over fine-foliaged plants. A small sponge, dipped in soapy water, will remove insects from the foliage.

Outdoor garden.—There is more than one way of improving a weedy lawn. I have seen men and boys at work between lines which enclose a narrow space digging out the weeds. This is a long, tedious, and generally an expensive business, and both weeders and wage-payers are generally weary of it before the job is finished. No doubt if it is persevered with it is effectual, but when the weeding is finished a rich top-dressing should be given. For several years past I have been noting the effect of lawn sand upon weedy turf. It certainly kills the weeds, and in the long run improves the turf, though it may give the lawn a dark, rusty appearance for a time. The sand is not expensive. Anyone can try it experimentally at first by buying a shilling tin or so. This is the best time for top-dressing rock gardens and ferneries. It is best to use a little good compost, such as loam, leaf-mould, and sand, with a little peat for certain things. This annual top-dressing is a great refresher to the plants. At the same time those which are likely to encroach upon a weakly neighbour can be reduced. The grouping system is the best to adopt, and then there will be fewer things crowded out. Thin hardy annuals freely as soon as large enough. The soil in the Dahlia-beds should be in good condition, though fresh manure should not be dug in now—better keep it for mulching later on. This is the best season to plant out Clematises from pots against walls or fences. The Jackmanii section will do very well for arches, or to form a mass anywhere. Clematis Flammula is a sweet thing anywhere.

Fruit garden.—Mulch Raspberries with good manure. Keep the moisture in the ground, the plants will want it before the crops ripen. The Codlin-moth is present in many, I might say most, orchards and gardens. Fruit growers are becoming alive to the necessity of dealing with this pest. This is the season for spraying the arsenic and lime mixture over the trees. There are other things that are effective but not so cheap. One seems to have a repugnance to the use of arsenic in such a wholesale way in gardens, but it is used largely in America. There are petroleum washes that will effect the object if arsenic is objected to. It is necessary to be prompt and persistent. The American blight seems to be spreading. This also calls for energetic treatment all through the summer. A bottle of paraffin-oil and a small brush should be kept ready for use, and all the white spots touched up with the brush as they appear. Of course,

large trees can hardly be managed in this way, and the best way to deal with large old trees is to grub them up and trim them or cut off the tops and re-graft after thoroughly cleansing the old stems. There is a wonderful bloom on the Apple-trees in this district, and if all the blossoms set the trees must be well supported with rich top-dressing and liquid-manure. There is too much cropping, and other things, over the roots of fruit-trees. Discontinue this and keep the spade from the roots and the trees will pay for it. There is still money in fruit growing if rightly managed.

Vegetable garden.—A good deal of attention must be given to thinning and hoeing among young crops now. Where unprotected the frost has blackened the tops of early Potatoes and stopped progress for a time. Weeds may be blessings in disguise, but they give a lot of trouble, but the weather though cold has been dry and favours the man who uses the hoe or fork, and both tools should be in requisition now. The frost has cut off a good deal of the early Asparagus. It is a serious loss to many market growers, and there is no help for it. Then plantations of Globe Artichokes may still be made, as the growth is backward. This plant wants a deep, rich soil, and plenty of room. Windsor Beans may be planted for a late crop. If the dolphin-fly appears on the early Longpods, nip off the tops and remove the colonies of insects. They seldom attack a second time. Cauliflowers under handlights will soon be turning in, and should have a leaf broken over the heart. Liquid-manure will be helpful. There is yet time to sow the long-rooted Beets, as very large roots are not wanted. Make a further sowing of Horn Carrots; they are always appreciated when young. When the early Potatoes are cleared out of frames rearrange the beds and fill with Cucumbers, Melons, Tomatoes, or something useful. Keep up a supply of salad plants by frequent small sowings.

E. HODAR.

THE COMING WEEK'S WORK

Extracts from a Garden Diary.

May 19th.—Sowed Hollyhocks in drills in the open ground. We have followed this course for some years, and found the plants healthier and stronger than when we sowed under glass. This, after all, is only reverting to our old practice before we got into the habit of trying to rush things. Sowed *Dieltamnis Fraxinella* in box in frame. There is some advantage in this. We find the seeds grow better. The same may be said in sowing seeds of *Scabiosa caucasica*. Pricked out more Celery. Sowed a few lettuce seeds of White Cos and Continuity Cabbage.

May 20th.—Mulched early Peas on south border. It is a dry, hot spot. Sowed Chinese Primulas and Cinevarias, including a few seeds of *Cineraria stellata*, useful for cutting and conservatory work. Arum Lilies which have finished flowering have been placed in a sheltered place outside. Some of the later plants are still blooming, and will be kept inside for a time. We are treating the flies on Peach-wall to Tobacco-powder.

May 21st.—Planted out first lot of Brussels Sprouts and a couple of rows of White Celery to come in early. Shifted on Acacias and Genistas which required more pot room. Pricked off a lot of *Primula obconica* seedlings. We find this useful in winter, in spite of its bad character, and should not like to be without it. Dusted a little Tobacco-powder on the centres of Trumpet Lilies just coming up to flower. The powder is very effectual. A very small quantity suffices.

May 22nd.—We have just made a start with the bedding-out. We have much to do, and the plants are well hardened. Tender things will be kept back till next month. Blossoms have been picked off Strawberries planted to produce runners. Shifted on a lot of winter-flowering Begonias, Gloire de Lorraine and others. Thinned Apricots and Peaches on walls as the crop is too heavy. Grape thinning is still going on in late houses.

May 23rd.—Shifted on young Fuchsias, chiefly new varieties. Planted several frames with Cucumbers and Melons. Tomatoes for planting out are still in cold-frames with lights off during warm days. Will soon be planted out if the weather settles. Planted

out a collection of Cactus Dahlias, chiefly new varieties. Top-dressed Cucumbers. Chrysanthemums are still in cold pits, but the lights are taken off every day. Pinched off the tops of Longpod Beans.

May 24th.—Earthen up early Potatoes. Prepared shallow trenches for Leeks. Made a further sowing of Marrow Peas. Peas coming on are staked in good time so that the tendrils have something to cling to. Sowed Cardoon seeds in trenches 15 inches apart. Tied down young wood in Peach-house. Gave inside Vine borders liquid-manure. Sprinkled a little bicarbonate of soda on Onion-beds.

TREES AND SHRUBS.

THE MEXICAN ORANGE FLOWER (CHOISYA TERNATA).

We are reminded of this beautiful shrub, a correspondent having just sent some flowers

TREATMENT OF WISTARIA.

I HAVE a Wistaria growing on the south wall of a church. It has grown in about two years to a height of 25 feet. As it grows in height it loses its lower foliage, and the stem for nearly 7 feet is quite bare. Will you please advise me (1) how to prevent this loss of foliage? (2) How to make the creeper shoot at the side without cutting it down? (3) How the side shoots it has can be made to spread (most of them end in bushy pieces with no leaders)? (4) How soon may it be expected to flower?—H. G. BABINGTON.

[The Wistaria behaves naturally as yours has done, unless measures are taken quite early to check it. In commencing with a young plant the top should be cut off if there are not a couple of good side-shoots. These last should be trained in a horizontal manner, one on either side of the main stem, and as the plant grows another couple should be carried out in a similar manner a yard or so above the first ones. In this way you may continue to lay the foundation of your plant till the space is to a great extent furnished. An established plant against a wall will well repay a little attention in the

will go together. As your plant is young and flexible, you might bend it down and secure in position, and the sap being then arrested side-shoots will follow. The loss of foliage can only be prevented by the formation of side-shoots carrying leaves of their own. 3. The side-shoots can be made to spread if the leading shoot is stopped, and the bushy pieces at the end are cut away except the most vigorous one, which will then grow freely. 4. A plant of the size you name should flower this spring, but as it has grown so vigorously you may have to wait another year.]

PLANTS AND FLOWERS.

INDOOR PLANTS.

POTTING AZALEAS AND CAMELLIAS.

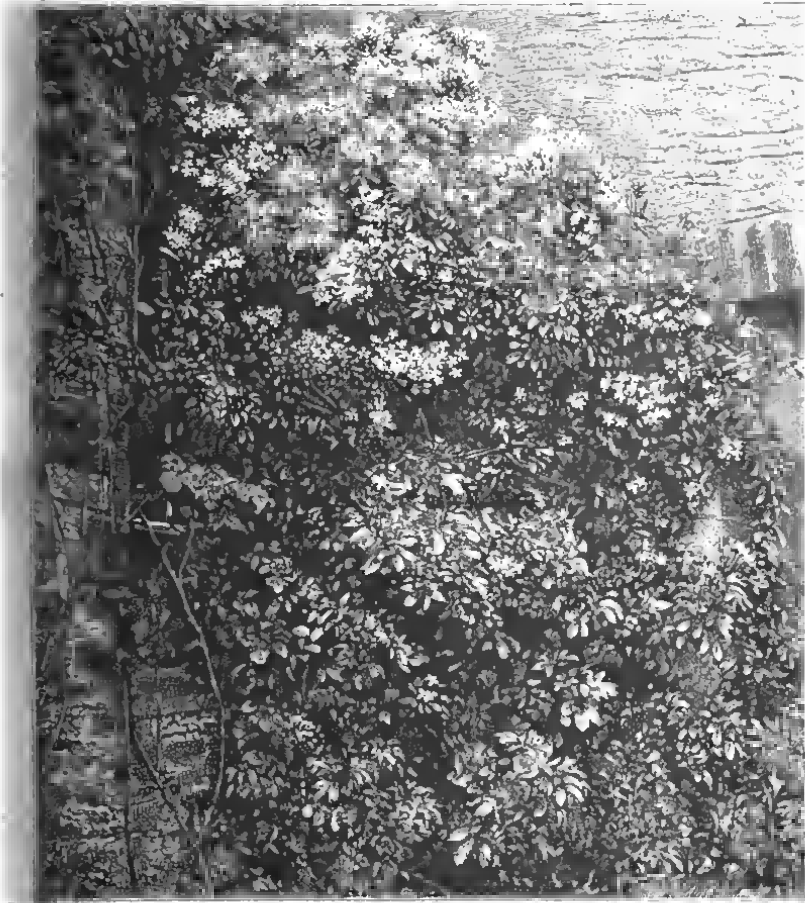
IN looking through several amateurs' gardens lately I was reminded that Azaleas and Camellias are, as a rule, in very poor condition in such places, at least those that have been any length of time on the premises. The healthy little plants brought from the nursery, if left undisturbed at the roots, usually flower fairly well for two or three seasons, but as soon as they require repotting they begin to decline in health, and in very rare cases does one find the plants really flourishing.

Azaleas and Camellias require ample drainage—this is the first consideration in repotting. Take clean pots, also clean potsherds, place the largest at the bottom, and medium-sized ones next, over this a layer of smaller ones. For Azaleas only the best fibrous peat is of any use, and for Camellias the same material, and some rich, fibrous turf, that has been packed up just long enough to kill the Grass; pull this to pieces, but do not sift it, place the roughest soil over the crocks, and then transfer the plant to its fresh pot. Large shifts at one time are not advisable; young plants in 5-inch pots may be placed in 6-inch or 7-inch ones, which will allow of a nice layer of fresh soil being placed all round the ball of earth, but before doing this the old ball of earth should be divested of any inert soil, and the roots carefully loosened when they are very firmly matted. The new soil must be very firmly rammed down with a blunt stick or lath, so that the new soil is made as firm as the old ball of earth itself. Allow about half an inch at the top for water, and as soon as potted and set in position for growing give a good soaking of water from a fine-roseted pot to thoroughly saturate the entire mass of soil. The plants should be shaded from bright sunshine, and syringed overhead as soon as the sun declines, and be shut up with a brisk, moist heat. Do not over-water at the roots, but never let the soil get quite dry. Under favourable conditions, both Azaleas and Camellias will make rapid growth, and as soon as the young shoots get firm, flower-buds for the ensuing year will be formed, and as soon as these begin to plump up the plants must be gradually hardened off by admitting plenty of air, and in July they may be placed out-of-doors to ripen their growth. A cool, moist bed of coal-ashes behind a wall to screen the plants from midday sun is the best of positions for them, daily attention as to watering being all they will require until the first week in October, when the pots should be washed and the plants set in their winter quarters, which should be cool, light, and thoroughly ventilated. Camellias will flower naturally from Christmas onwards, but Azaleas require more heat to cause them to bloom in the winter months, but by judicious hastening of early-flowering varieties, and retarding late ones, a succession of bloom may be kept up for nearly half the year. F.

NOTES AND REPLIES.

Malmeson Carnations.—I am anxious to know what treatment I can give some Malmeson Carnations I purchased from a good and well-known nursery last year? The stems look dry, but they appear to have some nice shoots at the top. They did not flower well last year. Ought they to be repotted?—C. A. S. M.

[We are quite in the dark as concerns your plants, and you give no idea of their present condition, the soil, or any other particulars. If you purchased young plants a year ago,



The Mexican Orange Flower (Choisya ternata) in a Devonshire garden.

for name. The illustration we give to-day shows it growing in a Devonshire garden—a county that contains many beautiful specimens of plants that in more northern districts are only known as greenhouse plants. Those who are fortunate enough in having a bush near the house must know the pleasure of an atmosphere laden with the strong but not too powerful Hawthorn-like fragrance. Those who intend to try this shrub in the open should bear in mind that the best results are always obtained from planting in a light, sunny position, where the wood can be well ripened before the winter begins. Plants, the wood of which has been well ripened, are never so likely to suffer as those in a green and ill-ripened condition. It is a very old plant in gardens, having been introduced from Mexico about 1824, where it grows freely on the hillsides, presenting a delightful picture during the flowering season.

matter of pruning and training. In the early part of the month of July all shoots that may be reserved on the main or leading stems should be cut back to within a foot of the main stem in order to check the rampant growth. These shoots will again break into growth from the buds just behind where the shoot was stopped, and after these shoots have grown a few inches they may again be stopped. The result will be the formation of flower-spurs at the foot of the shoot first shortened. Early in the following spring these shoots should be cut back to within five or six eyes of the main branch from which they originate, and the young growths from these eyes are then to be treated in the same way as those of the previous year. When the leading shoots have reached the length it is intended they should attain they may be stopped, and the result will be a neat appearance without any stiffness or formality. With regard to your numbered queries, Nos. 1 and 2

these, with proper care, should be now showing the flower spikes, yet it would appear you have no such sign. Here are some particulars of the general treatment of the Malmaison Carnation, but it is difficult to say if such will suit your case. Young plants, whether cuttings or layers, should now be established in 4-inch pots, and ready for a shift to 5-inch or 6-inch pots. In the latter they should flower the following year. Strong layers of last year potted early in autumn should now be in spike or blossom, according to treatment. The soil should be a free, open, or sandy loam, with which one-sixth of finely pulverised and old cow-manure may be mixed, with the addition of charcoal, or, failing this, old mortar-rubbish. Perfect drainage and firm potting are essential. We cannot say if the plants require potting or not, as you say nothing of their size or the pots they are now in. A woody condition at base is quite natural with year-old plants. If your plants show no sign of flowering shortly, the better way will be to layer the best shoots early in July. These by the end of September should be rooted sufficiently for potting, and good, well-rooted layers, if well cared for, will flower in the cool greenhouse next spring.]

Azaleas and greenhouse.—I am thinking of building a span-roofed greenhouse about 20 feet by 10 feet against a brick wall 5 feet high, facing east. I suppose the house should be about 8 feet high at the ridge—or would 10 feet be better? If so, I must add 2 feet either of brick-work or glass on the top of the wall. Which of these would you advise? My object is to grow (or, at any rate, to preserve) Azaleas. Any other plants must be subordinate to these, but I should like to have *Oleanders*, *Clematis indivisa*, *Heliotropes*, and, perhaps, *Fuchsias* (one end will be partly shaded by a Walnut tree). I suppose I need not use more heat than will keep the frost out in winter? Will you tell me whether the following plants already growing on the proposed site will continue to thrive if the house is built over them, or should they (for their own sakes) be removed? On the wall: *Pyrus japonica*, *Roses Gloire de Dijon*, *Marie Henriette*, and *Bardon Job*. In the border: *Plum Victoria* and *Green Gage*, *Pyrus Malus floribunda*. I suppose a *Marchal Niel* would do well in such a house?—C. E. S.

The Azaleas being the most important crop, and not specially dependent on sunlight while under glass, we think the 8 feet high ridge will do quite well. If such an angle would give a rather flat roof, this may be modified by keeping the eaves 3 inches under the top of the 5-foot wall, thus giving a sharper rise on roof. In any case you need not raise the wall in the least. What is most usual when erecting glasshouses against a wall is the three-quarter span or hip-roof, and this may have a 6-foot length of rafter to the wall from ridge, and a 12-foot long rafter on the other side, or any proportion that may suit. The chief object of the three-quarter span—the name being derived from the two quarters on the long side and the one quarter on the short side—is the gaining the full sunlight with the proper utilisation of the wall. The objections to the style in such a case as the present are the low roof on the long side and the doorway, which would not be quite central. It will be quite as useful, however, if you erect a full span, taking your gutter level at the wall side at 4 feet 9 inches high. We suggest this for solidity, and by knocking out a brick here and there and inserting a "healer" half way into the wall you will obtain a perfect bearing on that side. On the front side 3 feet of wall, and the remainder wood and glass to 4 feet 9 inches. The plants you name will be easily accommodated, and the *Clematis indivisa* will be best planted out at one end and trained up the rafters. The temperature in winter need not exceed 45 degs., or 40 degs. in severe weather. It will hardly be prudent merely to keep out the frost, and in this one may be caught napping. The plants now growing in the border and trained to the wall should be removed; the *Roses* you mention would only become wild and unsatisfactory, and are much better in the open. A *Marchal Niel* Rose will do quite well, however, and if you require any more we suggest *Niphetos*, *Briar* or *Bridesmaid*. All these are free, and beautiful in the bud.]

Keeping conservatory moist.—Will you kindly tell me how I can obtain a damp atmosphere in my conservatory? It is always too dry, which I know is not the best for plants. It is not intended to be other than a cold-house or all kinds of easily kept flowers and creepers. The conservatory faces S.W., and leads out of the drawing-room by sliding doors, and measures 21 feet by 12 feet, so it is a fair tank runs the whole breadth at the end, and a rain-water tank over it, except where the opening is to get out water. When this is left open no moisture is given out. How water pipes (only used in hot months) run under the conservatory, the whole site

floor is paved with tany tiles. I find that the small greenhouses which several of my friends possess always have such a damp heat, even those which have no heating apparatus or only a small oil-stove for severe weather in winter. But I notice they all have earth floors, often watered, and also earth underneath the side staging, where Ferns, etc., grow. Is this the secret of the dampness? Would it be possible for me to have an earth floor with wooden staging over it to walk on, or would this create dampness in the drawing-room?—A. D.

[Your conservatory furnishes another illustration of the fact that the ideas of the builder and the plant grower are greatly at variance, for the earthen floor is, from a cultivator's point of view, much the best, and the glazed tiles the very worst. Again, there is the drawing-room to take into consideration, as too much moisture close by night not be desirable there. You do not say what kind of staging you have, but if it is of open laths a good deal might be done to combat the dryness complained about by laying some slates thereon, and covering with 1 inch or more of fine Derbyshire spar, or what is now being greatly used by many successful cultivators, small coke broken to about the size of Horse Beans. This coke is a great absorbent of water, and even when charged with moisture it is always sweet. Again, in a case on which our advice was previously sought, considerable benefit has been derived from the treatment of the space under the front staging, which was, as in your conservatory, also tiled. To avoid too extensive an alteration the space underneath was covered with about 3 inches of fairly small coke, of the most absorbent quality it was possible to get. This, which lay on the tiles, was kept within bounds by a neat edging, and was by no means an eyesore, especially when two or three Ferns and a piece or two of *Selaginella* cropped up to take off the raw appearance. Of course, what is technically known as damping down (that is, frequently watering the coke with a rose-pot) is carried out, and as above stated the results have been satisfactory. It would be quite possible to have an earthen floor with wooden staging to walk on—indeed, this may often be seen—while for paths some prefer what is known as stable bricks, that are so grooved as to allow of walking dry shod even when water has been thrown on the floors. If you follow the above suggestions and damp down regularly we do not think you will find it necessary to remove the tiles.]

ROSES.

SEASONABLE NOTES.

PERHAPS of all the months of the year this is the most important to the Rose grower. A word of caution is necessary as to

MANURING ROSES.—There are so many compositions on the market, and they all promise wonders, that the novice is apt to use them with too free a hand. For my part, I have never found any manure yet that will surpass in effectiveness and safety good farmyard-dung. This would consist of manure from various animals—pig, cow, horse, etc., with poultry-manure added. Let anyone visit a small village where the leading farmer is a Rose enthusiast, and he will find in his garden blossoms of the greatest perfection, rivalling many that are seen at our shows, excepting, of course, those grown by the experts. I will assume that the *Roses* have received their autumnal dressing of farmyard-manure, and that this was covered over or lightly forked in in March; if so, no further stimulant will be needed until the buds begin to swell, which will probably be about the beginning of June, unless hot weather appears pretty quickly. If at that time the plants are strong, they may receive two or three quarts each, once or twice a week (according to vigour, giving the strongest the most) of good liquid manure, the best being drainings from a farmyard, or, failing these, some good strong liquid mixed up in a large cask. A bushel each of cow and sheep-manure, with a peck each of wood-ashes and soot, put into a 50-gallon cask of water and allowed to stand four or five days before using, will provide the amateur with some good stimulant for his *Roses*. This liquor may be applied at half strength, and after the cask has been refilled about twice it may be given neat. It is a good plan to put some 8 lb. or 10 lb. of gypsum (sulphate of lime) into the manure tub. This will prevent any injurious effect

that might follow should the liquid be given too strong, and, moreover, it supplies a substance which is often wanting in soil. It is a difficult problem with some individuals how to obtain the materials for a tub of manure similar to those alluded to, and, of course, where this is so, artificial manure must be employed. There are some excellent stimulants among them if rightly used. Bone-dust is a capital fertiliser, and, if the plants did not have much manure in autumn, 5 ounces or 6 ounces per square yard may be given at once and hoed in. Fish guano and Chinchas guano are also good. About a teaspoonful once a fortnight will be beneficial, alternating it with liquid cow-manure, but withholding as soon as colour of flower-buds is seen. A very excellent liquid-manure may be made with 1 ounce of nitrate of potash and 1 ounce phosphate of potash to 1 gallon of water. This is readily dissolved and is very quick acting, and should be given when buds are swelling. Be very careful not to apply liquid-manures when the ground is dry. If rain does not come give a watering first with plain water.

THE NEW GROWTHS must be freely thinned if show *Roses* are wanted. A moderately-sized plant should not carry more than three or four blossoms, and six blooms are enough on any one plant. The garden *Roses* may be allowed to grow as they like until the end of the month, then the overcrowded shoots are best removed; for even in such *Roses* where we wish for a profusion we also prefer to see good quality rather than the reverse. It is surprising what an added beauty there is in a garden *Rose* well grown. Take, for instance, the puny flowers of a half-starved plant of *Camoenis*, or *Marquise de Salisbury*, and the beautiful, brilliant, and bright blossoms of the same varieties well cared for.

SUCKERS from *Brier*, *Manetti*, *De la Giffemie*, or *Polyantha* stocks must be removed as fast as they appear. It is oftentimes puzzling to the amateur to know which is a wild sucker, and if he is in doubt I would advise him to wait. I have known fine promising growths of the *Rose* itself cut away under the impression they were suckers.

STOCKS BUDDED last summer should be looked over frequently to remove suckers, and also to tie to a support the fast-growing shoot. Our dwarf buds are kept earthed-up until the last moment, and even when the supporting stick is placed against the stock the earth is replaced about the base of the bud. This is very necessary in low-lying districts where such havoc is wrought by May frosts. If bushy plants are needed for potting up, we pinch out the point of the young shoot when it has made its third and fourth leaf, but if fine early blooms are required for exhibition then this must not be done.

THE AERATION OF THE SOIL is of the utmost importance, and I cannot too strongly urge on the amateur the frequent hoeing among his plants, both huddled and established. The first hoeing should be of a deep nature, then after this the work is easy, it taken in hand before weeds gain the ascendancy. On a hot bright day a push hoe or Dutch hoe will enable the *Rose* grower to get over a lot of ground, and not a weed will be seen an hour or two afterwards. But let the weeds grow to a large size and it will take all the summer to clean the land. Although hoeing is employed to clean the land of weeds, its primary object should be to air the soil. This is one reason why I discourage the planting of various low-growing subjects on the surface of the *Rose* beds, as undoubtedly it must hinder the proper cultivation of the latter. Always hoe after rain or watering, and do not walk upon the soil any more than is absolutely necessary. Some

PILLAR *ROSES* that we have allowed to go free for want of time to tie up are among the most healthy-looking objects we have, and suggest by their appearance that too much bunching up is practised with this style of growing the vigorous kinds. With large old plants try the use of three stakes instead of the central one, so that the overcrowding is avoided. Perfect pyramidal pillars may be so formed. The

WINDMILLIANA HYBRIDS upon old tree stumps are now a very pleasing feature, and this is

certainly the best way to grow them. One is able then to clean the ground beneath. How beautiful Jersey Beauty looks just now, with its hundreds of little red growths, every one like that of a Tea Rose, but quite hardy. One of last year's novelties, Alberic Barbier, has even more lovely shaly foliage than that of Jersey Beauty.

OLD-ESTABLISHED CLIMBING ROSES may be effectively helped by the making of a few holes about their base with a thick crowbar, and then giving them some liquid-manure. A good liberal supply should be afforded in frequent instalments during the day, as it naturally will not pass away very quickly. Rosa.

NOTES AND REPLIES.

Some good new Roses.—Those fortunate Rose growers who are able to purchase the best of the new Roses as they appear should be on the alert, as last year was a very good one for novelties. I would strongly advise that the following be secured now and planted out at the end of the month. They will give some good buds by July. The varieties are: Fran Karl Druschki, Mme. E. Levayasseur, Mme. Viger, Souvenir de Jean Ketten, Soleil d'Or, Boudicca, Noella Nabonnand a grand climber, as rampant as Reine Marie Henriette, with colour of Bartou Job), Mme. Antoine Mari, Mme. Vermorel, Lady Morgan, Beauclerc, Mildred Grant, Lady Battersea, Lady Clamorris, and Duchess of Portland. These I consider the best of last year's novelties.—Rosa.

Roses under glass are now swelling, and will need a deal of assistance. Manure made with cow-dung and soot affords a safe fertilizer. If the plants are rather dry, give a watering first with plain water, then some of the liquid-manure. About once a week until buds show colour will be the correct thing. I have found, too, a most excellent stimulant and a safe one in the following: 1/2 ounce each of salt-petre and phosphate of potash to 1 gallon of water. When dissolved, apply as ordinary liquid-manure and about once a week. In a greenhouse in which heat and moisture can be given during summer some of the fine climbing Roses should now be planted, such as Fortune's Yellow, Climbing Niphotos, Marchal Niel, the old but seldom seen Cloth of Gold, Teshunt Hybrid (a beautiful bud under glass), and Mons. Desir. Where a wall or pillar some 5 feet or 6 feet in height needs a Rose, plant Mme. Lambert, Mme. Hoste, Kaiserin Augusta Victoria, Perle des Jardins, Sunrise, Niphotos, Souvenir d'un Ami, Catherine Mermet, Bridesmaid, Anna Ollivier, or other similar good sorts. Young plants grafted this season will be the best to procure.—E.

Rose enemies.—Insect pests are now troublesome—there are so many of them. I wish there was some other method of destroying them than by hand-picking. Some of the tiniest little black grubs quickly wreck a fine shoot by mutilating the bud. As soon as a curled leaf is seen or two or three leaves glued together, make a search for the grub, and when found destroy it. Usually the culprit is found, not in the curled leaf, but in one up higher nearer the bud which is his goal. One kind of caterpillar has a way of dropping quickly to the ground, and there it will stay

until danger of capture is past. A bad pest is the one that bores its way down the pith of standard Briars and also of the hard wood of Roses. The Briars and the ends of hard wood should be painted over when cut back, using some ordinary paint or knotting. Aphides or green-fly may be checked considerably if they are destroyed as soon as one or two are visible. We are apt to think one or two can do no harm, but let them remain and they are grandparents in a few hours. I have often thought that a small fortune awaits the inventor of a ready means of destroying these insects outdoors. The aphid brushes are most useful, and will keep the pest in check if frequently used. They are more effective than the various washes, because the latter, unless the shoots are dipped in the liquor, always permit some to escape. Let the Rose grower observe which growths are most the prey of insect pests, and he will find them to be the old,

with plain water and liquid-manure. A mulch in summer shuts out the sun's rays and air. I have seen Roses almost ruined by a thick mulch applied in spring and allowed to remain on the surface. Rather should the hoe be frequently employed to keep a nice tilth. Always hoe after rain or watering.—B.

OUTDOOR PLANTS.

A SUMMER BORDER.

In the accompanying illustration we are shown a representation of one of those wide, wall-backed herbaceous borders, whose merits have been so often extolled in these columns, and on the planting and arrangement of which so much useful information has been afforded to amateurs. In the picture before us we may note that the advice so often given, that there should be an exact graduation of heights from the back of the border to the front, but that here and there taller subjects should be brought forward amongst dwarfier plants in order to prevent a too formal outline, has been followed with good results. The large group of giant Daisy-flowers coming well towards the front stands out clearly against the Iris foliage behind, and is flanked on one side by Sea Hollies, and on the other by Tiger Lilies not yet in bloom, close to which may be described a few spikes of Madonna Lilies in full flower. In the background, to the extreme left of the picture, is a clump of Delphiniums with massive, closely-set flower-heads, behind which three tall Hollyhocks tower, the unexpanded buds terminating their blossom-spikes showing a good foot clear of the coping of the wall.



A summer border.

In the distance is another large clump of Delphiniums fronted by Lychnis chalcedonic, while numerous plants of varied heights give the border an informal appearance. The dwarf Campanula that commences the edging in the forefront spreads well into the path, as do the majority of the plants employed for the margin of the border, and it is not until the eye reaches the closely-tufted Sea Pinks that one realises how straight and formal is the stone or tile edging. Where such an edging is used, spreading plants of lowly growth that will entirely hide the length of palpably artificial line should be placed immediately behind it, when it will soon be lost to sight. Rough stone of the country makes an excellent edging, and even when freshly fashioned it is informal in its contour, while its interstices and inequalities are admirably adapted to the needs of the numerous hardy and vigorous rock plants of which we now have such a selection to beautify the verges of our herbaceous borders. S. W. E.

* * RAISED ROCK GARDENS.

A FEW weeks since you published a very interesting communication on rock gardens, in which the writer very properly emphasised the desirability of having rock gardens sunk below the level of the surrounding ground. This is undoubtedly the best arrangement where it is practicable, because it ensures two things of vital importance—viz., the air is thoroughly excluded from the plant roots, and they are always kept rock moist. I often think when I see disused stone quarries what ideal places they might be made for a rock garden, yet

worn out ones; the young and healthy almost always are free until a certain time, when the pests have exhausted their early victims and then turn to the other growths on the plant. It is apparent, then, if we would have healthy plants free from insects, we must cut away the old wood pretty liberally in spring, and even now, where the young wood is coming on all right, some of the oldest shoots might well be removed. Two or three really healthy growths on each plant are enough, because each of these will give two or three new growths each. This is one reason when planting that I prefer to put the plants rather close together, so that old worn out wood may be freely dispensed with without a bed or border appearing to be too meagre in growths.—E.

Mulching with manure.—This at this time of year is a mistake, unless the soil be a light and sandy one. In such a case it is necessary, and also frequent waterings, alternating

how seldom are they so utilised? Of course, it does not lie in the power of everyone to have perfection in the arrangement of his rock-work; space may be limited, the effect of the view from some favourite window might be spoiled, or plants may have become so established that an entire alteration in the structure of a rockery might entail too great a loss in moving them, so that raised rockwork must always be more or less of a necessity for many if they are to have a rock garden at all. And, lest any should be discouraged at the thought that the most perfect forms of rock arrangement cannot be theirs, let me assure them that many of the very best plants succeed better on raised ground than where it is sunk below the surrounding level. As I write I look out of a window, and in the short space of 36 feet between me and the road I have arranged at about 6 feet distance a low bank or bed, not more than 4 inches above the ground level; then, interspersed with blocks of granite, the soil rises irregularly behind till at a distance of 24 feet it is about 4 feet high. Beyond this it slightly falls again to rise to a height of 5 feet where it abuts on the road. On the very top of this 4-foot mound, nesting between smaller granite blocks which are just visible above the soil, are some twenty clumps of *Saxifraga Burseriana*, *S. Burseriana major*, and *Draba brunifolia*, with a few patches of *Erinus alpinus*. What can be more lovely than masses of *Saxifraga Burseriana* in February and March, with its crimson buds, its large, pure white flowers, and its glaucous green foliage contrasting so well with the purple-red of the granite? For weeks it was a perfect picture, delighting the eye every time one looked out of the window; and then the bright green and yellow of the *Drabas* carry on the colour for another month. Below this top-most group come in the prostrate *Hypericum*s repens and reptans, which in late summer will be smothered with their large yellow blooms, and hanging over the face of a perpendicular rock is a great mass of *Androsace lanuginosa*, one of the very best, freest-blooming and earliest plants which can be placed on any rock garden. It is better than *A. sarmentosa*, because it does not dump off, and it remains in flower for months. This particular plant has often had from twenty to forty heads of bloom at one time. I find it a bad plan to cut off the old dead wood (it springs afresh from the crown every year) until the new growth has made considerable headway.

On another high part of this small rock garden are several clumps of *Edelweiss*, which likes an exposed position where it can get every hour of sunshine and where the wind can rapidly dry the moisture from their woolly petals. Below these, and running over a very gritty, flat space, is a large patch of *Androsace sarmentosa* and *Androsace Chumbyi*, which I now always protect with a handlight in winter, just to keep the moisture from their rosettes, and abundantly do they repay this little attention to their requirements. Just to show how accommodating some plants are to their surroundings, here are *Eriogonum marginatum* and *macrocarpum*, which seem to positively revel in their dry, elevated position, and which last autumn seemed anxious to show that their flowering capabilities were simply unlimited. As the bank slopes gently downward towards the window, a number of dwarf *Phloxes*, such as *Nelsoni* and *Vivid*, find a home, and the marbled leaves of *Cyclamen* nearly cover the ground. *Iris reticulata* finds its way through them in early spring, along with *Leucojum vernum*, *Narcissus cyclamineus*, *N. triandrus albus*, and *N. minimus*. A little hollow is carpeted with *Veronica repens*, *Aubrieta Leichtlini* hangs down steep rock faces, and *Arenaria balearica* creeps up every chink and spreads itself over the rock surfaces. In a little hollow behind the principal mound is a great clump of that most useful, accommodating, handsome plant *Megasea purpurea cordifolia*, and below it, and sheltered by it, a colony of *Cypripedium Calceolus* flourishes.

The bank which forms my background and which abuts on the road is crowned by masses of large British Ferns, of which *Polystichum aculeatum* is by far the best, because it keeps its fronds fresh and green right through the severest winter.

and shade to a bed of *Trilliums*, *Cypripedium spectabile*, and *C. pubescens*, which are quite at the bank foot and a little below the ground level. In their shade *Cardamine trifoliata* flourishes along with *Linnaea borealis*, while a little to the left *Oncoclea sensibilis* spreads out its graceful fronds. On the left of the path leading into this little rock garden is another irregularly raised mound, on which grow all my most sun-loving plants, such as *Edraianthus Pumilio* and *E. serpyllifolius*. Of the latter there are several patches, and nothing can be more beautiful than the mass of deep purple flowers entirely hiding the foliage. *Dianthus alpinus* and several other *Dianthus* flourish here, and quantities of the encrusted *Saxifragas*, *Antirrhinum Asarina*, etc.

Just one word about the paths in a rock garden. I have tried many kinds, but I find the best material is rough flagging stone just as it comes from the quarry with its irregular edges, so that there are numerous little spaces between the stones, which, filled with grit, make ideal places for *Linaria pallida*, *Thymus lanuginosus*, and *Thymus serpyllum coccineus* to spread about at their own discretion. Where the path is more in shade *Omphalodes verna* takes their place and *Symphytum tauricum* is useful for the same purpose. On a perfectly level patch of limestone soil a score or more clumps of *Gentiana acaulis* make a fine show, and this little bed is edged with self-sown *Cheiranthus alpinus*, which is very pretty, but inclined to become a weed. Many other things besides those mentioned are growing in this very small space, and all on considerably raised ground; but perhaps I have said enough to show that for anyone whose rock garden must be a raised one if he is to have a rockery at all there is a certainty of being able to grow successfully many of the very choicest alpine. Only, if I might venture to give the experience of many years of rather costly experiment, I should just like to add that far greater pleasure is obtained by growing these comparatively easy things, and growing them in masses, than in trying difficult, rare, expensive plants in ones and twos. Good drainage and plenty of coarse grit seem to me the two essentials of success.

R. LAYCOCK ROUTH.

Silfjord Ferris, Banbury.

RAISING PANSIES FROM SEED.

Will you kindly tell me when Pansy seed should be sown under glass or outside, and how the plants should be treated till they bloom outside and after blooming? Will they form a perennial border when once established?—*MIRUS*.

[Pansies may be raised from seed quite easily and sowings may be made outdoors from March till October with every prospect of success. If you commence operations at once, there is no reason why you should not do so, and if ordinary attention be paid to the raising of seedlings, they should bloom in August and possibly earlier. We should advise you to make a sowing of the Tufted Pansies, as these possess a more robust constitution, are also free-flowering, and what you specially desire, they are perennial in their growth. Sowing at this somewhat advanced period, you ought to make up a small bed of soil in a cool quarter of the garden. By this we do not mean that an absolutely sunless position for the seedling-bed should be selected, but that instead a situation where partial shade can be afforded. A little care should be observed in the preparation of the soil, as this will assist in the progress of the seedlings. If a quantity of loam and leaf-mould in equal parts can be procured and passed through a sieve with a $\frac{1}{2}$ -inch mesh, and a liberal amount of coarse sand or road-grit added, and the whole of these ingredients well mixed, ideal material for the seedling-bed will thus be prepared. It is just possible you may have a difficulty in obtaining loam and leaf-mould, in which case you had better substitute for them the best of your garden soil and Cocoa-nut-fibre refuse. Sow the seed thinly after the surface of the soil has been levelled and slightly cover with a portion of the soil previously mixed and reserved for this purpose. Should the weather be warm and the soil dry quickly, a thorough watering, using a fine-rosetted can for the purpose, should be given to the seedling-bed. Under normal conditions the seed should quickly germinate, and in a few

weeks the seedling plants should be ready for pricking out into other prepared beds. Better results usually follow when seedlings are planted in a nice light, gritty soil, and a distance of about 2 inches between each plant and a similar distance between the rows observed. Healthy and vigorous root-action is encouraged by keeping the plants cool, and for this reason an occasional copious application of clear water should be applied.

While the seedlings are growing the beds in which it is intended to finally plant them should be prepared in readiness for their reception. Deeply dig the quarters just referred to, incorporating at the time a liberal dressing of fairly well-rotted manure. Soil of a rich and lasting character is the all-important consideration at the time of preparing the beds and borders, as there is always the possibility of the plants remaining in the same position for two or three succeeding seasons. The Pansy, and the Tufted Pansies in particular, are somewhat gross-feeding plants, and in a comparatively short time will rob the soil of most of the plant food. When the young seedling plants have established themselves in their second quarters their advance will be most marked. It is astonishing how quickly they develop into sturdy little tufts, and when most of the intervening spaces between the plants are filled up with growth one may fairly assume them to be fit for removal to their permanent quarters.

Previous to their removal, break up and level the surface-soil of the beds and borders. To often the plants are unduly crowded, and for this reason they can never do themselves justice. Had you begun planting in the early summer, 12 inches between the plants would not have been too much space to allow each plant, but as the summer will have passed before your operations are completed, 9 inches between the plants, and also a similar distance between the rows, will be ample. Lift each plant with a trowel, so that as large a ball of soil as possible may adhere to the roots, and when placing each one in position in its flowering quarters see it is embedded to its collar. Press the soil firmly all round, and in the cool of the late afternoon or evening give the plants a thorough watering. Blossoms will quickly follow the final potting, and then you must see the old blooms are persistently removed. This will keep the plants on the move, and also maintain the display. Keep a look out for novelties of sterling worth, and label them for perpetuating. It is very possible you may obtain some first-class new sorts, more particularly if you acquire your seed from a good source. You will find it better to procure your seed from one who makes a speciality of the Pansy, and as there are a few firms who devote special care to the saving of reliable seed, you could not do better than apply to one or other of them. In the late autumn cut back the old and coarse growths, leaving the tufted growths of recent development in the crown of the plants to develop the wonderful tufts for which the Tufted Pansies are famous. Some of the less robust plants are benefited by a mulching of well-rotted manure after the cutting back. These seedling plants in the succeeding spring and early summer should be liberally covered with delightful blossoms.]

Tufted Pansies—hoeing between the plants.—Plants put out in late February and early March are now bearing their first crop of blossoms, and every endeavour should be made to keep them going. At this early period the use of the hoe, Dutch or otherwise, should be constant, the frequent stirring of the soil contributing to their subsequent success. One result of a systematic hoeing of the surface soil is seen in the vigorous growth which the plants thus treated invariably put forth, and if the practice be observed with more or less regularity once a week, the display which follows is all that one could well desire. At this season, of course, there is ample room between the plants and between the rows of plants, too, and advantage should be taken of the present period, as the intervening spaces will soon be filled up. All that is wanted is a good rain, but should dry weather continue the plants should be freely watered.—D.

NYMPHÆA ROBINSONI.

This is one of the most richly-coloured varieties of *Nymphaea*. We have, the colour being a deep crimson, somewhat lighter towards the edges of the petals, the substance of which is excellent. The stamens are of a rich orange

further notes will be given), to concentrate all the strength possible into the crown of the plant if flowers of the finest quality are expected.

The following varieties will give a good succession of flowers, and, with the exception of the variety Princess of Wales, which does not

for the winter, and very sparingly watered during that time; in early spring the supply should be increased, and as much sunlight and air as possible given during the growing and flowering period. *P. marginata*, which requires the same treatment, forms an excellent companion plant. J. Rose.

Ravlinson Road, Oxford.

NOTES AND REPLIES.

Christmas Roses.—My Christmas Roses on chalk soil, planted in a shady position and not moved for five or six years, promised to bloom well this season, but half the blossoms were misshapen or failed to develop. Should the plants be moved or divided?—S. E. A.

[On any chalk formation you will need make special preparation for these plants if they are to succeed. The time they have been planted is just long enough to have made them into splendid tufts in the ordinary way, and little or no division should be required. What is lacking, we take it, is a sufficient depth of top soil before the chalk is reached and a too excessive drainage of the moisture. The following is a remedy if it is not too expensive: Excavate in any rather shady position to a depth of nearly or quite 3 feet, removing and discarding all the chalk found. At the level given place a thick layer of spongy peat, any of the close peat soils will do for the purpose, and not less than 9 inches or 12 inches should be inserted and firmly trodden down. Over the peat put a layer of cow-manure, finally filling up the bed to within 2 inches of ordinary level with some loam well enriched with manure. The peat in the bottom will act as a sponge or reservoir for the water, which it also gives off quite freely when required. In any case, there is the one great essential secured, namely, a good depth of soil and a cool rooting medium. In this way you may succeed with Christmas Roses even on the chalk. It may be rather expensive work, but it is the only way of thoroughly enjoying these valuable winter flowers. You cannot now replant them with safety, and had best defer the work to the middle of September. Meanwhile, water and mulch your plants to keep them alive. You may certainly divide them in September when replanting them.]

Clearing a pond of scum.—I should feel much obliged if you could assist me by giving me a remedy by which I could get rid of the nasty green slimy growth which has, during the last fortnight, covered a pond in which



Nymphaea Robinsoni. From a photograph by G. A. Champion.

tint, thus contrasting well with the deep crimson. Fully developed blooms are quite 6 inches across, and it is also very free flowering. The leaves are of medium size, spotted and splashed with dark reddish-crimson.

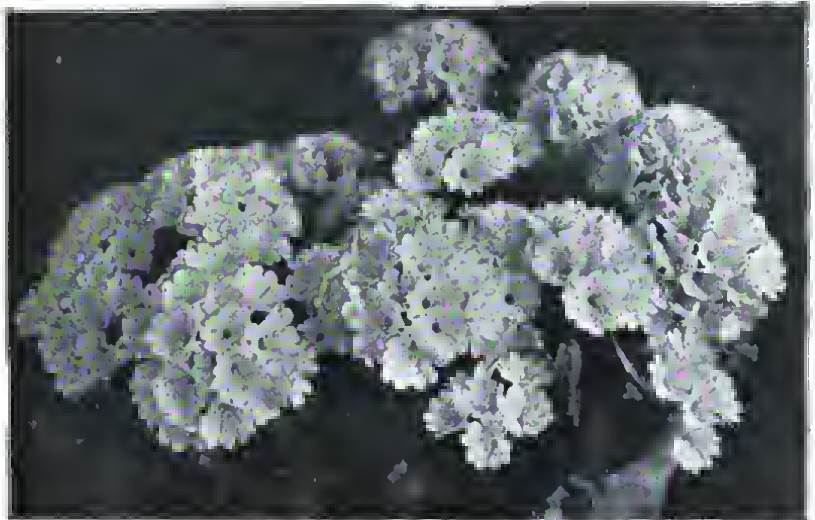
VIOLET CULTIVATION.

From the middle of April to the first week in May is the most suitable time to make new plantations of Violets for supplying flowers from the month of September to the first mentioned date. Various methods are adopted, no doubt all good in their way, some taking their runners in the autumn and dibbling them into a frame or into cutting boxes, while other growers rely upon dividing their old plants after they have ceased to throw many flowers, choosing the side growths with rootlets attached, avoiding the central growths as too old to be of any service. I have always adopted the latter course and found it to succeed admirably. Before interfering with the plants that are standing in cold brick pits or frames, prepare the site for the reception of the offshoots. Doubtless a north border is the most suitable position when the soil is extra light or sandy, or where very hot, dry summers are experienced, as the Violet is so subject to red-spider unless a deal of labour can be spent on it. On our soil, a deep sandy loam, Violets revel in any position except due south. In heavy, cold soils, plenty of half-decayed leaf-soil and road-grit or wood-ashes should be dug in a good spit deep. This would have been better done in February, still, I have prepared the ground just a few days previous to planting, and the plants do just as well as if dug two months earlier. It is important that the little plants be made quite firm in their new quarters, and be given 10 inches or 12 inches of space each way for the double varieties, while, for the stronger-growing singles, 15 inches is none too much. Plant with a dibber, and, unless showery weather prevails at the time, the plants should be watered in and attended to in this respect until established. Even then, in very dry, hot summers, on some soils, it is absolutely necessary to give the plants heavy waterings once a week or so, or they fall a prey to red-spider, their greatest enemy; frequent hosing or syringing with clear soft-water will generally rid them of this if persevered in. As soon as the plants begin to push out runners they should be gone over every ten days, persistently removing every one that can be laid hold of with the finger and thumb, this being better than leaving them for a month or more and then using the knife to remove them. It should be the cultivator's aim, from the time the runners are first planted, until the plants are ready for removal to their winter quarters, to keep them

prove as hardy with no as could be wished, though this may not be general, will yield a good supply from the open ground if the winter is not too severe. California, Princess Beatrice, La France, a grand Violet, and should be grown extensively, are my favourite singles. In the doubles, Marie Louise, Mrs. J. J. Astor, and Conte de Brazza are hard to beat, the first-named often giving nice bunches early in the month of August, and under glass it will continue the supply well into this month. Mrs. Astor is quite a new colour among Violets and much admired, and Conte de Brazza is at all times useful when white flowers are in demand. J. M. B.

PRIMULA PUBESCENS ALBA.

This (*P. nivida* of the catalogues), shown in the accompanying illustration, is one of the best of the cold-frame Primulas. It is easily



Primula pubescens alba (syn. *P. nivida*) in a pot. From a photograph by Mr. J. Rose, Oxford.

cultivated in light loam, with a free admixture of coarse sand and limestone chippings. October is the best time for repotting, the lower part of the rhizome when the roots are dead being cut away, and the crown of the plant kept 1/2 inch above the surface. The plants should be placed in a frame facing north

Water Lilies have been planted? I may say the pond was, until last year, an old pit hole, nearly dry, and overgrown with weeds, etc. It has since been thoroughly cleaned out, puddled, and filled with water to the depth of about 5 feet, and Lilies planted in it. Water

lately it has always appeared beautifully clean, but suddenly this slimy green growth has appeared. I have cleaned it off the top of the water with a hay-rake, but each time it has reappeared in about twenty-four hours, nearly as bad, and seems to come up right from the bottom and float in masses on the top. Would fish or water fowl be of any use in getting rid of it?—G. D. H.

Daffodils in chalk.—I should be glad to know how to treat Daffodils on a chalk soil. After the first year they almost cease to bloom, although the foliage was not cut down early.—S. E. A.

[Lift your bulbs early in July each year, trench and heavily manure the soil, working in the manure quite a foot deep, and replant at once or within a month. All the poeticus kinds must be replanted at once. You remark that the foliage "was not cut down early." Why cut it down at all, and why not let it ripen off naturally? If you cut off this immature leafage—the very lungs of the plant—and before its work is finished, how can you expect flowering bulbs another year? It is, therefore, quite possible you are responsible for the sparsity of blossoms of which you complain.]

Green-flowered Daffodils.—When I went to my present house three years ago I found a lot of double Daffodils—the common kind—and I took them up and replanted them after the first year, as they all came green and were of no use for cutting, and did not look nice in the borders. They are no better—plenty of blossoms, but very green, just here and there a yellow one. Can you tell me the cause and a remedy? Is there any use leaving them?—B. E. H., Kirkwall, N. B.

[The subject of your letter is a much vexed question, and of considerable importance, particularly where these things are grown for a livelihood. So far as the cause of the trouble is concerned, we believe this to be entirely due to the cold atmospheric conditions, and probably to frost at the time of the appearing of the bud through the soil. The flower-bud before it passes the surface level of the soil in its upward tendency has been subjected to much warmer conditions. Moreover, it has received all the protection of the earth and the surrounding foliage also. Therefore, should the external conditions prove much colder than the conditions below ground, and should frost ensue, as is often the case, so that the plant is brought to a standstill, a great check results that is shown in the way indicated in your note. That it is more or less atmospheric is generally proved by bulbs of the same quality where grown under glass earlier in the year coming their usual shade of yellow. Your only chance of assisting them to better ways will be by lifting the bulbs in July, and replanting not less than 6 inches deep in mid-October. This may cause a somewhat later start to be made, and in this way the cold and the check may be escaped. Could you so protect them by a mulch of light litter or by boughs that the extreme cold is kept from them, the chances are it would favour a better flowering generally. Beyond this we fear there is little to be done, as the complaint is the same, north, south, east, and west.]

Sweet Peas—staking recently-planted seedlings.—It is now the universal practice to give the young plants which are raised in pots the support of small twiggy sticks. This attention is not really necessary till the plants are some 5 inches or 6 inches above the soil, by which time the tightly-clinging yet fragile tendrils are fast developing. The earliest batch of these plants here was staked while they were in pots and stamling in the frames hardening off, preparatory to planting outdoors. When planted out this batch of plants was growing freely. The second batch, however, was treated somewhat differently, being planted when they were slightly less than 5 inches high. These were staked at the time of planting. Insert the stakes in such a way that the individual plants each have the support of a small spriggy stick. By these means, too, the entanglement of the growths is avoided, each plant clinging to the stake specially inserted for its support. In this way also the subsequent growths are more easily distributed over the larger stakes to be inserted shortly.—A. R.

ROOM AND WINDOW.

SPRING DECORATION IN THE HOUSE.

The accompanying illustration admirably portrays a unique floral arrangement, and one with which we are not in the least familiar. We are all aware of the beauty and fine effect a bowl of Daffodils will make, and know full well how much its beauty is enhanced when the lovely greyish-green foliage is freely associated with the blossoms. In the figure here given we have something very uncommon and decidedly interesting. The vase may not be quite so showy in its arrangement, as is the

blossoms of the Sir Watkin Daffodil. Then the greenish-yellow catkins of the two subjects used, Hazel and Willow, combine to give an artistic finish to the whole.

The foregoing facts should act as an incentive to readers of GARDENING ILLUSTRATED to make more frequent use of subjects which are generally considered to be out of the ordinary range of gardening material. From the earliest spring our hedgerows teem with suitable material, and its frequent use would, in the different seasons, considerably assist in maintaining the supply of flowers from the limited gardens of many readers. Vases with sprays of the Almond have made charming decorations



An arrangement of spring flowers and catkins. From a photograph by G. A. Champion.

case when the blossoms of one kind and of one colour only are used. Its originality is worthy of commendation because it shows how many hardly subjects may be employed wherewith to make a pretty floral picture, and something quite out of the ordinary. Few people would ever think of utilising small sprays of the Hazel with their pretty catkins. This, and many other such sprays, have a value for decoration to which too few, unfortunately, in the past have given heed, and yet how pleasing is the picture they create and what a departure from the orthodox methods of arrangement. It will be observed that the arrangement here portrayed is confined to flowers of tones of yellow, and thus the effect is not in the least incongruous. The soft yellow of the Primrose associates well with the rich yellow of the

in the early spring, and now that so many delightful flowering trees and shrubs are coming into blossom, it may be as well to call attention to a few of the more striking examples for the purpose under notice. The beauty of the different varieties of the Berberis cannot well be too highly extolled. A single spray of any of the Berberis is a picture in itself. The Cherries, too, are pleasing, and who can fail to admire the beauty of the wild form when in full blossom? The handsome double forms of the cultivated sorts are extremely pleasing. The Horse Chestnut is always admired, and when its spikes of blossoms are cut with a good length of stalk, they make a bold and handsome display when lightly adjusted in large vases. A charming floral picture can be made of sprays of the flowering

Arab (Pyrus Malus floribunda). Of course, there are other pretty varieties, but this is undoubtedly one of the best. Everyone is familiar with the Lilacs, and they are generally regarded with the greatest favour. The heads of blossoms being somewhat top-heavy, they are too often packed tightly together in a vase of limited proportions. A vase of goodly size in which the trusses of flower are lightly disposed is very effective. There are many excellent sorts, and their shades of colour are distinct and varied. The Guehler Rose or Snowball Bush (Viburnum) is another popular flowering shrub. This is not by any means easy to adjust, but a spray of its large round clusters of white flowers makes a pretty decoration. This brief list may well close with a reference to the Bush Honey-suckle (Weigela) with its graceful drooping branches, freely flowered pieces of which make a pretty display. D. B. C.

ORCHIDS.

NOTES AND REPLIES.

Bletia hyacinthina.—I enclose you a photograph of an Orchid Bletia hyacinthina, a terrestrial one, native of China and Japan, grown by me in a cool greenhouse, the temperature of which fell several degrees below freezing point during the winter on several occasions. It is of easy culture. Its resting period is during the months when there is no sun heat available. In potting it I used leaf-mould and sand, and when it showed signs of growth I gave it a copious supply of water frequently. The flowers are of a beautiful rose-purple, the lip is white streaked with red in the centre, and spotted at the edges with deep crimson. It flowers during April.—R. THOMSON, High Bickington, N. Devon.

[The photograph sent, which was, unfortunately, not clear enough for reproduction, showed a plant with four bracts carrying seven spikes of bloom.—En.]

Cool-house Orchids.—These can take water almost every day at this season. Many of the plants need surface dressing because of the Sphagnum Moss dying. I am never satisfied with the Masdevallian or the Odontoglossums until I can obtain a good growth of Sphagnum upon the surface of the compost. All that are in an unsatisfactory condition in this respect should have the decayed material removed from the surface and be replaced. Tear up some good light, fibrous peat, and sift out of it the finer particles. Get some freshly-gathered Sphagnum, and cut it up into ½-inch lengths with a knife. Some clean potsherds broken up into suitable sizes should be at hand, and also broken charcoal, the last not to be used so freely as the potsherds; spread the Sphagnum over the peat, and over all the crocks and charcoal. The material must be put on carefully with a crock projecting here and a piece of charcoal there, both embedded in the surface-dressing material, which should be pressed in firmly in about equal parts. Any unsatisfactory specimen may be repotted, for even if this is not altogether the best time of the year to repot such plants, it is better that they should be in good, fresh material that they can root into than be struggling for existence in a compost that has become sour through some cause or other. Masdevallias and Odontoglossums are both very impatient of any serious disturbance at the roots in the process of repotting. A moist, cool atmosphere is good for the plants, but too much may cause the delicate flowers of the Odontoglossums to spot and decay much before their time. A little frost at night prevents the blump from doing my injury.

FERNS.

NOTES AND REPLIES.

Growing Ferns (F. G.).—A northern aspect is as good for Ferns as any other, and, if the walls are not too high, yours is a rather favoured position, and if expense is a secondary consideration we should advise having a good heating apparatus to begin with. In a house heated by hot-water pipes there could be grown not only a better class of Ferns than could be grown in an unheated house, but certainly of the

greenhouse plants, notably the Date Palm (Phoenix dactylifera), Latania borbonica, Corypha australis, and several of the Arecas, Chamaerops, &c.; also Indian-rubber plants (Ficus elastica), Crocodylia robusta, several of the Dracaenas, and many other useful table plants. The house would, however, be too staid to grow flowering plants satisfactorily. Even if hardy Ferns only are to be grown, it would be well to lure heat enough to expel damp and stagnant air.

How to treat Adiantum trapeziforme.—I will be grateful for a little information as to how to treat Adiantum trapeziforme. I had one last summer which did well, but it now shows no sign of life. I have no heat in greenhouse. Must this Fern have heat to start, also A. Neo Caledonia and Cheilanthes radiatum?—St. John's, Jersey.

[We are afraid that your plant of Adiantum trapeziforme will never start again, even if heat is applied to it now, as in all probability it is quite dead, the result of wintering in a cold house. It is a native of tropical America, and to succeed with it it needs the temperature of a stove, in which structure the fronds are retained throughout the winter. True, in the height of summer it may be kept without fire-heat for a time, but as soon as the nights get cool additional heat is very necessary. If your plant happens to possess any life, a little bottom-heat now may cause it to start, but, as above stated, there is not much hope. The same remarks will apply to Adiantum Neo Caledonia, a native of New Caledonia, and Cheilanthes radiatum, which grows in tropical America and the West Indies. While the three above-named Ferns are all very beautiful, they are by no means such as can be recommended for growing permanently in a cool-house, even in your favoured climate.]

Fern fronds turning brown (A. Y.).—It is impossible to tell the actual cause of the Fern fronds turning brown, as it is not stated whether the Fern is in a room or greenhouse. It may be caused by the Fern being grown in a moist, warm greenhouse before it was purchased, and then being suddenly changed to the dry air of a living room; or it may be through plunging it from a close greenhouse to a very dry one, or from its being kept too near the glass in the full sun. It should be borne in mind that the fronds of Adiantum gracillimum are naturally brown in a young state, changing to a light green when full grown, but as you say it is growing all right, there is no harm done beyond the loss of a few fronds. This Fern requires in spring a night temperature of from 50 degs. to 55 degs., with a rise as the season advances; it should be kept 4 feet from the glass, and shaded from bright sun. The air of the house in which it is grown should be kept moist by damping the walks, etc., pretty frequently, but avoid syringing much overhead. Air should be given on favourable occasions from the top lights only, thus preventing sweeping draughts.

GARDEN PESTS AND FRIENDS.

Destroying ants.—Will you kindly suggest any means for the extermination of ants from my Strawberry-bed? Last year the whole crop was devoured by them before they were ripe. The plants are now full of bloom, and as yet no appearance of ants. Can anything be done to destroy them without injury to the plants? The bed is near a stone wall.—H. RIDGE.

[The only thing you can do is to search for and find out their nests, which are, no doubt, at the bottom of the wall. Into these nests pour boiling water, which will at once destroy them.]

The Vine-weevil (Olfiorhynchus sulcatus).—I have noticed lately that some of the leaves in my vineery are split, and in one or two cases eaten away by an insect. After making careful search I discovered two or three beetles, specimens of which I sent you. The same insect has also been found in the Peach-house, where great havoc has been wrought to the leaves. I have caused careful search to be made all through the Peach-trees, and have captured a couple of dozen of them. Would you be kind enough to tell me what they are, and the best means of dealing with them? I cannot find out where they secrete themselves or breed. Would they live in the ground, or in the walls adjacent to the trees? Both the Peach-trees and the Vines are in heated houses. I have sent you samples of the leaves.—R. HUBBINS.

[The above is the name of the insect, specimens of which you sent. The only way to get rid of this pest is to catch it at night by laying a white sheet or white paper under the Vines and throwing a bright light on them. This will cause the weevils to drop, when they may be gathered up and destroyed. It is also possible to give the trellis a good shake to

bring down any that may be left among the Vine shoots. Allow no plants of a tufty nature, such as Ferns, Spineas, etc., to stand near the Vines, as in these the weevils hide away, to come out at night and destroy the Vines.]

FRUIT.

PEACHES FAILING.

I SHALL be much obliged for information as to failure of Peach-trees. The wall on which they are placed is a concrete retaining wall about 8 feet high, with the surface smoothed over with plaster. There are pilasters along the wall at intervals, and the trees are placed between these. The wall is not quite straight, but slightly curved, the convex side to the north so that the curve is open to full south. The trees first planted grew to a full size and bore fruit exceedingly well. At last they withered and failed. The soil was dug out and changed, and new trees planted, but they died the second year. The process was repeated, and again the trees died. An Apple-tree put in the place of one of the Peaches seems doing well, and Fig-trees thrive at each extremity of the wall.—C. JONSTON, (Reas. Abingdon).

[The failure of your trees seems to us to point to unsuitable soil, drought, and summer treatment. The fact of your trees flourishing once, and then failing from canker, shows that there was either a soil deficiency, or an excess of some mineral unaccounted for to the roots. What that may be can only be determined by expert analysis and cultural experience. Your young trees may fail to grow if, when planted, they were not mulched to keep out the summer drought. The nature of your wall is that which would probably increase heat absorption, both in the soil and about the trees themselves. Moisture is a great factor in the successful establishment of newly planted trees, and overhead syringing, too, is necessary each evening when the weather is warm and summer-like. Red-spider quickly establishes itself on trees that unduly feel the heat. There are soils in which Peach-trees develop canker before they attain to any great age, even when cultivated under glass. Soils in which there is an excess of iron we have known to develop this failing. Lime is an important component part of Peach soil, as is also burnt ballast. This latter is not, however, absolutely necessary though useful, but lime is prescribed by most practical gardeners for almost every soil. Peach-trees should be planted in early winter or while there are still leaves unshed. Moved thus early and carefully planted, roots at once form in the new soil, which when spring comes round are a great incentive to a good start. When planted late they have not this opportunity. The soil, too, should be made quite firm; if too wet at planting time to allow of this, make it firm later on when excessive moisture has abated. The Fig would possibly thrive where the Peach with the same conditions would fail; Fig-trees have more resisting powers, and are no guide as pointing to the suitability or otherwise of the site or soil for Peaches. Briefly, we advise planting young trees in November, incorporating lime in the soil and making it firm; mulching with either short or strawy manure, and pruning in February. Newly purchased Peaches should be shortened back at least a third of the branch area, so as to build up a more vigorous foundation for the future.]

NOTES AND REPLIES.

Protecting fruit from birds.—A simple and inexpensive way of protecting fruit from birds consists in hanging a small mirror on the top limbs of the tree. There should be at least 6 inches of string to the mirror, so that it can swing about as it is blown by the wind. The flash of the mirror warns the birds away. One or two mirrors hung on a tree are sufficient.

Peach-trees shedding their leaves.—I have forwarded you a few Peach-leaves to see what is the matter with them. The trees once were very neglected, allowed to grow any way, and to get as dry as powder. There is a splendid set on them, but there is a lot dropping off in the staining. I have thoroughly soaked the border with water, but when I syringe the leaves drop off. Do you think it is a disease?—HENRY HUBBINS.

[We do not know of any disease to which Peach-trees are afflicted likely to bring about such a state of leaf-dropping in early spring. It is more likely the outcome of neglect in the past. It is most unusual for leaves to fall in spring, and those you send, apart from their thinness and absence of vigour, appear to have been sun scalded. This would happen if the soil were allowed to become dry, or if the leaves were moist when there was insufficient ventilation in the hot sun. The fact of the fruit dropping off

when stoning, shows that there has been a serious inattention at the roots, not perhaps this season so much as in the past. Keep the borders well, though not excessively, moistened, and if you have not given them any fresh soil this winter do so as a top-dressing at once, with an additional dressing of some artificial manure. Attend closely to the ventilation of the house and the daily syringing when there is sunshine, and keep a constant and gentle heat in the hot-water-pipes, especially at night. See to the summer shoots often, cutting out those unnecessary, and tying in the rest to furnish the trellises thinly. Do not be concerned about the present crop so much as that of getting a restoration of health and vigour for the future. There are time and opportunity yet to do this, and by the autumn to have well-ripened wood for next year.]

Fumigating Muscat of Alexandria Vines.—Kindly tell me why anyone must not fumigate Muscat of Alexandria and Lady Bowen's Grapes with XI. All? Would it do them any harm now they are in bloom?—**CIRELTON.**

[From the earliest trials of the XI. All mixture it has been proved that the chemical constitution of the article is injurious to the Vines named, and this being so, growers wisely abstain from running the risk of injury in acting contrary to the instructions issued with the preparation. What the injury takes the form of we are not prepared to say, it being sufficient for us to know that there is a risk in its use. We should certainly abstain from fumigating any Vines when in flower, and there should be no need to fumigate Vines at such an early period of the year. It augurs badly for the summer progress of the Vines if fumigation is necessary now.]

Scale on Peach-trees.—My Peach-trees, which are under glass and have fruit on them about the size of pheasant's eggs, are covered with scale. What can I do to kill it? I have tried fumigating, but that has no effect.—**CIRELTON.**

[There is nothing so simple or effective for removing the scale which has recently hatched than using a pointed stick, an old knife, wood label, or something similar, to scrape the scale off. There is no insecticide you can use with safety now, and scale insects are not much influenced by fumigation. It may seem a laborious undertaking to deal with them thus by hand, but in the actual work this is not found to be so. It is mostly on the old wood and that of last year that the scale becomes established, and not on the current shoots and leaves. To use a concoction of any insecticide sufficient in strength to destroy scale would roast certainly be harmful to the fruit now so far advanced, because of the down-like surface of the Peach absorbing and retaining a taint until ripe.]

Unfruitful Pear-tree.—I have a Pear tree trained up the side of my house. It looks healthy and makes much wood, but has not flowered during the last four years that I have been here, yet I am told that formerly it produced largely. Two years ago I opened up the roots, cut out a large tap-root which struck down into clayey soil, and put in good mould with some manure; still there are no flowers. Can you suggest any treatment?—**J. J. B.**

[You did right in severing the tap-root which descended into the clayey soil. But are you sure there were no others? There is often much gratification in the discovery and operations of this nature, but if search is not made for further offending thong-roots, and if these exist then barren trees remain barren, simply because their vigour is not sufficiently restrained. Another course, however, is open to you, that is, instead of pruning in the orthodox manner, allow the leaders to extend without pruning, and if there is room nail a lateral shoot here and there between the main branches. This course without root amputation sometimes changes the order of things. You do not say what is the name of your Pear, but we think it may probably be Jargonelle, often a shy-fruited variety, especially so if it is kept too closely pruned. We have seen trees of this kind remain unfruitful over a long period from a wrong course of pruning, and when treated more liberally respond at once to the change, bearing fruit, not on the old and hard-spurred portions of the tree, but on the young growths that had been laid in during the summer. Hard pruning promotes vigour, which in time gives rise to barrenness in many kinds of Pears, while others are not so

influenced. Soil, however, plays an important part in the conduct of the Pear-tree, whether for good or ill. A freer extension of the head may bring about the necessary change. If it does not, then further search for thong-roots may be necessary.]

Watering inside Vine borders.—If the roots are likely to require more water before the Grapes are ripe, no time should be lost in giving them a sufficient quantity, free from stimulants and at a temperature ranging from 80 degs. to 90 degs. A mild bright morning is the best time to apply it, and if requisite a light mulching may be spread over the borders to prevent its too rapid escape from the surface. Atmospheric moisture must also be regularly supplied, otherwise red-spider may put in an appearance and become very troublesome before the Grapes are fit for cutting. Early Grapes ripened during a rising season require and carry off a great deal more moisture than would be good for late crops; hence the importance of keeping the mulching and all available spaces well moistened with pure water and stimulants alternately. Many growers now make very little difference either in the quantity or quality of the water used for damping down with, but follow up the usual practice in all early houses until the Grapes are ripe.

BOOKS.

"THE BOOK OF VEGETABLES."*

THE seventh volume of Dr. Roberts' handbooks on gardening, which bears the above-named title, has now reached our hands, and, after carefully reading the seventy odd pages comprising the practical portion of the work, we have pleasure in commending it to the notice of those of our readers who wish to excel in the cultivation of the vegetables enumerated therein. We make this latter reservation because the writer—who it may here be stated is Mr. Geo. Wythes, head gardener to the Duke of Northumberland, Syon House, Brentford—was unable to deal with all kinds of vegetables in consequence of the first volume of the series having been devoted to the culture of such crops as Asparagus, Celery, Seakale, etc., hence their omission from the volume under review. Those not possessing Vol. I. will find this a drawback, but it is also one that they can remedy at a very modest outlay; in fact, everyone interested in gardening is advised to become the possessor of the whole series as issued up to date.

The pages of "The Book of Vegetables" teem with useful, practical information, both as to the time when to sow the various crops, how to do it, also as regards their after management, and, coming as they do from the pen of a skilful cultivator, those lacking the experience cannot err if they do but adhere to the simple rules laid down, and adopt the cultural advice tendered. The author devotes lengthy chapters to the growing of those two important crops—Peas and Potatoes—and makes allusion to such varieties as he finds to succeed well with him, which, by the way, are mostly to be found in general cultivation. Regarding the forwarding of early Potatoes, many gardeners living in country districts where tree leaves can be had in abundance should make special note of Mr. Wythes' method of obtaining them, which consists in forming a large bed with the leaves in some sheltered spot open to the south, on which suitable soil is spread to the requisite depth, and performing the planting of the tubers early in March. The genial warmth engendered by the leaves promotes quick growth, and the crop is ready for lifting far in advance of that grown on a south border. Protection from frost, it may be mentioned, is afforded by straw-thatched hurdles, and the employment of Bracken, cut in a green state and sun-dried, is also recommended. This is, perhaps, not altogether a new idea, nevertheless it is one that might be more generally adopted than it is, and that with excellent results. Mr. Wythes has a good word to say for that fine main crop Potato Windsor Castle. Modesty, of course, forbids him to

* "The Book of Vegetables," by Mr. Geo. Wythes. Edited by Dr. Harry Roberts. John Lane, The Bodley Head, Vigo-street, London, W.

make more than passing mention of those two esteemed varieties, for the raising of which he is responsible—viz., English Beauty and Syon House Prolific. Having grown the two sorts extensively since their introduction, we are in a position to say that they occupy front rank in their respective classes, the first-named being a first early and the last a very late kind; in fact, in our opinion, no other late Potato surpasses it for general excellence. The remaining portion of the volume is given up by the editor to the history and cookery of vegetables, and in addition to the information afforded as to the derivation of the names of and the antiquity of many of our common vegetables, the reader will find most valuable recipes for the cooking of the same in various ways, many of which will no doubt be quite new to the ordinary housewife.

THE BEST HARDY PERENNIALS FOR CUT FLOWERS.*

AMONG the many books on gardening coming out now those with coloured plates are not so common, and this rather large book consists of a series of coloured plates of some of the bolder hardy flowers, some of which are good, some inferior, and all rather marred by a dull grey background which gives monotony to the plate. The matter, by Mr. F. W. Meyer, of Exeter, is as good as it can be, and follows the illustrations closely. It is impossible in such a work to do anything like justice to the immense number of hardy flowers we have in cultivation. The following about borders, however, is sound and good—

"There can be no doubt that the most effective border is that which has an irregular outline, and is arranged against a background of ornamental trees and shrubs. As a rule such borders are not made nearly wide enough to allow all plants to develop their full beauty without becoming overcrowded. Now and then the choicest shrubs of the background should project into the border and mingle with the hardy flowers, while in other places the border itself should break the line of shrubs by forming here and there a deep recess among the taller plants. Such a border should never be dug over (unless in the course of years it should require to be altogether rearranged), and it should never show a single yard of bare soil either in winter or summer, and in this direction I think the borders of most gardens may be greatly improved. The worst fault of most borders is that they are generally arranged with far too much regularity. As a rule people are content to have their tall plants in the back and the small ones in the front, leaving the ground between perfectly bare. The result is a more or less regular bank during the summer months and a bare hill during winter. But there is just as much difference between this and the picturesque style of arranging borders as there is between a group of lovely Orchids and a choice stove and greenhouse plants arranged for effect at one of our principal exhibitions, and another group forming a more regular bank of flowers and foliage arranged with much painful exactness, that its outline might be compared to the sloping roof of a house. In a well arranged group, as now often exhibited for effect, we have short plants among taller ones, springing from a dense carpet of Maiden-hair Fern or other greenery, studded with flowers, but all plants are or should be so placed that the eye can penetrate and admire the full beauty of each individual flower or fine foliated plant, while the whole combination has a most pleasing and graceful effect. Why is it that plants grouped in this manner and often, as it were, a series of vistas, through which the shorter plants are distinctly visible, are so pleasing to the eye? It is because this combination produces different effects of light and shade, and each visible short plant through the taller ones becomes in itself a picture viewed through the living frame of other plants. This, then, is the style which should be our pattern when grouping plants out-of-doors; it is on the principle of the true style of Nature and will lend itself to an infinite number of most effective variations. Instead of leaving the soil bare between the taller plants, let us carpet it with flowers and greenery, just as Nature would clothe the bare soil of our woods with all kinds of dwarf vegetation, as we now do in the case of a group of Orchids arranged for effect at an exhibition. We have an endless variety of hardy plants suitable for the purpose. What would be prettier than a colony of bright flowers springing from a carpet of the woolly Thymus serpyllifolius, or such plants as Helianthus glabra, Arenaria capitulo, or any Savitilla, Veronica repens, etc.? Or if we desire a series of lighter colour, we have Phloxes, Veroniceas, Er. annua, Alyssum Aralis, Aubrietia, Iberis, Campanulas, and scores of other varieties to choose from. Surely there is no excuse for bare spots when we have such delightful evergreen plants to cover the ground."

United Horticultural Benefit and Provident Society.—The usual monthly meeting of this society was held at the Calcedonian Hotel, Adelphi-terrace, Strand, on the evening of May 12. Mr. Joseph Wheeler presided. The minutes of the last meeting were read and confirmed. Nine new members

* "The Best Hardy Perennials for Producing an Abundant Supply of Cut Flowers and for Effective Displays of Bright Colours in the Garden," with coloured plates. By F. W. Meyer. Blake and Mackenzie, School Lane, Liverpool.

were elected, making fifty-three in the five months this year. Three members were reported on the Sick Fund. The death certificate of the late Mr. Crawford was produced, and £18 1s. 11d., being the amount standing to the late member's credit, was voted to the widow, also a cheque for £5 from the Benevolent Fund, this being considered a very urgent and deserving case for assistance.

LAW AND CUSTOM.

Discharge of sewage into neighbour's ditch—easement.—Sixteen years ago I erected a detached house in a rural parish where there was no system of sewers. Before the sanitary inspector would grant a certificate of habitation he required me to make a cesspool for reception of soapy water, etc. (there is no s.e. in the house), with an overflow from the cesspool into my neighbour's ditch. I endeavoured to avoid any overflow there, and use a measure-pump. After sixteen years' enjoyment can my neighbour object to the overflow passing into his ditch? If he may successfully object, cannot I turn the overflow into my own ditch in front of my house and leave it to find its own way into other ditches? Or can I be compelled to enlarge my cesspool, so as to stop the overflow altogether?—TORONTO.

[You have gained no right by sixteen years' use, and your neighbour may compel you to divert the overflow of your sewage from his ditch. You may turn the overflow from the cesspool into the ditch at the front of your house, as this ditch is your own; but, as this ditch adjoins a highway, the overflow may be the cause of a nuisance and may be offensive there. In that case you will be liable to proceedings for causing a nuisance, and you may be compelled to drain into such a cesspool as may be adequate and also to clean it out from time to time, as circumstances may require. The local authority are not bound to provide an expensive system of sewerage merely to meet the requirements of one house. You choose to erect your house in a detached position where there was no sewer available or within a reasonable distance, and you must abide by the consequences.—K. C. T.]

A garden tenancy.—I have a small nursery as a nurseryman, florist, and fruit-grower, and for my use as such four years ago I took an acre of land which had previously been used as the kitchen garden of a private house, the owner not requiring it for that purpose any longer. It was in a very dilapidated condition, and only had upon it a few old standard fruit-trees, which still remain. My agreement is so much rent per annum, payable half-yearly, but the tenancy can only be determined at Christmas by either party giving the other six months' notice in writing. Since I have been the tenant I have cleaned and manured the land, and planted some in gooseberries, currants, and raspberries, and over 2500 Strawberry-plants, one-half of which were young plants from pots planted last July. My landlord now tells me he will require the garden again, and he is intending giving me notice in June next. Must I remove all the things I planted? Or can I leave them, and claim compensation from my landlord when I give up at Christmas? And how must I then proceed?—THE EDITOR.

[You do not say if the agreement states that the garden is let to you as a market garden, or if it permits you to use the garden as a market garden. No doubt you do so use it, and it would be expected by your landlord that you would so use it, but unless it was agreed in writing that the holding shall be let or treated as a market garden, the holding does not come within the Market Gardeners' Compensation Act. If it does come within that Act, you may, on quitting, claim compensation for the unexhausted value of the manures purchased and used, also for the fruit-trees and fruit-bushes permanently planted out by you. And you may remove, before your tenancy expires, all fruit-trees and fruit-bushes planted by you, but not permanently set out. You may also claim compensation for all the Strawberry-plants planted last year, but for none planted as you became aware that your tenancy would be determined at Christmas. You would not be able to claim for any vegetable crops planted during the last year of tenancy, although you may remove all such before you quit. If the Market Gardeners' Compensation Act does not apply, you cannot remove any of the trees and bushes permanently set out, and you cannot enforce any compensation for them unless such is given in your agreement of tenancy or by local custom, and I do not profess to be intimately acquainted with market garden custom in your district. If the agreement did not state that the place was let for cultivation as a market garden, it was the height of folly to plant all these trees and bushes without some security for compensation.—K. C. T.]

POULTRY.

POULTRY IN CONFINEMENT.

(REPLY TO "K. W.")

THERE is no necessity to keep a male bird with hens that are merely required to produce eggs for home consumption. There would be no difference in the flavour of the eggs if no cock were kept. As to feeding, the best rule to follow is to give soft food early in the morning (in a warm state during the winter months), consisting of Barley-meal, to which may be added a good proportion of sharps or pollard during the summer. This paste should be of a stiff nature that will easily crumble and fall to pieces when thrown on the ground. Turnips, Carrots, and other vegetables, if boiled and mixed with soft food, conduce to good health, and are especially valuable if the fowls have not a Grass run. Kitchen scraps may be given at midday, and always good sound grain at night before roosting time. The hard grain should consist of Barley, Wheat, Maize, and Buck-wheat, given in turn, as a frequent change of food is much to be recommended, being far better than the constant use of one kind of grain. Maize must, however, be used somewhat sparingly, as it is not to promote the formation of internal fat, and fat hens seldom lay well. It is important to avoid over-feeding, for, whether by excess of quantity or of stimulating constituents, over-feeding is the cause of most of the diseases that fowls are subject to. In commencing poultry-keeping it is important to secure young birds only; those hatched in March or early in April are the best. These should begin to lay at six months old, and with good management continue to do so throughout the winter. When ceasing to lay they are in prime condition for the table, or they can be kept on till the following autumn. By this time they will have laid their second lot of eggs, and be about eighteen months old, and this is the age at which most of the hens should be cleared off—either sold or used for table. Their flesh at this age is good eating, and possesses a firmness not met with in a chicken of the year. Another lot of early-hatched pullets should then be purchased. In this way poultry-keeping will often be more profitable than if chickens are bred for stock purposes. You will find "Popular Poultry-Keeping" useful in the management of your fowls. It is published at 170, Strand, London, W.C. (1s. 2d. post free). S. S. G.

Death of hen (Broun-eye).—This appears to be a case of apoplexy, a complaint to which laying hens are very subject, being usually the result of an obstruction in the circulation of the blood, causing a sudden rupture of one of the minute blood-vessels in the brain. The only remedy is bleeding, by opening the large vein under the wing, making the incision lengthways, and pressing the vein with the thumb between the opening and the body. Apoplexy can seldom be treated in time to be of any value. If the patient should recover it must be kept very quiet for a few days, and fed upon soft, non-stimulating food. High feeding promotes a tendency to this complaint, therefore robust, heavy birds should be carefully fed, especially if they are disinclined to take much exercise. Should any of your other hens show symptoms of apoplexy, give a dose of castor-oil and feed low.—S. S. G.

BIRDS.

Death of Canary (Frenshwa).—This bird had been ill for some time, and all the internal organs were in a very diseased condition. The journey by rail may possibly have hastened its death, but under the most favourable conditions it could not have lived more than a week or so. Fatty degeneration of the liver appears to have been the immediate cause of death. This was probably brought about through injudicious feeding, food of too stimulating a character having been supplied.—S. S. G.

Canary ailing (F. E. Whithy).—As symptoms does not ease the "bad croaking" and I can describe the symptoms of the

complaint from which your bird is suffering, you might try a little oxymel of squills, giving two drops three times a day, keeping the patient in a high, even temperature day and night, as it appears to be suffering from an inflammatory affection of the lining of the bronchial tubes, which was, no doubt, caused through its having been removed to a colder climate than it has been used to. Give green food freely in the form of Watercress, Lettuce, and Groundsel, and do not omit that almost necessary health-preserver, cuttle-fish bone, a piece of which should always have a place between the wires of the cage near the perch. Avoid an exhausted, dry atmosphere, such as is found in the upper part of a living-room, especially where gas is burned. It is just in such a position that birds contract bronchitis, and this in its chronic form is one of the most common complaints from which cage-birds suffer.—S. S. G.

Death of young Pigeons (Moose-llide).—It is rather unusual for young Pigeons to die off in the way yours have done. Do you let them have a liberal supply of salt? This is essential in keeping these birds in health, as is also a good allowance of old mortar broken up. Plenty of fresh water, to drink and bathe in, is all-important. Some of the prepared gravels that are sold for Pigeons are excellent for keeping them in health and condition. It would be well to discontinue the Beans, giving Maple Peas, Tares, and Duri. When young Pigeons become thin and light, cod-liver-oil capsules are given, one every evening for about ten days. These generally pick them up wonderfully. Afterwards, a little Canary-seed and Hemp-seed are given. The nest-pans that contain your Pigeons should frequently be cleaned and receive fresh sawdust, in which a few drops of paraffin or turpentine have been sprinkled to keep insects in check. The shelf on which the nest-pans rests should also receive some paraffin, for it is here that the insect pests usually congregate. There should always be a lump of rock salt accessible to the Pigeons, and also a good supply of small gravel to assist in the digestion of the food. No bird can long remain in health without sharp grit in the gizzard.—S. S. G.

Canary losing its feathers (No Name).—The loss of feathers at other than the usual moulting season may arise from an irritable condition of the skin, which is often associated with indigestion or the presence of insect pests in the cage. A gross condition of the system brought on from a bird being allowed to partake too freely of sweet cake, sugar, or egg-food, will also cause loss of feathers. You do not give any particulars as to diet and general treatment. In a case of this kind, the diet, while nourishing, must not be of too stimulating a nature. While abundance of green food should be supplied, of which there is nothing better than the flowering tops of Groundsel, give also a little Linseed, which is very useful in helping Canaries over their moult. Lettuce-seed, if given, acts as a slight purgative, and cools the system. You would find a few drops of Parrish's Chemical Food daily in the drinking water greatly assist your bird in its protracted moulting. This excellent preparation contains all the elements necessary to the elaboration of new feathers, while giving tone to the system. Maintain as even a temperature as possible in the room where the bird is kept, but especially guard against hugging the cage high up on a wall in a room where gas is burned, as in such close and poisonous air no bird can do well. Supply an abundance of grit-sand, with some old powdered mortar, but no sweets of any kind, as these in any form are very injurious to cage-birds.—S. S. G.

Photographs of Gardens, Plants, or Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

The Prize Winners this week are: 1, Mrs. F. C. Watson, Great Staughton Vicarage, St. Neots, for border of mixed annuals; 2, Mr. F. Parkins, Pepper Arden, Northampton, for

GARDENING ILLUSTRATED.

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FRUIT.

BERRY ROYAL SOVEREIGN.

early variety this is, I think, with-
It is so strong of growth, makes
and with fair treatment forms
crowns, from which the flower
thrown up well above the foliage.
strong in constitution the roots are
able to go wrong in periods of dull
as is the case with some varieties.
makes this Strawberry so valuable for
the reluctance which the crowns
to split up during their period of
A runner, for instance, rooted early
and grown on freely will keep to one
area other kinds I have grown in
break up into several crowns towards
the summer. It is a curious fact,
that these single crowns frequently
more than one fruit bud; it is, indeed,
a rule that the exception that well
plants throw up a couple of trusses,
I go I had a remarkable crop from
hundred plants that had been grown in
ground and were lifted and planted
house in January. Every plant threw
and four trusses, which were pro-
in succession, so that the last trusses
showing their flowers just as fruit on
was thrown up was on the point of
colour. As the plants were but little
with red-spider and were well fed, a
weight of fruit was taken from them
in a long bearing period. There in one
however, that must be guarded against,
to cover feeding during the late summer
of autumn months. When strong
are given late in the growing
the crowns become very large, but
sagging, instead of throwing up for fruit,
split up into two or three growths.
I have seen the experience of two market
this season in this neighbourhood;
crowding in the soil, and watered,
with manure-water, the result being
crowns that did not split up until
and then made growths instead of
ones. Had the plants merely had
the result would probably have been

J. C. B.

PEACH LEAVES DISEASED.

the Peach leaves, and hope you will be able to
the matter with them and whether the
to spread to the other trees.—J.
are sent are not diseased. In all
only some portion of the branches
side of the tree is showing signs of
and if those branches do not die out-
season they will not long survive.
leaves that are affected, and it is owing
to the decay of sap that the leaves are
a sickly glaucous hue, little or no
progress being made. When large
fall in the manner indicated they may
out at once, as the fruit on them
drop off. The decay of bark

and stem partakes somewhat of the form of
canker, and according as sap communication is
cut off from the roots the branches will fail.
Gumming is sometimes responsible for these
occurrences, and strong sunshine pouring
direct on the stems is thought by some to
injure the bark, slow decay resulting, while
faulty stocks are also blamed for some failures.
Whether this cankerous affection is the result
of a bad bruise of stem or sunburn we are
unable to decide, and can only advise cutting
away all dead portions of bark, neatly round-
ing off where sound, and then coating with
clay and manure to facilitate the formation of
fresh bark. In any case it is advisable to com-
mence the preparation of a young tree to take
the place of that failing, taking care when
moving the former in the next or following
autumn to give it the benefit of quite fresh
loamy soil. Should the other trees give signs
of becoming sickly, then there is most prob-
ably something seriously wrong at the roots,
nothing short of lifting and replanting in
fresh fibrous loam to which bone-meal and
"burn-bake" have been added, using the latter
freely, being of any use. This lifting should
be done in the autumn after the wood is well
matured and before the leaves have fallen.
Peach and Nectarine trees pay well for this
treatment whether they are in a sickly state or
not. Some of the most successful growers
give their trees the benefit of a fresh supply of
loam every autumn.]

FIG CULTIVATION IN THE NORTH OF FRANCE.

It may interest our readers to know the kinds
of Figs that are found to do best in the North
of France, where the conditions of climate are
something like our own. Some of these kinds
are not known in England, though well worth
a trial, especially in the warmer and southern
parts of the country. Fig à trois récoltes is
the earliest Fig of all, being ten days earlier
than Blanche d'Argenteuil; Adam, an early
ripening; Blanche d'Argenteuil (known also
as Varsaille, Madeleine); Dauphine (or
Grosse Violotte), a half-early kind; Bar-
billonne, a few days earlier than the
preceding; and Rouge de la Frotte, a slightly
later variety. The causes of sterility in Fig-
trees are various—for instance, an unfavour-
able position, or neglect and over-rank vege-
tation. In a climate like that of Paa-de-Calais
and the Paris region the Fig-tree requires a
light, warm, and fertile soil, and special care
in cultivation—e.g., pruning, disbudding, reduc-
tion of wood to facilitate earthing-up during
winter, treatment of the fruiting branches,
and the various cares to be bestowed during
hard winters and in spring.

NOTES AND REPLIES.

Caterpillars and Apple-trees.—As far
as garden trees are concerned, it is scarcely
advisable to resort to spraying with poisonous
mixtures. Syringing the trees forcibly with
soapy water would dislodge a good many, but
either caterpillars, or these after they have

changed into the pupa state, that cannot be
thus got off, owing to being snugly enclosed in
the leaves, should be picked off by hand and
crushed. If the trees are large and have to be
sprayed over with Paris green—the arsenical
insecticide most favoured by market growers—
mix this at the rate of 1 oz. to 20 gallons of
water. The powder should be first made into
paste and it will then readily mix with the
water. It should be used in the form of the
finest spray possible. One application will not
be sufficient, but about three at intervals of
about four or five days ought to quite rid the
trees of caterpillars without detriment to the
crops.

Liquid manure for fruit-trees.—
Now is the time to apply liquid manure to
fruit-trees, especially to Apples on the Paradise
and Pears on the Quince, which require much
moisture owing to the limited extension and
meagre depth of the root-run of these dwarfing
stocks. A fruit-tree in bloom, which is in
vigorous condition and able to imbibe by its
roots all the nourishment requisite at that
critical period, will not only throw off or over-
come the various forms of blight, but will with-
stand frost better, owing to the greater luxuri-
ance and protective influence of its foliage,
than the tree which, through drought, exhaus-
tion, or poverty of soil, has enough to do just
to keep alive. From the former you may
expect a good crop of fruit, from the latter
none. I have plenty of trees promising again
for a good crop on which I should scarcely
have expected to see even a blossom, so heavy
was the crop of fruit they carried last season,
if they had not been assisted with liberal dress-
ings of artificial and liquid manure.—B.

Peach and Nectarine-trees blighted.—Some
—I may say all—of my Peach and Nectarine-trees are
shrivelled up and covered with aphid. I might I have
syringed them this cold weather? 2. If so, what decoction
is most effective?—F. H. L.

[It is not a good practice to syringe outdoor
trees when the weather is so cold, as of late,
although when signs of insect troubles are
apparent there is usually a time when it can
be done. If syringing cannot be practised,
Tobacco powder can be dusted into the curled
points, and this will destroy aphid quickly.
The "Abol" insecticide is one of those you
can procure and use with effect and certainty.
Something of this kind should always be kept
in stock by those having the care of fruit-
trees, because the necessary delay in getting
it may spell ruin to the existing prospect and
crop. Yours must be a bad case, and will
need energetic action to stay its progress.
Once the leaves curl up insects are difficult
to reach with either powder or insecticide
washes, and it is often labour well repaid to
syringe the trees in spring, even before an
insect is detected. Picking off the first few
curled leaves is sometimes the means of
keeping these troubles from getting the upper
hand. Trees are soon badly crippled when
insects are allowed to become established on
them, as they not only damage the existing
foliage, but sometimes cause the fruit to col-
lapse, however well set it may be. You
cannot do better than pick off the worst
leaves now and burn them.]

PLANTS AND FLOWERS.

OUTDOOR PLANTS.

ROCK GARDEN HAIRBELLS
(CAMPANULA).

A LARGE family of northern pasture, mountain and alpine plants; many of these last among the best for the rock-garden dwarf, graceful in form, lovely in colour, and for the most part easy to grow and increase. The tall parentals are too coarse for the rock-garden, and neither these nor the medium-sized kinds require its aid, growing, as they do, freely in any soil; but the dwarf mountain kinds are essential to its beauty—all the more so as they rarely demand any special position, but may be grown in chinks or between steps on any aspect. Where there is no good rock-garden they may be grown well and with good effect behind and about stone or flint edgings. Among these plants garden hybrids are not now uncommon, but it is better on the rock-garden to keep to the wild forms. Some hybrids, however, like G. F. Wilson, are pretty. Ordinary garden soils suit well even the mountain kinds, with a little change in the case of the kinds inhabiting high moraines, and a rather peaty loam for the graceful *C. pulchra*. In congenial soils they bear seed freely and often sow themselves. In a numerous group like this, where beauty of effect is sought, we arrive at it more surely by growing well and placing rightly the more beautiful kinds, than by collecting every kind we can.

The following Hairbells are mostly of dwarf stature, natives of rocky or mountain ground, excluding the more vigorous herbaceous kinds as unfit for the rock-garden and delicate or doubtful species. They will fairly represent in the rock garden and on walls the beauty of a family of northern and high mountain plants—many of which are not in cultivation:

C. ALLIODI (Alliodi's Hairbell).—A dwarf kind, the flowers very large for a plant growing

stones and grit. Flowering summer. Piedmont. Syn., *C. alpestris*.

C. ALPINA (Alpine Hairbell).—This is covered with stiff down, which gives it a grey hue, with longish leaves and erect, not spreading, habit, like the garganica group, and with flowers of a fine dark blue, scattered in a pyramidal manner along the stems. It is a native of the Carpathians, harder than the dwarf Italian Campanulas, and valuable for the margins of

The Tufted Hairbell (*Campanula caespitosa*).

bordered as well as for the rock-garden. In cultivation it grows from 5 inches to 10 inches high, and may be readily increased by division or seeds.

C. BARBATA (Bearded Hairbell).—One of the blue Hairbells that abound in the meadows of Alpine France, Switzerland, and N. Italy. It is readily known by the long beard at the mouth of its pretty pale sky-blue flowers, nearly 1½ inches long, nodding from the stems, which usually bear two to five flowers, and rise from rough, shaggy leaves. In high ground in its native country it grows no more than from 4 inches to 10 inches high, but nearly twice as high in the valleys in Piedmont. It is suitable for rock-work, or the front margin of the mixed border, though not a showy plant, is easily increased by seeds and also by division, and flowers in summer. There is a white-flowered form, both thriving freely in loam.

C. CAESPITOSA (Tufted Hairbell).—One of the most beautiful plants in the alpine flora, abundant over the high ranges in the central parts of Europe, and thriving in all parts of the British Isles. It grows only a few inches high, and looks the same fresh, purely-tinted, ever-spreading, and bravely-flowering little plant in a British garden as it is when seen mantling round the stones and crevices of rocks on the Simplon. There is a white variety as pretty as the blue, and both are admirable for the rock garden or mixed border, and also as edging plants. It is easily increased by division and also by seed, but as a few tufts may be divided into small pieces, and quickly form a stock large enough for any garden, it is scarcely worth while raising it from seed. As it occurs so freely by the road sides along the road-ways into Italy it was one of the first alpine plants to be grown in Britain, and thriving so well in our climate it is the one so often seen. Syn., *C. pumila*.

C. CARPATICA (Carpathian Hairbell).—This, while bearing cup-shaped flowers as large as those of the Peach-leaved Hairbell, has the dwarf neat habit of the alpine kinds. It is a native of the Carpathian Mountains and other parts of the same region, and fortunately easy of culture in all parts of these islands, growing from 6 inches to over a foot in height, according

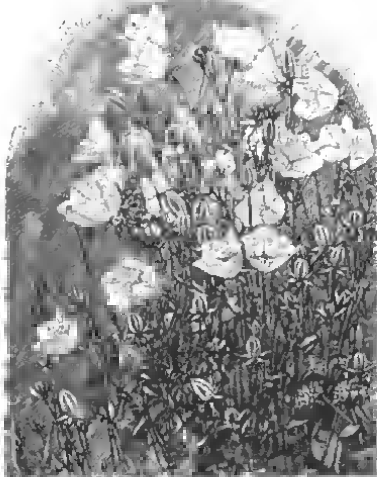
to the depth, warmth, and richness of the soil. It begins to flower in early summer, and often continues in bloom for a long time, especially if the plants are young, and the seed-vessels be picked off. There is a white variety, *C. c. alba*; a pale blue one, *pallida*; and a white and blue kind, bicolor—names for the most noticeable variations raised from seed. It is quite easily raised in this way, or increased by division, and is a most valuable edging as well as rock and border plant.

C. CESTRA (Mont Cenis Hairbell).—An alpine growing at very high elevations. I have found it abundantly among the fine *Saxifraga biflora*, at the sides of glaciers on the high Alps, scarcely ever making much show above the ground, but, like the Gooseberry-bush in Australia, very vigorous below, sending a great number of runners under the soil. Here and there they send up a compact rosette of light-green leaves. The flowers are solitary, blue. Somewhat funnel-shaped, but open, and cut neatly to the base into five lobes. It should have a gritty and moist soil, and be somewhere near the eye. Easily increased by division, and hardy. Alps of Central Europe.

C. EXCUBA.—An interesting species, usually found at high altitudes; the flowers pale blue and deeply cut. At the base between each two lobes this incision takes the shape of a round hole, and it is this which suggested the name. The whole plant is not more than 4 inches or 5 inches in height, and likes a position not fully exposed to the sun, but where the air would be cool and moist.

C. FRAGILIS (Brittle Hairbell).—In handling it the stems break off as if made of ice. It is a pretty Hairbell, the root leaves on long stalks heart-shaped in outline, and bluntly lobed, those of the stem more lance-shaped, the rather large pale blue open flowers somewhat bell-shaped, borne on half prostrate stems, the plant rarely reaching 6 inches in height, smooth and rather fleshy. A native of the South of Italy; it is invaluable for the rock-garden in well-drained chinks into which it can root deeply without being too wet in winter; on light soils not requiring this care. *C. fragilis hirsuta* is a form covered with stiff down so as to look almost woolly.

C. GARGANICA (Gargano Hairbell).—A showy kind, with somewhat of the habit of the Carpathian Hairbell, but smaller; the leaves that spring from the root are kidney-shaped, those from the stem heart-shaped, all toothed and downy. In summer the plant becomes a prostrate mass of bluish-purple starry flowers with white centres, from 3 inches to 6 inches high; it is seen best in interstices or vertical parts of the rock-garden, in warm and well

The Carpathian Hairbell (*Campanula carpatica*).

seldom more than 3 inches or 4 inches in height, purplish-blue (rarely white), almost erect on a slender stalk. It is an excellent rock plant, and though requiring plenty of moisture, it should have a well-drained position, and is therefore best grown in a narrow crevice filled with sandy loam, or a shallow bed of small

Bearded Hairbell (*Campanula barbata*).

drained spots. The better and deeper the soil the finer and more prolonged the bloom will be. It is a native of Italy, flowers in summer, and is easily increased by cuttings, divisions, or seeds.

HEDERACEA (Ivy Hairbell).—A weakly creeping thing, with almost thread-like branches,

bearing small, delicate leaves, roundish, with a few teeth; its flowers of a faint bluish-purple, less than half an inch long and drooping in the bud. However, as in the case of many other diminutive plants, there is a grace about it that would not find in more robust members of the same family; it is a native of Britain, creeping over



Brittle Hairbell (*Campanula fragilis*).

bare spots by the sides of rills and on moist banks, and wherever there is a moist boggy spot near the rock-garden, or by the side of a streamlet or in an artificial bog, it will be found worthy of a place. It occurs chiefly in Ireland and Western England; less in the east. Division.

C. ISOPHYLLA (Ligurian Hairbell).—A profusely flowering Italian species, the leaves roundish or heart shaped, deeply toothed, and nearly all of about the same size, the flowers of a pale but very bright blue with whitish centre and protruding styles. It is a charming ornament for the rock-garden, and should be placed in sunny positions in well-drained, rather dry fissures in sandy loam, and then it will repay the cultivator by a brilliant bloom. It is one of many kinds of *Campanula* that might with great advantage be naturalised in rocky spots, the sunny walls of old quarries, chalk pits, and like places. There is a white-flowered variety of this which is very effective when used in window-boxes, etc.

C. MACRORHIZA (Ligurian Hairbell).—This is one of the most beautiful of the southern plants, and one of the most free-flowering of the *Campanulas*. The root-stock is thick and woody; it throws out a large number of drooping branches; flowers very numerous, of a fine blue, two to eight in a spreading cluster. I can never forget the impression I received on first seeing it in flower in the walls of the small town La Turbie above Monaco. The little flowers were in myriads, brightening up the dismal streets of this decaying place, and giving it life and colour. It must have a vertical position in full sun, and in a fissure of



Violet Hairbell (*Campanula pulla*).

wall or rock, calcareous if possible. It is increased by cuttings, divisions, or seed.—H. Correvon (in *Garden*).

C. MOLLIS.—Though the native home of this Bellflower is on the shores of the Mediterranean, it has nevertheless proved itself to be perfectly hardy in this country and stood the test of several severe winters. The flowers are

of a dark purplish-blue borne freely during May and June, the plant from 6 inches to 8 inches high, forming a spreading carpet of glossy leaves even at midwinter. It is a very useful kind of tree dwarf habit. S. Europe.

C. MURALIS (Wall Hairbell).—This, a native of Dalmatia, is a pretty and useful plant as a dense carpet, from 6 inches to 8 inches high, with a bell-shaped corolla about 1/4 inch in length, flowering throughout the summer. The radical leaves are reniform, smooth, dark green, and more than 1 inch in diameter; the cauline leaves smaller, and with coarsely serrated edges. There is also a more robust variety named *C. m. major*. Syn. *C. Portenschlagiana*.

C. PULLA (Violet Hairbell).—A distinct plant, the stems only bearing one flower, and that of a deep bluish-violet, the habit very graceful though dwarf. On the rock-garden it should be placed on a level spot, free from other Hairbells or rampant plants of any kind, and in sandy peat. It spreads underground, and sends up shoots in a scattered manner. A native of the Tyrol and of other mountains in



Common Hairbell (*Campanula rotundifolia*).

Central and Southern Europe, it is increased by division or by seeds, and thrives very well in pans or pots and also in the open ground; but in heavy soil is apt to perish.

C. RAINERI (Rainer's Hairbell).—One of the most beautiful, quite dwarf in habit, the distinct stems not more than 3 inches long (though it is said to reach twice that height), and quite sturdy, branched, each little branch bearing a large somewhat funnel-shaped erect flower of a fine dark blue. A native of high mountains in the North of Italy, it should be grown in gritty or sandy loam, with a few pieces of broken stone half-sunk in the soil near the plant.

C. ROTUNDIFOLIA (Common Hairbell).—There is no fairer flower on the mountains than this, so often adorning roadside and hedge bank. It is well worthy of a place in the rougher part of the rock-garden. There is also a white form. *C. r. Hosti* is a variety distinguished by larger flowers of a deeper blue and by stronger wiry flower-stems, but according to Mr. Correvon, writing in the *Garden*, it is a distinct species and a native of the Eastern Alps. *C. r. soldanella* is another distinct form with semi-

double blue flowers split into many narrow divisions.

C. TURBINATA (Vase Hairbell).—A neat sturdy showy kind, the leaves rigid, of a greyish-green, toothed and pointed, forming



Rainer's Hairbell (*Campanula Raineri*).

stiff tufts from 2 inches to 3 inches high, and an inch or so above them rise the cup-shaped flowers, of a deep purple, and each nearly 2 inches across. It comes from the mountains of Transylvania, is hardy in our islands, not fastidious as to soil, and is one of the best plants for the rock-garden, and also for the mixed border, on which, in deep light soil, the flower stems sometimes reach a height of 6 inches or 8 inches.

C. WALDSTEINIANA (Waldstein's Hairbell).—A pretty little kind, 4 inches to 6 inches high, the flowers in racemes of from five to nine blossoms each, of a pale purplish-blue colour, with lobes spread out almost flat, so as to give the flowers quite a star-like appearance. Forms carpets for the rock-garden. Croatia.

C. ZAYSC.—This plant grows scarcely more than 3 inches or 4 inches in height, and bears pale blue flowers of drooping habit, with a rather long cylindrical or tubular corolla. It is not common, perishing in our changeable winters. Alps of Austria.

WATER LILIES AND POND.

MANY thanks for your kind replies to my former queries. I am now cleaning out a pond which has been neglected for years—left with the water partially drawn off, so that, having a natural bottom, great tufts of Grass and masses of weeds have grown through what ought to be a clear pond. I could not get the cleaning done sooner owing to pressure of work, and the stream which feeds it being so full in the winter. Now I am afraid it is almost too late to plant anything, such as Water Lilies, which I should like to have. I cannot count on having it ready before the latter part of this month. I do not know what I may venture to plant, as ducks will find their way to it, and the cattle must have access to drink from it at the edge. It lies in a hollow, and is fed by a natural stream. I hope



Campanula Zoysi.

It is not too shaded for Water Lilies. I should like some lilies too, but fear anything showy is liable to be picked by passing people and children, though quite on my own land. Water Lilies should be safe. Will the ducks injure them? Should I leave some mud for the Lilies to grow in? The soil is rather peaty loam. I should be very grateful for any advice.—E. A. K. W.

[You appear to be well circumstanced so far as the requirements of water-loving plants are concerned, and it is by no means too late to

introduce such things any time during the present month. If any are far advanced, which is not very likely, and suffer a little from being out of their element, so to speak, these will quickly recover when again in the pond, if care be taken of the roots and crowns. As regards the mud in the bottom of pond, you may certainly leave some of this with every advantage to the plants. The trouble comes, however, with the years of neglect, and it may be that the mud will contain many seeds of weeds that will bother you for some time. If, however, you exercise some care in the removal of the mud, and take the upper portion, you may remove much of the seed therewith, thus minimising your future labour. You do not give the average depth of pond or of mud forming the sediment, but you may certainly leave 6 inches or 9 inches for the Lilies to root into. There is nothing better than this natural food deposit, and it is rich without the grossness created by crude manures. It will be the more valuable in your case because of the peaty nature of your soil, though for starting the plants some fresh loam, with a little decayed manure, will be best. If you cannot obtain good loam or decayed turves of a pasture top spit, your next best thing is clay, or this mixed with the peaty loam. By planting in this and in some open wicker-made baskets the roots will get away in due course through the meshes. The old white Lily, the common Nuphar, and such things can be fixed by the rhizome to a stone and sunk in the mud in any position you choose. Choicer kinds are best done as first suggested. If the plants are small you will do well to make provision for them at the side of the pond for a couple of years, where, by missing the bottom, a more shallow depth of water is available. With the pond in working order and well fed, as yours appears to be, the surface should not give you much trouble. The ducks, however, will have to be guarded against, and not only these, but most waterfowl prey upon the Lily foliage as a rule, though these are less to be dreaded than voles and rats, that are not content with leaves, but often take flower buds and the roots of the plants as well. Cannot you in some way hedge off a portion with wire for the ducks, and use a little care to accustom the birds to go to this spot? If very troublesome, you could wire off a series of positions—large half-circular blocks or something of the kind—near the margin, thus leaving ample room for the birds to take to the water.

There is so much beauty in these newer Water Lilies, and they give so much greater value to the surroundings, that some effort should be made to ensure their success. The following are among the showiest and best and usually vigorous growers: *Nymphaea Marliacea albida*, snow-white flowers of great size; *N. M. chromotella*, soft yellow and cream, also large; *N. M. rosea*, rosy flesh, fragrant; *N. M. flammula*, rich claret-red, tipped white, stamens bright red; *N. Laydeckeri fulgens*, rich anaranth, crimson stamens. *N. odorata rosea*, *N. o. exquisita*, and *N. o. rubra* are sufficiently descriptive in colour, and all are charming. There are many more of these newer *Nymphæas*, but the above are a very good set, and contain some of the gems as well as the most vigorous growers of the group. The Irises may be best added as marginal plants, the best kinds being *I. pallida* in variety, *I. pseudo-acorus*, and *I. sibirica* and its variety *I. orientalis*. Many of the *Spiræas* are superb as marginal plants to the pond, and not less so the *Phloxes*, perennial *Asters*, and the brilliant *Berganot* (*Morinda didyma*). In like manner not a few of the hardy *Bimboos* find the margin of the pond a most congenial home. We mention these marginal subjects advisedly, inasmuch as neglect of this item and the omission to plant some of the many suitable subjects only detracts, and that in a great degree, from the general beauty of the scene.]

SOWING WALLFLOWER SEEDS.

THE time has arrived for sowing Wallflowers if a display of sweet-smelling flowers is desired next winter and spring. Some, in their anxiety to get strong plants, sow their seed much too soon, with the result that the plants become too large by winter. There is no advantage in having over-large and vigorous plants by the autumn, for severe weather com-

ing on these succulent Wallflowers often deals hardly with them. Owners of fine plants in early autumn, sometimes find by the spring their display of flower is not in keeping with the autumn prospect. The latter half of May or beginning of June I find to be a suitable time to get in the seeds, and I prefer sowing in the open ground thinly, so that the seedlings can grow sturdily until other vacant ground can be devoted to them. There are several good sorts varying in colour, but the best is a selection of the dark-red and bright yellow. Wallflowers may be had in a mixture of colours from some seedsmen who make a speciality of them. I saw some beds recently filled with Wallflowers in mixture, and I could not help thinking that the person who would not be satisfied with such a wealth of beautiful flowers and wide range of colours must indeed be hard to please. Wallflowers are not difficult to raise, and do not require any special treatment. Soil in fairly good heart, made firm, and in an open position, will supply their wants in this respect. Sowing in drills drawn with a small hoe about 1 foot apart are preferable to broadcast sowing, in that weeds can be more easily dealt with. Should the weather be dry, water the drills before sowing, and continue this until the seedlings have made a good start.

I read the article on the above with great pleasure in your issue of May 3rd. I plant about 3,000 Wallflowers, and I have always found that the second week in June is quite early enough to sow the seed, provided it is not old seed or that the seed is not left to take its chance. When the rows are made in the seed-bed well water them, and then sow the seed half an hour after, and you will find the seedlings will be up in a few days. Many growers allow the seed to take its chance, and if it is a dry season naturally the seed is longer in the ground, and thus a week or two is lost, and in many instances the seed-bed is dug up in disgust, whereas the watering can and a little forethought would have saved the disappointment. With occasional watering you will have good plants for pricking out by the end of July or early in August. Prick them out in rows, say, where early Potatoes have been taken up, but do not give the land any more manure, for if much manure is used the plants will be leggy and sappy instead of dwarf and sturdy. How often do we see them on the top of old walls growing in the most exposed places in the poorest soil, shedding their seed naturally and growing year after year? If pricked out in July, good, sturdy plants and ready for planting will be had by October. If any readers have some very exposed, bleak, draughty situations and are often disappointed with the loss of them during the winter, do not plant until early March or February if the weather should be fine. I am never able to plant until March, for I live close to the sea—in fact, with a southerly wind and high tide the spray comes over on the beds occasionally. When planting I never fill up the hole made by the trowel until I give each plant a little water before pressing the soil to the plant, and by watering the beds occasionally for the first week or ten days I rarely lose a plant. I prefer plants about 9 inches or 10 inches high. Never plant direct from a seed-bed. If possible, find time to prick out, for it makes the plants branch out, and they are more compact and better able to stand the winter. I am afraid many of the disappointments in the culture of this plant follow planting in too rich soil, which makes the plants so sappy that they cannot stand the winter.

T. B., Bridlington.

MANURING BULBS LEFT IN THE SOIL.

(REPLY TO "M. MAY.")

WE think but little success will attend your efforts in the case of the Hyacinths you purpose leaving in the ground, for these do not perfect flower spikes in the same way or time as do the Narcissi. A small spike may be given next year of the former, but hardly a representative one. The Narcissi are different, and improve both in flowering and stature by being left alone. For these take of the phosphate of lime and kainit equal parts, and to these, as

they lie in bulk and together, add nitrate of soda at the rate of one fourth—that is to say, you may use $\frac{1}{4}$ lb. each of the first two, and a $\frac{1}{2}$ lb. of the last. Mix these together thoroughly, and then add of finely sifted loam a $\frac{1}{2}$ peck, or in this proportion to any amount you require. When these are again all thoroughly mixed, the mixture may be applied to the surface of the bed at the rate of two handfuls to each yard super. Avoid the foliage in the application, and finally prick it in with a small handfork or stick, or gently water it home. If your beds are high in the centre, by all means prick in the mixture under the surface, or much will be lost by running down to the sides. Apply at once, and again three weeks hence. In October, and once each month till the end of February, apply guano in solution. Take 4 oz. and dissolve well in a small quantity of water, finally adding water to the extent of 3 gallons for each 4 oz., and with this water the beds containing the bulbs. Three gallons would be sufficient for a square yard, therefore the best way in dealing with it would be each month to mix the required quantity in a tub and apply it at leisure. Liquid manure, if available, diluted with two-thirds water may be employed in lieu of the above, and, diluted as suggested, may be applied freely in autumn and winter.

NOTES AND REPLIES.

Raising hardy plants.—If it is proposed to increase the stock of herbaceous plants from seed, boxes cleared of summer bedding stuff may be prepared for their reception. Sowing in boxes rather than out in the open, allowing the boxes to remain in a cold frame until the seedlings are fairly well advanced, is the better way. One is more certain of a good start in this way, and this is a consideration if seed is both scarce and expensive. The boxes should stand on a good bed of coal-ashes to prevent the ingress of worms.

Hyacinth Grand Maitre.—Of the many blue Hyacinths this is one of the best. In making up a selection of Hyacinths for exhibition or for effective border display, this variety should always be included. Its truss is always large and handsome, and the individual bells are also very fine. I had a dozen bulbs which had been overlooked, and these were not planted until February, and they all flowered splendidly. These late-planted bulbs have this advantage, that they come into bloom quite a fortnight later than the varieties planted at the usual time.—W. V. T.

Old mortar and lime for plants.—Will you kindly tell me what scarlet or yellow plants thrive best in soil which is well mixed with old mortar and lime? My garden is well sheltered, but not very sunny. The soil is fairly good, and has had a top-dressing of the earth mixed with old mortar and lime. I should like to grow Lilies, Tulips, Sweet Peas, Lobelias, Tulips, Anemones, Ranunculus, and Iris, but do not know whether lime suits them.—M. J. K.

[There is nothing named in your list that would object to lime in the proportion named. As a matter of fact, the real lime-hating plants are few indeed—such as Azalea, Rhododendrons, Kalnia, Andromeda, Erica, and the like. In some degree or other lime is present in all loamy soils, and all the Pea-flowering and pod-bearing plants take a large share of it with advantage. Only very recently has it been demonstrated that certain sections of the Iris family are exceedingly partial to it. Asters, Stocks, Iberis, Lupinus, Sweet and other Peas are very partial to it, and with the dressing you appear to have given your garden soil you may grow any Lilies you like, save, perhaps, *L. superbum*, *L. pardalinum*, and the Californian Swamp Lilies generally. Phlox, Lychnis, Carnations, Hepatica, Anemone, Lobelia among red-flowering plants, and Sunflowers, Calceolaria, and others among the yellow. A heavy soil, such as clay, or one retentive of much moisture, as also any soil gorged with manure, is at all times benefited by a free dressing of lime (preferably slacked) in winter. Farmers occasionally give a winter dressing of chalk in lieu of manure. In the garden it is equally helpful. Some of the finest Stocks and Asters (the annual kinds) we have seen were grown in a border that had received a heavy winter dressing of old mortar

in conjunction with trenching, while hitherto in the same border the plants had not been a success.]

THE SPRING CROCUS (C. VERNUS).

The illustration shows how charming the vernal Crocus may be as planted on the Grass. It is reputed to be a native plant, and we have seen the meadows alongside the Leen, and just facing the Castle rock at Nottingham, covered with a soft lilac haze, as its flowers appeared by the million there every spring. These meadows are now built upon, and the Crocusi

so brilliant and variable in colouring. They vary from pure white and softest lilac-blue to the richest stained glass-like purple, and blaze out when the sun shines in the most cheerful way. The common yellow Crocus is one of the most beautiful, and like many other distinct and valuable garden flowers, its origin is lost in the obscurity of the past. It may have been a French or Dutch garden seedling from C. aureus, but proof is wanting. It is, nevertheless, one of the most distinct, effective, and most constant of all the kinds, and ought to be grown by the thousand in all good gardens. The Dutch Crocus will grow in almost all soils,

grown anyhow and almost everywhere—in pots or window-boxes, dibbled along rock-edgings, or even alongside Box-edgings and beside gravel walks, and in sunny nooks and corners near the house, where its corms become well ripened for next year's bloom. F. W. B.

GARDEN PESTS AND FRIENDS.

The tiger-moth (Miss Andrews).—The hairy grub is the caterpillar of the tiger-moth (*Arctia caja*), a very common insect. The caterpillars are popularly known as woolly bears, on account of their long hairs. They feed on the leaves of Lime and Apple-trees, and on various plants, but they are seldom so abundant as to cause any appreciable injury to the trees, etc., on which they feed.—G. S. S.

Fly in cinder path.—Kindly tell me the name of the fly, which appears yearly in April, coming up through a cinder path and raising a little heap of soil like a worm-cast?—MISS ANDREWS.

[The fly is a specimen of one of the many kinds of little bees which make their nests in dry banks, paths, etc. Its name is *Andrena cinerea*. They are perfectly harmless in every way. They store their cells with honey and pollen as food for their future grubs.—G. S. S.]

Insects on Rose-tree.—Will you kindly inform me what the insect is I am sending you herewith? I found it last Saturday on a recently planted Rose-tree when cutting off the dead limbs. Are they destructive to same?—JAMES SCOTT.

[The insect you found on your Rose-tree is the caterpillar of the swallow-tail moth (*Onraptyx sambucarin*). Though a common insect, it is seldom, if ever, that it occurs in sufficient numbers to do much harm. The caterpillar feeds on the leaves, and if several were on one limb they would render the foliage unsightly. I should destroy those I could find.—G. S. S.]

Insects in garden.—Please inform me what the common insects are, how they come, and how to exterminate them, if possible? Are they injurious in a garden? They appear in millions—sometimes a patch about 1 foot square and 1 inch deep, near a garden gate—and though swarms have been killed with paraffin they still reappear. They first appeared, though possibly in no way connected therewith, after the Ivy was clipped.—LOWMEAD.

[The little insects you sent are specimens of one of the many species of Poluride or Spring-tails; they are at times, no doubt, injurious. The clipping of the Ivy cannot, I think, have had to do with their appearance; soaking the soil where they appear with boiling water would probably kill them and their eggs. Lime-water might have the same effect, or a strong solution of nitrate of soda. These Spring-tails sometimes appear in Cucumber-frames, and are the cause of much injury to the plants and fruit.—G. S. S.]

Wireworms in Tomatoes.—Will you kindly tell me what these worms are? I find them get into the Tomato stems and ruin the plants.—W. W.

[The worms that are injuring the roots of your Tomatoes are one of the species of wireworms (*Agriotes lineatus*). It is quite useless to try and get rid of them by the aid of any insecticide, as from their position at the roots of the plants it would be impossible to use any of sufficient strength to kill them without destroying the plants at the same time. You might trap them by burying slices of Potatoes, Turnips, Carrots, or pieces of oil-cake, about 1 inch below the surface, having stuck a small woollen skewer into each, so that they may be easily found. These baits should be examined every morning. I presume your plants are under glass, in which case great care should be taken before the plants are set out to look the soil well over, so as to be quite sure that there are no wireworms in it.—G. S. S.]

Cluster Cup fungus on Anemones.—I sent some of enclosed diseased leaves of Anemone St. Bridget to a scientific man, who says they are infested with one of the Cluster Cup fungi, but he did not tell me what produced it, nor how I could guard against it in future. I shall be much obliged for instructions in GARDENING ILLUSTRATED.—J. G., *Winklesham*.

[Your Anemones are attacked by the Anemone Cluster Cup fungus (*Æcidium punctatum*). The fungus infests the cells within the leaf, the spore-bearing part of the fungus bursting through the skin of the leaves, so that the spores which the little cluster cups contain may be distributed by the action of the wind, insects, etc. The plants that are badly attacked should be at once pulled up and burned; in fact, it would be better to treat all that show any signs of being infested in the same way, and to grow your Anemones in another place for the garden next season. It



Crocus vernus in the Grass. From a photograph by Miss Willmott.

breadths of to-day are much further afield than they were thirty years or so ago. Crocus vernus is one of the hardiest and also the most variable of all the species, and with the nearly related *C. versicolor* has given rise to most of the Dutch or garden seedlings now so popular. The Crocus as grown in Lincolnshire or in Holland is one of the cheapest and most beautiful of all early garden flowers, and its roots are sold at a few shillings a thousand everywhere, and may be planted in the Grass of lawn or home meadow, orchards, and paddocks, or in any thick or sunny along rock-edgings or near the house with advantage. No bulbs produce flowers at once so early and

preferring, however, warm, moist, sunny, or gravelly loams, and some indication of its liking these is shown by its often appearing in gravel walks or amongst old Box-edgings. As used along with Snowdrops, Anemones (such as *A. blanda* and *A. nemorosa*), Bluebells, and Narcissi on outlying portions of the lawn or under deciduous trees, the Crocus is most effective. Visitors to Regent's Park or to Kew will have observed how exquisite its translucent cups can be in the spring sunshine, and as planted on Grass the flowers endure fresh and fair much longer than on bare, wind-swept or rain-splashed beds and borders. The Crocus is so cheap and unchangeable that it can be

might be worth while to pick off the infested leaves of plants that are only slightly attacked, and then spray the plants three times at intervals of ten days with Bordeaux-mixture.—G. S. S.]

Fungus on Pine-tree.—I shall be greatly obliged if you can give me any information re the enclosed. It is part of a growth about 2 feet high which is growing on a branch of *Picea Pinsapo*. I cannot say how long it has been growing, as I only noticed it a few weeks since. The growth appears as a part of the branch it is growing on.—S. C.

[Your *Picea Pinsapo* is attacked by *Peridermium coruscans*, a very common fungus on the Spruce throughout Northern Europe. These somewhat cone-like growths are eaten in Sweden, where they are known as *Mjolkomlor*. The best remedy is to cut off the affected shoots or branches well below the infested parts and burn them, as the mycelium or spawn of the fungus is within the shoots. It is of no use trying to kill the fungus with fungicides, though spraying the trees at once with Bordeaux-mixture might prevent the spores, which will soon be given forth, from infesting other branches. Spray three times at intervals of ten days.—G. S. S.]

Chrysanthemum fungus.—The leaves sent are attacked with some fungoid growth. What is its nature, and how shall I best get rid of it? It occurs only on plants bought from a large grower; my own plants are free.—W. R. M.

[The leaves are affected with a disease known as the *Chrysanthemum rust*, and you are doing the very best thing possible by picking them off. It is usually the lower leaves of the plants that take the rust at this time of the year; therefore, they can be spared without serious injury. We do not favour washing, because to kill the rust one must use something strong enough to destroy the leaves. We saw a case in point to-day where the foliage of finely-grown plants was burned by a strong dose of fungoid wash, and this under the supervision of a skilful grower. Pick off the leaves and burn them is the best advice that can be given.]

The oil-beetle (*Meloe proscarbeus*) (*Meloe Andrews*).—The beetle is a specimen of the oil-beetle (*Meloe proscarbeus*), a common insect, but never found in any numbers together. They feed on the leaves of various wild flowers. Their life history is a very interesting one. The female lays her eggs in the ground, from which are hatched very small, active, yellow larvae, which make their way on to the blossoms of various composite plants. They then attach themselves to any hairy insect that may visit the flower, but only those that are fortunate enough to have taken hold of a small bee belonging to the genus *Anthophora* ever come to maturity. These fortunate ones are carried into the nests of the bees, and feed on the bees' eggs. When they are consumed the larva moults, and appear as fat, inactive grubs, which feed on the honey stored up by the bees as food for their grubs. When it is all devoured the grubs become chrysalides, from which the next spring the beetles emerge.—G. S. S.

The winter-moth.—Will you please tell me the name of the enclosed caterpillars and the means of destroying them? The two large ones are from a wingless moth that I caught in an Apple-tree. I have not seen any of the caterpillars in the trees as yet. There is a quantity of the small ones. I came here last July, and there was not a whole leaf on the trees, and the fruit crop was a complete failure. I put grease bands round the trees early in November. I scraped them and had the thick wood washed with an insecticide. I am afraid they are going to be as bad this year. The trees are half-standards and pyramids.—Z. A.

[The large caterpillars you sent are those of the pale-brindled beauty-moth (*Pligialia pilosaria*); the small ones are the caterpillars of the winter-moth (*Cheimatobia brumata*). I cannot quite understand your letter, as you say that "the two large ones are from a wingless moth that you caught in an Apple-tree, but that you have not seen any of the caterpillars in the trees." Where then did you get them from? Do you mean to say that they were hatched from eggs laid by a wingless moth? Your Apple-trees were doubtless attacked last year, as they are this, by the caterpillars of the winter-moth. You did quite right in putting grease-bands round the trees, but they should have been put on not later than the middle of October, and kept in good sticky condition for at least two months. Care should be taken that they are so tied round the stems that the

moths cannot possibly creep underneath them, and if the tree is supported in any way the supports must be treated in the same manner. However, in spite of all care, some will probably manage to gain access to the buds, where they will lay their eggs. This has evidently been the case, for there are the young caterpillars now on the leaves, and the best thing you can do is to spray the leaves with "Paris-green," or paraffin emulsion. To use the former, mix 1 oz. of the "Paris-green," which you should buy as a paste, in 20 gallons of water, and add twice as much fresh lime as there is paraffin, bulk for bulk, then spray the trees with a garden-engine or spraying-machine with a proper spraying nozzle. Do not drench the trees so that they drip, but so as to just wet the leaves. Be sure and keep the mixture well stirred, as the "Paris-green" is very heavy and soon sinks to the bottom. When this is the case part of the mixture will be too strong and injure the foliage, and part will not be strong enough and the caterpillars will not be killed. The spraying should be done as soon as the fruit has set, and repeated occasionally as long as there are any caterpillars left. As this mixture is very poisonous it must not be used within a month of the fruit being gathered.—G. S. S.]

ROSES.

NOTES AND REPLIES.

Pruning Marechal Niel Roses.—I have been a Marechal Niel Rose, two years old, which has never been cut, but has covered the whole of the root in a very small greenhouse. The wood is very thin, but it has flowered abundantly this year. What shall I do with it now? I do not mind losing the autumn blooms. It has good stuff put to the roots.—E. F. COOPER.

[Unless you at once prune your Marechal Niel Rose quite hard back you will have very weak breaks and poor flowers next year. Autumn blooming with this variety is too rare to be worthy of a moment's consideration. To treat this Rose properly, the lowering branches should be cut hard back the moment the bloom is over. By that we mean not merely the flower shoots, but the long, hard, wooded branches which bore them. Then, from the bases of those below where cut back to, other shoots break out, and the strongest only should be retained, the rest being removed. If the Rose be on a strong-growing stock, and the roots have ample room, and are, during the summer, well fed with liquid manure, shoots varying from 6 feet to 10 feet should result. If pruning be not done now the Rose will become a mat of growth, and a great quantity will have to be cut away in the autumn. That would be so much waste. The stronger the growths made after pruning now, the finer next year's bloom.]

Rose Climbing Niphotos in conservatory.—I have a Niphotos Rose in my conservatory in a pot, potted up eighteen months ago. It has made two shoots about 18 feet in length, and is now flowering well. I shall be much obliged if through your columns you will advise me as to its treatment after flowering.—DILLY.

[Should there be space available for these two long growths to extend, the best plan would be to allow them to do so, otherwise cut them back after flowering to about half their present length. The laterals that are now producing the blossoms should be cut back to two or three eyes whether you curtail the main growths or not. This fine climber seems to require room for extension, and in order to provide it with such space it is best to plant so that its growths run from one end of the house to the other, the border being at the north end. Many laterals will be produced annually on these long growths, and they must be thinned where there is a danger of overcrowding. Many of the splendid vigorous climbing Roses, such as *Sollaterre*, *Climbing Devoniensis*, *Louargue*, etc., if grown on this plan give much satisfaction. When the main growths exhibit signs of exhaustion, one of them must be cut hard back, but only one should be so pruned in a season, retaining the others to their full length until the next or following year.]

Climbing Roses for cold-house.—I propose in the fall transplanting from pots in my hot-house to my cold greenhouse two Marechal Niel Roses. What other climbing Roses would be suitable for the cold-house, which is a lean-to 40 feet long, the wall 12 feet high, the whole length of which is a 6-foot bed, then a 3-foot path, and finally 2-foot benches, all three-bedded.

bench—running the whole length of the house? I wish to have the wall covered throughout with Roses, if possible, and of course good ones. Although a cold-house, it is very hot in the summer, being on a south aspect.—NAVA.

[As you require a few climbing Roses of good quality in addition to Marechal Niel, we should advise you to plant Climbing Niphotos, Climbing Kaiserin Augusta Victoria, Climbing Belle Siebrecht, Monsieur Besir, Bouquet d'Or, Mme. Moreau, and Climbing Devoniensis. The last is rather shy blooming at first, but it is such a lovely Rose that one can afford to wait until its growths have produced some well-ripened laterals, upon which it appears to produce the most blossom. Although this is a cold-house, you will have the advantage of your genial climate during the spring and summer. Climbing Roses of the above description should be encouraged to produce plenty of young wood, so that after the first blossoming much of the old wood that has flowered may be cut away and the new wood laid in its place. We presume your intentions are to prepare a good border for the Roses before planting in the fall. If your garden is pretty well drained you will not require to concern yourself much about the drainage of the border, otherwise it is well to provide Tea-Roses with an efficient outlet for water. A depth of 2 feet of good pasture loam, with one part out of three of well-rotted manure and about 1 pint of bone-meal to each bushel of soil, will provide the Roses with some good lasting material to feed upon. Whilst the climbers are filling out their allotted space you could very well plant one of the less vigorous Tea-Roses between each pair of climbers. Such Roses as *Souvenir d'un Ami*, *Perle des Jardins*, *Bridesmaid*, *Niphotos*, *Mme. Hoste*, *Anna Olivier*, *White Maman Cochet*, *Maman Cochet*, and *Mme. Lambard* would be first-rate kinds, and would give you two or three crops of blossom each season.]

The weather and the Roses.—The cruel spring frosts have already visited some localities. We had the week before last quite 8 degrees, and it was pitiful to see the blackened growths. I would advise the Rose-grower not to be in a hurry to cut away shoots. It is marvellous how they seem to recover, and, provided the buds be not visible, often no injury follows. Last season I almost determined to cut off some shoots of a Rose that had been badly frosted, so much so that the growths were quite drooping, but they were suffered to remain, and I could not see any difference at time of flowering from these and other plants more fortunately situated.

FERNS.

Selaginella failing.—Can you tell me the cause of the enclosed plant dying off like the piece I have sent you? Last year it appeared very healthy, and covered profusely a large piece of rock-work in a conservatory (the heated). It has been growing there for several years, but now all the long pieces turn brown, and only leave a little piece of green just at the end. Is it possible it could be injured by any insect? It is well watered.—A. C. K.

[The soil is exhausted. You ought to have broken it up and replanted it every year, adding at the same time some fresh material for it to root into.]

A hardy fernery.—I have been much interested by an article which appeared in *GARDENING ILLUSTRATED* for May 3rd, and written by M. S. KNOX-GORR, on hardy Ferns, etc. I am also very fond of Ferns, and have a fernery under glass, but with no artificial heat. I would feel obliged if "M. S. K." would kindly say if the fernery is under glass and unheated? The writer also talks of growing double *Primroses* with the Ferns. I would be glad to know if the plants are strong and robust, and not delicate-looking grown in such a shady place.—W. SOUTHPORT.

[The hardy fernery mentioned in the number of *GARDENING ILLUSTRATED* for May 3rd is not under glass, but in a sheltered position on the edge of a wood. The double white and mauve *Primroses* are grown amongst the Ferns, but not shaded by them. I fear they would not flourish equally well under glass unless grown in a cold-frame or ordinary cool conservatory. In this latter I have successfully grown the blue *Primroses*, *Primula casuarinensis*, and the ordinary Alpine *Aureicula*.—(Mrs.) M. S. KNOX-GORR, Belleek Manor.]

As many of the most interesting notes and articles in "GARDENING" from the very beginning have come from its readers, we offer each week a copy of the latest edition of either "STOCK AND GREENHOUSE PLANTS" or "THE ENGLISH FLOWERING GRASSES" to the reader of the most useful or interesting letter or short article published in the current week's issue, which will be marked thus:—

INDOOR PLANTS.

A NATURALLY-GROWN AZALEA.

The plant of Azalea we figure to-day has been allowed to grow in a thoroughly natural way, hence we get the shoots loaded with bloom. How much more beautiful is an untrained Azalea than the hard, stiffly trained plants one often sees at exhibitions. There used to be in the R. H. S. Gardens at Chiswick a plant of the old *A. indica alba* quite 8 feet high and as much in diameter, which when in full bloom was always admired. This was grown in an entirely natural way, and every year was a mass of bloom. To compare such a plant as this with the closely trained pyramids and flat bushes generally found in the exhibition tent is absurd, so much more beautiful was it. You may often hear it said that unless Azaleas are trained they will not travel. No doubt the branches require a little steadying, but with the aid of a few sticks and a little Ralpin they can be sent a few miles without being trained in a manner that makes them little short of hideous. The appearance of plants naturally grown is ample proof that the practice is a

plants are more attractive than the tricolor Pelargoniums brought into Covent Garden Market by those who make a speciality of them. The great point is to strike them early in August, keeping them just on the move up to the turn of the year, then potting them off and giving just enough heat to ensure a free leaf growth. The soil used for the ordinary Pelargoniums will suit them, adding, perhaps, a little more silver sand. Fuchsias require the same treatment as the ordinary kinds.]

Dipping cut flowers in warm water.—In sending away Violets, Gardenias, or St-paulias, would dipping them in warm water after gathering be a good thing? I find even here in the house they wither the next day after they are gathered.—P. H. L.

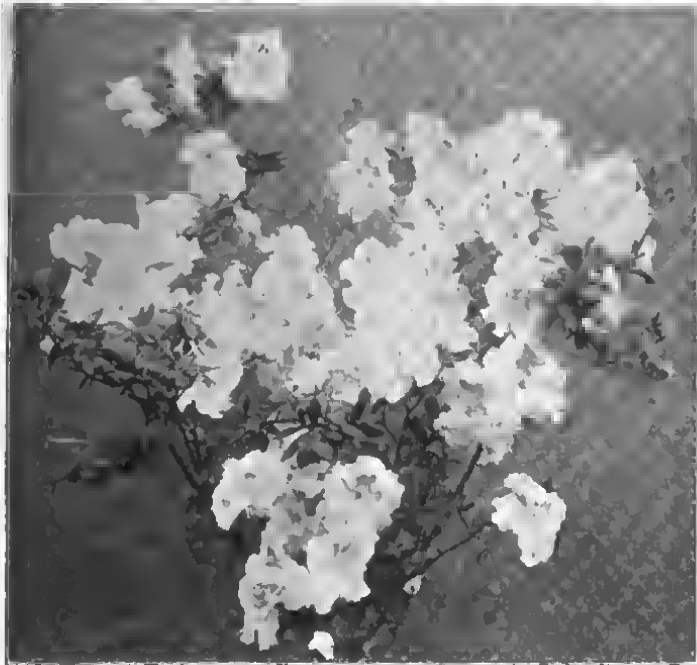
[Flowers of almost any kind are the better for having their stems placed in water for a time prior to sending by post or rail. This is especially the case in warm weather, when evaporation is so rapid. Warm water is not necessary, indeed, often it is injurious to gathered flowers. An important matter in connection with the use of flowers, whether for home or sending away, is to see they do not flag before they are stowed in water. The flowers you name certainly ought not to wither the day after being cut, but some dwelling rooms

Russelias we know there is a strong family likeness, and a brief description of the old and well-known *Russelia juncea* will suffice for the whole of them. It is a very beautiful and distinct plant, the branches being slender and Rush-like, while the tiny leaves are but sparingly produced. This latter feature is not, however, particularly noticeable, owing to the bright green of the slender pendulous shoots, which hang down for a considerable distance. The flowers, which are borne in considerable profusion during the summer months, are each about 1 inch in length, tubular in shape, and of a bright scarlet colour. *Russelia juncea* has a very pretty effect when trained to a rafter in a small structure, as it is not sufficiently vigorous for a large house. Grown in this way the bright pendent, Rush-like shoots form quite a fringe, and when lit up with the numerous bright-colored blossoms it is, of course, additionally attractive. In suspended baskets, too, its distinctive features are well shown. It also forms an effective specimen if the principal branches are staked upright and the minor shoots allowed to dispose themselves at will. Equal parts of loam and leaf-mould or peat, with a good dash of sand, will suit this *Russelia* well. Good drainage, with a liberal amount of water during the growing season, is also required. For its successful culture the temperature of a stove, or, at all events, of an intermediate-house, is necessary. There is no English or popular name for the *Russelias*.]

Heliotrope in winter.—Please tell me how I can most successfully train a *Heliotrope* to grow up the wall of my conservatory? It is a cold house, the normal temperature night and day in winter being not lower than 45 degs. Would it be possible to make the plant flower through the winter, and, if so, how? I have just repotted a *Heliotrope* a foot high. There is plenty of leaves on the top of the plant, otherwise the stems are rather bare and "lanky" looking.—BRUNNEN.

[In order to train a *Heliotrope* up the conservatory wall a very necessary item is a good vigorous plant to start with. You say that your plant has plenty of leaves on the top, hence we should conclude that it is in good condition, and having been repotted, it will, in all probability, grow away freely. The leading shoot should be secured to a good stake, as the main object is to get it to mount upward. When required it must be shifted into a larger pot, and finally, if possible, planted out, as the *Heliotrope* will, after its juvenile stage is past, make more rapid progress when planted out in a prepared border than if confined in a pot. Still, next spring will be soon enough to plant yours out, as then you may reasonably expect it to go ahead rapidly. In preparing a border for planting it, thorough drainage must be ensured, as stagnant moisture, particularly during winter, is very injurious to the *Heliotrope*. We cannot hold out much hope of your *Heliotrope* flowering during the winter, as to do this successfully a temperature from 10 degs. to 15 degs. higher than that mentioned by you will be needed. Still, the temperature named should keep it in good condition throughout the winter season, and with the return of spring it will grow away freely and soon flower. When planted out, the shoots as they develop must, of course, be trained to the wall. One caution to be particularly observed in the cultivation of the *Heliotrope* is, should aphids or green-fly be troublesome, not to fumigate, as that will destroy most of the leaves. The XL vaporiser may, however, be used with perfect safety.]

Green-fly on Roses, Pelargoniums, etc.—In the spring months most cultivators are troubled with this pest to a greater or less extent. To keep it under is of great importance, and many things are used to this end. Fumigating is most commonly recommended, but many dislike this in any way, as it is not everyone that can endure this. Some years ago I used a lot of fumigating material, but during the last few years I have almost given it up, having proved that dipping, spraying, etc., are far more satisfactory. Many washes can be obtained, all more or less good. Years ago I made my own wash, but have given it up, seeing I can buy it more cheaply than I can make it. I make it a rule not to allow things to get infested with insects; immediately I see their coming I begin spraying or dipping. *Cyperias* can easily be kept clean by spraying once a week. The same may be



A naturally grown Azalea. From a photograph by Mr. James E. Tyler, Halstead, Essex.

commendable one, without taking into consideration the amount of labour, time, and material saved. T.

NOTES AND REPLIES.

Celsia Arcturus.—G. M. Sanders, Lincoln, will find a short article on above plant in *GARDENING ILLUSTRATED* for May 3rd—though *Celsia cratica* is mentioned instead of *Arcturus*—which no doubt will help him in the matter. I have not found old plants so good as seedlings, the latter making much stronger plants.—J. M. B.

Tricolor Pelargoniums.—What treatment is best for foliage Pelargoniums and Fuchsias in pots in the greenhouse? Should they be kept in poor soil with little water to preserve the colouring, and may they have manure or not.—ASOX.

We are supposing this is what you mean by "foliage" Pelargoniums. The beautiful shades of colour that one so much admires in the tricolor Pelargoniums are never so distinct as in the early spring months. This section requires in a temperate climate, such as it is easy to create in the early spring months. Given full sunlight and an average temperature of 50 degs. by night and 55 degs. to 60 degs. by day, whilst not deprived of too much air and supplied with sufficient atmospheric moisture to promote a free and luxuriant growth, the various colours which are found united in the leaves become bright and distinct. Few

are predisposed to this failing. We have known instances where flowers gathered at the same time have been arranged in vases and placed in two separate rooms—the one kept cool, the other conveniently warm. In one the flowers will endure not more than three days, sometimes not even that time, fresh; in the other, flowers will remain a whole week with a change of water, and sometimes longer. Of course, gas is fatal to long life in plants or flowers placed in living rooms at any time. A small room in one house is better than a large one in another sometimes, so that short life in flowers cannot always be charged to polluted air. Cut flowers should be kept as far away from a room fire as possible, and exposure to sunshine in a cut state is not good for them. Try stanching them in a cool place in water for a few hours before arranging your flowers in the house.]

Russelia grandiflora.—I cannot trace this in any British catalogue, but it is given in an American one. Please give English name, also culture.—H. LEDGARD.

[*Russelia grandiflora* is quite unknown to us, and we cannot find it mentioned in any works of reference at our command. Such high-sounding names are favourites with some of our readers, and we should say that this has been given for trade purposes. In all the

said of Pelargoniums and things akin to them. For the last four years I have used Abol insecticide with the best results.—J. Crock.

TREES AND SHRUBS.

CARPENTERIA CALIFORNICA.

This noble shrub has now fully established its reputation for both indoor and outdoor culture. It does well against the back wall of a greenhouse, the flowers being at their best in the third week of April. Buses against walls generally begin to flower about the beginning of July. It is quite hardy in the south of England. The flowers are pure white, about 3 inches across, with a bold group of stamens of a lively yellow. The foliage is also handsome. It thrives best in a sandy loam well drained.

NOTES AND REPLIES.

Honeysuckle in pots.—It is seldom that one meets with this deliciously-scented climbing shrub in pots for conservatory decoration, but it certainly well repays the little trouble it takes to do so. One of the best varieties I have ever grown for this purpose is the old favourite Dutch variety that makes good plants of dwarf, sturdy habit. Pot up in the autumn good strong plants of two or three years' growth in 8-inch pots, and plunge them in a bed of leaves, and at this time of year bring a few under glass at a time, so that they may give a long succession of bloom. If the young growths are piped at about 1 foot long, they may be kept in pots for several years. Fumigating to keep them clear of green or black-fly is the main thing needed, as also plenty of water at the root.—J. G., Gosport.

Thuja Lobbi as a hedge plant.—With the exception of the Holly, there is nothing so good as the above for forming hedges and screens. It makes rapid growth when planted in well-prepared land, so that a hedge 10 feet high and well furnished from top to bottom may be had in five years if good, bushy plants about 18 inches high are used. This Thuja, like the Arbor-vitæ, bears clipping well, but has the advantage of retaining its verdure all through the winter; no matter how hard the frost the rich hue of the foliage remains unchanged. *Cupressus Lawsoni* should not be used for this purpose; it does not bear hard cutting in, and in the course of time the base of the hedge gets brown and ugly gaps occur.—J. C., Byfleet.

The flowering Currant (Ribes).—I note your remarks about the beauty of these spring-flowering plants, and agree with you that more of them ought to be found in our gardens. I have them in many varieties, massed in a large bed, where each one shows itself to the best advantage, and is at its best about the middle of April. They thrive in any good garden soil, and enjoy a little leaf-soil with loam when replanting. Though not so robust as the common variety, most of these better kinds should be trimmed into shape a bit after passing out of flower, as young wood made and ripened the previous year carries much finer flowers than does short stubby wood. If manure-water could be given them occasionally at the end of May and during June, the plants would make much more satisfactory growth, and would well repay the labour bestowed on them by the amount of bloom produced the following season. A sunny aspect should be given them, but avoid too dry a position if possible. My collection consists of *albium*, *anroum*, a *præcox*, *saxatile*, *nigrum*, *diacantha*, *triste*, *sanguineum*, and *missouriense* (syn. *lorinum*). The foliage of the last is conspicuous in autumn, when it assumes a purplish-brown. It is easily

easily propagated by cuttings in autumn or layering about the same time. The old form should be cut hard back after flowering, when new growths, each 4 feet to 6 feet long, will be very beautifully in bloom within a year. There appears to be more than one variety of this, as I have a very large bush in the shrubbery here much more washy in colour than the rest. It may have been a chance seedling.—J. M. B.

VEGETABLES.

EARLY CABBAGE.

In the varieties of early Cabbage we have made considerable progress, and this without loss of flavour, though the size is diminished. This is a gain to the private grower, as a small Cabbage is much nicer for the table than a large coarse one. I always advise early sowing, as a good breadth of Cabbage to follow the winter green vegetables is more serviceable than later. There is considerable gain in making two sowings; one can afford to lose a few from rotting if Cabbages can be cut a month earlier than

sturdy growth. By using a dwarf Cabbage, such as *Ellam's*, there is less need of large quantities of manure, as these small kinds do not root deeply like coarser kinds, and are a shorter time on the ground; there is much gain by growing such varieties, as they may be planted closely and they never look patchy. A succession is readily secured by sowing in three weeks after the first sowing, and to succeed these a pinch of seed sown in a little warmth early in the year will give a succession of Cabbage as long as it is required. I would also point out the advantage of sowing three or four times a year, getting nice tender heads in preference to allowing the old stumps to remain after cutting, as they rob the ground and harbour grubs and caterpillars. G.

MOULDING UP POTATOES.

The exigencies of the season have led to a good deal of moulting up of early outdoor Potatoes already, because cold nights and white frosts have rendered some covering of the tender leaf-tops necessary. It may well become matter for discussion whether much is gained by planting



Carpenteria californica in Col. Baskerville's garden at Crowsley Park, Henley-on-Thames. From a photograph by Mr. Thomas Taylor.

would be the case if sown later. I have seen Cabbages sown so late in August that it was impossible the plants could stand the winter. Some people may say that early sowing is conducive to halting. It certainly is with some varieties; hence the necessity of selecting a reliable kind. From several years' experience I have found none equal to *Ellam's Dwarf Early Spring*. *Ellam's* also possesses another good quality—hardiness, a great point in winter Cabbage, as out of many hundreds there is scarcely a gap in the rows. I attribute this hardiness to its dwarf compact habit, as if well moulded up in the early winter there is but a small portion of the plant exposed, the erect growth throwing off excessive moisture. It may be thought any variety may be so treated, but the growth differs. Many kinds have a spreading habit and longer stem, and are, therefore, more exposed. By sowing as advised and planting as soon as really on deeply cultivated ground, there need be little anxiety as to this variety turning in when required. The seed is sown from July 15th to 20th, and there is little fear of rotting. I like to make light firm before planting, this is necessary

seed-tubers so early, and necessarily in cold ground, so as to cause them to have tops above the surface from the end of April. If frosts do not catch them and inflict material injury certainly the cold soil and air check growth and it becomes very doubtful whether well sprouted seed-tubers of similar early varieties planted a month later do not in the end give quite as early, if not indeed better crops. In any case, covering up the growths with soil though but thinly, to protect them from late frosts has become a necessity, although under ordinary conditions moulting up would follow later. But as a matter of culture moulting up is invariably done, yet not always well or properly. One of the worst evils incidental to bad work is the covering up of so much of the lower leafage. That is slovenly work. Were more care shown by employing two persons to do the moulting, one should be instructed to use a long rod wherewith to lift the lower leafage from the ground, that loose soil between the rows may be drawn up close to the stems of the plants without injuring or burying the leaves. Not only does this burying of leafage help, as it were, to tie or hold down the plant

growth, but it rots the plants of much reproductive power, as tubers are, after all, the primary products of leaf action.

It is, indeed, a question whether moulting up of Potato plants, by which much leafage is buried or injured, compensates for the labour or for any advantages that may result from the labour. That proper moulting up does reader Potatoes good service there can be no doubt. Thus, it is important that the tubers be well secluded from air, otherwise they become hot and astringent. That may be of no moment in the case of seed tubers, but as Potatoes are primarily grown for eating, such exclusion of air is of great importance. Then a proper moulting up gives the plants needed support in windy weather, and prevents much twisting and injury to the stems. But, not least, it is now fully understood that a good moulting up, or coat of finely pulverised soil, over the newly forming tubers greatly helps to exclude fungoid spores from them, thus saving them from disease. Generally the advantages which result from proper moulting much outweigh the cost of labour involved in the work of moulting. But to do it properly, Potatoes should be far less crowded than they habitually are, for crowding, whilst causing waste in seed tubers, never does produce such fine crops as thinning planting does. Also, prior to the work being done, the intervening soil should be either deeply hoed or lightly forked over.

A. D.

SOWING ASPARAGUS SEEDS.

The facility with which young Asparagus plants can be obtained at a very reasonable price is the cause why so few sow this seed nowadays, as they thereby avail having to wait two years for plants that they can buy for six or seven shillings the 100. In large market gardens, however, and in the case of important trade houses, the purchase of the plants in great quantities would be too costly, and the cultivators who can afford to wait will be well advised to raise the plants they want from seed. Asparagus, it is well known, does best in light, warm, and sandy soil; it should be sown in soil manured in the autumn, or at least a year previously. The seed of Asparagus should be sown at the end of April or middle of May in lines about 16 inches apart and about 1 inch (a little more or less) deep, the earth being afterwards raked over and trodden down. During the first year hoeing and weeding to keep the soil clean should not be neglected. In the spring following the stems of the Asparagus should be cut and the ground well hoed and weeded. About 11 lb. of the seed will produce 10,000 plants.

JULES RUDOLPH (*Revue Horticole*).

NOTES AND REPLIES.

Asparagus rotting.—I am sending some pieces of Asparagus, and would be greatly obliged if you could tell me the cause of them growing like this. They come up and then wither off. The rows are about seven years old, and they were good last year. Can you suggest any remedy?—M. S. THIBALL.

[The sample of Asparagus heads you sent is indeed a bad one, and in an advanced state of decomposition. But it is impossible for us to say whether this rottenness is due to the soil, or to excessive dampness, or to injury by frost. If you have had sharp frosts following on rain then the appearance of the Asparagus would be explained. If it be not so, and there seems to be no ordinary reason for the injury, then the cause must be in the soil. If that be so, your best course will be to top-dress the bed freely with fresh-slacked lime and just point it in.

If growth after the usual cutting is over be weak, densely dress the beds with soot and wash in with water or any weak liquid manure. A good dressing for the beds would be 2 oz. per square yard of bone-flour and kainit (potash). Perhaps you have used coarse animal manure too freely on the beds.]

Onion bulbs the second year.—I have been told that a good plan to get good Onions is to sow this year on poor ground, where they will grow only to the size of nuts, and when they mature to store for winter, and plant them out in spring. Is the system worth a trial, at what date should they be sown, and will they not run to seed?—J. EXAS.

[The plan you refer to of sowing Onion seed on poor ground one season to produce small bulbs, then wintering them and planting them out on to good soil the following spring, for the

purpose of swelling into large bulbs, is an old one, and now rarely practised. It was recommended to sow at the end of May, as, if sown earlier, the bulbs would the following year bolt off to flower. We can very well understand that such result would often, if not generally, follow even with May or later sowings, and in any case the game is not worth the candle. We have seen splendid bulbs of Ailsa Craig and other fine varieties obtained from an autumn sowing outdoors made end of August or early in September, and in the spring carefully transplanted, the bulbs even beating the Tripolis. But the finest of all Onions now are raised by sowing seed of the varieties just named in shallow pans under glass early in January, growing the plants on cool, then transplanting outdoors into rich, deep soil at the end of April, and 1 foot apart.]

Yellow spot in Tomato leaves.—Will you kindly inform me what is the matter with my Tomato plants, and what to do to prevent it spreading? I have a house with about 300 Tomatoes, planted out, and a number of them have shown a lot of yellowish spots in the leaves. I enclose a few for your inspection. They are planted 2 feet apart, and every attention is paid to watering, ventilation, etc. The house is a very roomy one. I have grown Tomatoes in it for two seasons, but have taken all the soil out to the depth of about 1 foot, burned sulphur in it, lime-washed it out, and replaced with fresh loam each year. As soon as the Tomatoes are done it is filled with plants in pots. I have pulled all the infected plants up so far and burnt them, but as I am afraid that there are others, I am anxious to know what to do to prevent the trouble going through the house.—AMARA P. C.

[The Tomato leaves received were so much bruised in transit that we were able to form but little opinion as to the cause of your complaint. Tomatoes are addicted to so many ailments that there is difficulty in prescribing for them at all or locating the cause. Yours does not appear to us a very serious trouble, and we do not see the need of destroying the plants because of the spots on the leaves. We should pick these portions of the leaves off, and allow the plants to grow and fruit. Errors in ventilation and watering often bring about leaf troubles, especially in such seasons as this. During the prevalence of such cold winds, it is best to maintain a drier atmosphere and give less water than when the weather is more genial. The growth may be slower, but it would be more proof against disease. There are some structures and some soils that foster disease, both of the leaf and fruit, which cannot be in any way accounted for, and yours may be a case of this sort. Ventilation is an item of importance in Tomato culture; if neglected only in a minor degree, trouble in some form will soon assert itself. Never allow the temperature to rise suddenly without ample ventilation. Gentle warmth from the hot-water pipes is a great help in Tomato growth, but it should be regular, or much trouble will be had sooner or later in leaf disease. You have done right in changing the soil, but it is not customary to do this every year. By treading the soil a little deeper each winter, bringing up a little fresh to incorporate with the surface, some growers succeed for several years. Others, again, change the surface soil in alternate years. This course of necessity gives heavier crops, and usually greater freedom from disease, which is only to be expected, considering the labour it involves. Beyond careful and ample ventilation, avoiding extremes of heat and cold, and giving water at suitable intervals, there is nothing we can suggest that you can do at this season to stop the spot from spreading.]

Blanching Seakale.—In a good garden which I recently visited in Dorsetshire, where Seakale is largely grown as an annual product by means of root cuttings, the best of all methods to propagate this useful vegetable, the gardener mentioned that he always reserved a few rows of the roots as grown outdoors all the winter. Then, as the spring drew on, he placed over a portion of the crowns 6 inch drain-pipes, made specially for the purpose, 8 inches long. These were, of course, stood end-wise over the separate crowns. They were then filled with fine soil. In this way most perfect upright blanched heads were obtained, the plan being far better than was heaping up ridges of soil over the crowns. Two or three other rows would be so covered later, and in that way good blanched Kale kept until the latest possible time. Small growers of but a few square feet may adopt that method with

advantage. They can, after the pipes are done with, stand them here and there beside garden walks, burying the bottoms 2 inches in the soil, filling with good soil, and putting in some good flowering plant or a few seeds.—A. D.

GARDEN WORK.

Conservatory.—Fuchsias are lovely now in any form, but especially as tall pyramids trained to a single stake in the centre with the flowering branches drooping gracefully on all sides. A Fuchsia will flower as freely in a young state in a 5-inch pot as when several years old and 6 or more feet high; but for early flowering in small pots the cuttings should be rooted either now or during early summer for early flowering following spring. Spring-struck cuttings make nice little flowering stuff during the summer, but they are not early enough for the market grower. It is the same with early flowers as it is with fruit and vegetables—the first comer realises most. In a large, cool conservatory Fuchsias of the free growing kinds planted out and trained to wires under the rafters are very effective, and I have had them do well planted out and trained to vertical wires rising in any part of the house. The wires are fixed to blocks of wood driven in the borders and secured at the upper end to one of the tie rods, or in some other way. Of course, Fuchsias planted out in the border will bear a good deal of pinching and pruning, but they pay for the trouble, and they flower continuously all the summer and well into the autumn. Scarlet and other Salvias should be rooted now, and when well established in pots and hardened, may either be planted out or grown on in pots. The planting out system produces the largest plants, but do not crowd, and attend to the pinching and watering if necessary during the summer. Arum Lilies may be divided and planted out now if that system is adopted. For early flowering we prefer to grow in pots, but the planted out stuff comes in well for Easter. Of late years the culture of these Lilies has been overdone and the prices have ruled low. The berry-bearing Solanums will be ready for a shift now. If it is intended to plant them out, set them out in a sunny position, giving plenty of room for growth and air circulation. Here, again, for early work it is better to grow a part of the stock in pots. Some of the silver-leaved and other Maples will be in good foliage now if brought on under glass, and will be useful among dark foliaged plants as backgrounds. Calceolarias must be kept free from insects.

Stove.—Moisture in the atmosphere and shade during bright weather should be applied with judgment so that they, as it were, balance each other. Shade should be looked upon as a necessary evil. If excessive shading is used it becomes an evil, as it weakens growth, and if it is necessary at any time to take plants from a much shaded house for any decorative purpose they suffer, and this we want to avoid. Continue to strike cuttings of Poinsettias as the young shoots can be obtained. Strike singly in thumb-pots in sandy peat plunged on a brick bottom. Lift out of the plunging bed as soon as rooted, still keeping close and warm for a short time, and then transfer to larger pots. Afterwards they may be gradually hardened off, keeping them near the glass so that the plants may be dwarf and sturdy. Old plants may be usefully planted out in a bed of peat and loam at the back of a warm-house. We have had them do good work at the back of a low lean-to Melon-house. In such positions the wood ripens up well and the heads of broets are fine for cutting and save the plants grown in pots. The old *Rondeletia speciosa* major is very useful where cut flowers are in demand, for though one cannot cut sheaves of bloom off it, there is generally something to cut from it, and the flowers are always appreciated. Vincas, in the shape of good specimens, generally used to be found in collections of stove and greenhouse plants. They are not difficult to grow. Liquid manure will help them.

Pines.—Keep the atmosphere moist by damping floors and surface of beds. Dew the plants over twice a day with a fine rosed syringe, avoiding all plants in flower and ripe fruits. In hot, bright weather the damping of floors and beds will be supplementary to the

syringe. Ventilate moderately when the thermometer reaches 80 degs. and close early, damping down at the same time. Give liquid-manure to plants which have filled their pots with roots. If the suckers are taken and potted when ready they will come on in succession. Suckers have an exhausting effect on the plants, therefore only a limited number should be permitted to develop. There are generally stated times for a general overhauling of the Pines, and then there are a general repotting of successions and suckers and a renewal of the plunging-beds, but, of course, successions can be potted any time when a shift is required. There is one advantage the Pine grower possesses over other fruit growers, except it may be Grapes. The fruit will keep some time after it is ripe if the pot is lifted out of the house and kept in a cooler structure, of course, giving no water. Nothing spoils the flavour of ripe fruit—whether Pines, Peaches, or Melons—as a heavy deluge of water after the fruit is nearly ripe. Feed freely during the swelling process, but when the aroma of the ripening fruit pervades the atmosphere discontinue watering.

Late Grapes.—May has been a very trying month, especially to Grapes in cold-houses. If fire heat is not used, or used only sparingly, the moisture in the atmosphere must be used sparingly also, or the foliage may suffer. But no one can grow good Grapes under glass in a season like the present without fire heat. Avoid overcrowding the foliage. The bearing shoots should be a foot apart on each side of the main rods. Some allow even more space, but a foot should be taken as the minimum distance. Keep down sub-laterals. With good main leaves they are not required, except as safety-valves for controlling the growing force of very vigorous Vines. Give a little air early in the morning, and increase it gradually as the sun gains power. Keep the border moist, and it is an advantage to take the chill off the water when used from a pump or a cold, exposed tank, but the water can be used from a supply inside the house at any time.

Window gardening.—*Plumbago capensis* is a very useful plant in several forms. It makes a neat little specimen in a 6-inch pot trained over a neat wire trainer, and it flowers in summer when flowers of a distinct type are getting scarce. Of course, now we have an abundance of blossoms in *Pelargoniums* various, including some of the scented-leaved varieties. We appreciate the old Oak-leaved *Geranium*, with its spicy perfume. *Lady Plymouth*, with its neat habit, is a good cottager's plant. *Fuchsias* are coming into bloom. *Musk* is growing rapidly. *Calceolarias* should be grown in a shady window and kept free from insects.

Outdoor garden.—The weather is yet too cold to think of bedding out, as the term is, anything but the plants which have been thoroughly hardened by exposure. To take plants from the greenhouse and plant them in the beds will give a check to growth that will be felt for some time. Of course, such things as *Calceolarias*, *Asters*, and *Stocks* which have been well hardened may go out with safety. Even *Geraniums* which have their leaves hardened by exposure will take no harm. *Heliotropes* and *Zinnias* soon show the effect of frosty winds. The growth of hardy subjects is very backward, but those who have Tufted *Pansies*, *Wallflowers*, and *Doronicums* will have some colour in the borders. The *Scarlet* and other *Thorns* or *May* will hardly be in flower this season before the end of the month, except in warm situations; but *Lilacs* and *Laburnums* are showing colour. Those having a sheltered garden might do more with the hardy *Magnolias*, most of which are very beautiful. The lists of the Continental nurseries are much fuller of names than our own, but their system of grafting everything is a bad one, as its tendency is to shorten life. Especially is this seen in the better kinds of *Broom* (*Genistas*), such as *Audreana* and *precox*. The beautiful double-flowered *Plum* (*Prunus triloba*) when obtained from the Continent is generally worked on a common *Plum* stock, and the work of keeping down suckers is considerable.

Fruit garden.—I have never seen fruit-trees so full of blossoms, taking them all round, as they are this season. The Apple just now

is a picture of floral beauty, but the 10 degs. of frost on the morning of the 14th inst. has had a depressing effect, though the blossoms will bear a good deal of thinning and still leave a crop. As soon as the petals fall the sprayer must be put in operation, as there are sure to be insects, including the larvae of the *Codling-moth*, to deal with. Those who are looking for a site for planting fruit-trees must take into consideration the value of shelter. There will be plenty of object lessons this season if one observes closely. The blossoms of the early *Strawberries* have suffered from the frost. I am told one very large grower in this district has given up growing *Royal Sovereign* because of the loss from spring frosts. If there is any liquid-manure to spare, let the fruit-trees which are in a free-bearing state have it. To have fine fruit the trees must be fed, and surface-feeding is the right course to adopt. In exposed gardens Peach-trees are showing blistered foliage. When the weather settles the worst leaves can be picked off and the trees washed with an insecticide. In the meantime, Tobacco-powder will keep both insects and mildew in check. On warm, south walls the roots of the trees are probably too dry, as the rainfall is below the average.

Vegetable garden.—The frost has given a severe check to the early Potatoes. They will break again, but the value of the crop has been reduced. The hoe and fork, if used freely, will encourage growth. Young crops of Carrots, Parsnips, and Onions should be thinned before the rows become much crowded. It is difficult, perhaps, to rightly gauge the quantity of seeds to secure a sufficient number of plants to give a chance of selection, but in many gardens the seeds are sown much too thickly, and besides the loss of seeds, injury is done before the crops are thinned. It is a good plan to prepare Celery trenches as soon as the green crops can be cleared off, and then Lettuces or something else can be planted on the ridges. Excellent Lettuces are generally produced between the Celery trenches. Sow a few rows of Chicory if not already done, as it comes in useful for salads when forced in winter. Vegetable Marrows and ridge Cucumbers may be planted under haulights, or sheltered in some other way. I have seen them covered by inverting flower pots over them for a few nights till the plants are settled in position. The earliness of any crop adds a value to it. The Turnip-rooted Celery (*Celeriac*) is planted on the surface on well-manured land in rows about 2 feet apart. The plants are raised in the ordinary way. E. HOBLAY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

June 2nd.—Just planted a good breadth of Brussels Sprouts and a couple of rows of Celery and Leeks, the latter in shallow trenches with a little old manure worked into the bottom. We are growing *Verbenas* again somewhat largely; they make when well managed lovely beds, either in separate colours or as mixture. Continued the spraying of fruit-trees. A determined effort will be made to get rid of insects.

June 3rd.—Onions that were raised in boxes in heat and planted out last month are making rapid progress. This is the right course to adopt with selected stocks, as it saves the seeds, and the transplanted Onions generally do well, and in our case have escaped the maggot. Sowed another box each of *Cineraria* and *Primula* seeds. We are busy hehking out now, and other work for the time being must wait.

June 4th.—Planted out *Dallias*. We are growing chiefly Cactus varieties; they are so useful for cutting. Sweet Peas are growing freely, and will have an occasional soaking of liquid-manure. The loveliest lot of Sweet Peas I remember to have seen was raised in single pots and afterwards transferred to Sea-kale pots, placed bottom upwards alongside a walk, and freely watered with liquid-manure. Creeping Jenny was planted to hang over, and the liquid-manure helped greatly.

June 5th.—Peaches ripening are freely ventilated, and watering the border has ceased for the present. The fruits are looked over daily, and the ripest gathered and placed in fruit

room to complete ripening, or else packed up and sent away. Sir Charles Napier in pots has done well as a late crop. This is an old favourite, and takes some beating. Planted out Tomatoes against walls and fences. Some will be planted out quite in the open and trained to stakes.

June 6th.—Fig-house, where the fruits are ripening, is kept drier, and syringing discontinued for the present. Figs and Vines on south wall are often looked over and young shoots thinned, but outdoor Figs are never stopped, as only one crop can be obtained. Even in a cold house the second crop seldom ripens. Planted several rows of the white-seeded *Scarlet Runner Beans* for late bearing. Insects on Roses are having a lively time. No quarter is given.

June 7th.—Violets preparing for winter flowering have been hoed through, and a mulch of old Mushroom-manure laid between the rows to save watering and encourage growth. Some large specimens of *Dielytra spectabilis* are making a lovely group in a cool-house. Long sprays are good for cutting, and look charming in a tall vase. Sowed more Lettuces of various kinds. Continuity is a good Cabbage Lettuce for dry soils and seasons.

BEES.

SEASONABLE WORK IN THE APIARY.

The most interesting period in the Bee-keeper's calendar is now at hand in the increase of colonies by natural swarming, although much depends upon locality, the state of the weather, and the conditions under which stocks were wintered. Where hives are well filled with Bees in autumn, in addition to being well provisioned, they are ready to swarm some weeks sooner than if left weak in population and short of stores. In spring, when a hive has become very crowded and stores are coming in plentifully, the queen commences laying eggs in drone cells and the workers construct queen-cells. In the latter, eggs are deposited about four days before a swarm issues. Where frame-hives are used the queen-cells may be easily discovered if the central frames of comb are examined and search made along the edges of the combs. The queen-cells very much resemble an Acorn in shape. Should one or more be found to be cupped over it may be concluded that, weather permitting, a swarm will shortly issue from the hive. If, however, the state of the weather prevents a swarm leaving a hive at the right time, the queens in embryo are destroyed and the swarming delayed till queen-cells are again prepared.

The chief indications of swarming being about to take place are the crowding of the Bees at the entrance of the hive, general restlessness, and the appearance of drones. Swarming usually takes place between ten in the morning and four in the afternoon. If on a fine morning for honey gathering but few Bees are seen at work, while on the previous day all was activity and excitement, a swarm will be pretty sure to issue in the course of the day. In the act of swarming the Bees pour out of the hive in a constant stream, and all, apparently, wild confusion; they, however, soon begin to collect at one spot—generally some bush or tree near at hand, where they gather in a cluster, which quickly increases in size as it is joined by the rest of the swarm. The old queen, which has passed the winter with her colony, always leaves with the first swarm. Hives and all necessary appliances should be in readiness, that no time may be lost after the swarm has clustered, dispatch in hiving being all-important, as the longer it is delayed the more difficult the Bees are to handle. If the swarm is to occupy a frame-hive, this should, if possible, be furnished with clean empty comb. The advantage of this is that it enables the queen to commence laying without loss of time; otherwise sheets of comb—foundation or strips 1 inch or 2 inches wide, should be fixed on the underside of the top bars. As comb foundation contains sufficient wax in its projecting walls to enable the Bees to completely lengthen out the cells, it is only needful for them to provide wax for the cupplings. Thus a great amount of labour and much time are saved.

The swarm should first be hived in a straw skep, by holding it under the cluster while the brush on which it is hung is smartly shaken, causing the Bees to lose foothold and drop in a mass into the skep. They can then be shaken out on the tops of the frames, or upon the alighting-board of the hive. In either case, if the queen is with them, they will soon run in and form a cluster. Some persons have a great dread of being stung, which is a considerable drawback to their becoming proficient Bee-keepers, but the chances of being stung may be greatly reduced by wearing a veil when performing any operation in the apiary; and then Bees can be subdued by fumigation with the smoke of lighted brown paper, touchwood, fustian, etc., used in a bellows-smoker, by which the smoke can be puffed into any part of the hive desired. The idea of smoking Bees is not to stupefy them, but to alarm them, and cause them to fill themselves with honey, in which state they are but little disposed to use their stings, unless injured. Bees seldom sting when swarming, and the reason is that each individual, before leaving the hive, has gorged itself with honey. Gentleness, again, is a secret in the successful handling of Bees, for they are easily excited to anger by any quick or sudden movement of the hands. In examining a hive, a minute or two should be allowed after injecting a few puffs of smoke that the Bees may have time to freely partake of their stores; the hive may then be opened, and a little more smoke puffed in at the top of the hive as the coverings of the frames are gently removed. As the population of the hive increases, more room should be given (if swarms are not wanted) by tiering up or supering, adding one or more bodies containing either frames or section boxes—the frames for surplus honey for extracting, the sections for white comb honey. The uppermost frames or sections should be covered with some warm material in order to maintain a high temperature within the hive. S. S. G.

BIRDS.

Death of Canary (*Sergt.-Inst. J. Morris*).—In this case death appears to be due to inflammation of and internal hemorrhage of the lungs. The bird had evidently taken a sudden chill. Our changeable climate proves very trying to our feathered pets, especially at this season of the year, lung trouble being one of the most formidable complaints to which they are subject. The only chance of helping a bird over an attack of pneumonia is to keep it in a warm, moist atmosphere, and at an even temperature.—S. S. G.

Parrot with lame foot (*H. B. J.*).—If there is swelling in the claw and the bird has lost its appetite, but drinks more than usual, give it ten or twelve drops of Castor-oil, and put it on low diet for a time. The oil may be administered in a little bread and milk. The perch or floor may be padded that the bird may rest more comfortably. Possibly the claw has been injured through a blow or fall, or from becoming entangled in the bars of its cage. The injury may be situated in the leg or knee-joint. On examination, the foot, if misplaced, should be gently restored to its natural position, and supported by means of two thin splints of wood. Keep the bird in a quiet place where it will not be disturbed, that the injury may be the easier as quickly as possible. The best food for grey Parrots is Maize, hoiled till soft, then strained, and wiped dry. To this may be added in smaller quantities Canary-seed, Millet, Hemp, Oats, together with Nuts, Apples, or any fruit that may be in season. Animal food in any form, soap, and sweets should be carefully avoided.—S. S. G.

Photographs of Gardens, Plants, or Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

The Prize Winners this week are: 1, Mr. J. S. Taylor, The Gardens, Laundem House, Oundle, Northampton, for Lawn flower garden in front of house; 2, Mr. J. Ross, Oxford, for Primula nivalis. Digitized by Google

LAW AND CUSTOM.

Rights of garden tenant.—I have taken on a three years' agreement a small annexe to my present home, the annexe being really one large room, which I have rendered habitable. The garden to it was a sand-heap, and I am making and planting it. Will you tell me what things I may remove when I quit? Can I take away the edging of border-tiles I am putting down? The neighbours say I may take away anything that is loose or merely screwed, but nothing that is nailed. Is this correct?—Ara.

[Broadly speaking, your neighbours are correct. You may remove the border of edging tiles, but you can remove nothing that is firmly affixed to the freehold; hence, you can remove nothing that you plant if it takes root and grows. Things merely screwed to the freehold are not permanently but lightly affixed, and are generally removable.—K. C. T.]

Landlord and tenant—a tenant's claim.—B let a cottage and some ground to G on a yearly agreement to be determined by notice given at June quarter, no compensation to be payable by either side. B has now given G notice. In the ground let to G there is a board bearing the following notice: "This ground to be let for building purposes." There was no agreement about this notice board, but it has been there throughout G's tenancy. As he has paid rent for the ground, can he claim compensation for the occupation of the ground by the notice board?—B. C.

[Your statement implies that the notice board was there when G's tenancy began, and, if so, it was open to him to have made it a condition of the tenancy that the board should be removed; but he made no such condition, and he has allowed the board to remain without demur until notice to determine the tenancy has been given. Under the circumstances it must be presumed that the letting was subject to the right to place the board there, and no compensation can be enforced.—K. C. T.]

Garden let to tenant—winning coal-waste.—I took a house and a large garden at so much a year, payable half-yearly, but without any written agreement. I was under no restriction, but was at liberty to make what I could out of the garden. I kept fowls on a part of the ground, and one day a deep hole in this part and came upon coal. I bared the coal and got some of it up, and now my landlord has heard of it, and his solicitor demands to know what quantity I have got up, and intends to make me pay for it. As I took the garden to make what I could out of it, I contend I was justified in getting coal if there was any there. I may say that the coal would not repay the labour of getting.—C. O. G. E. R.

[You were clearly guilty of voluntary waste in digging the coal. You took the garden as a garden, and you did not take the minerals in the land, and it was an act of waste on your part to dig deep holes in the ground. I do not think, however, that the landlord will compel you to pay for the coal you have got, at any rate, not if you have sold none. It may be that it would not pay to hire men to get up the coal, but that is a matter of doubt, and if the coal lies as near the surface as you describe, I should think it will pay for getting. Let these things be as they may, I can assure you that you have been guilty of waste and are answerable to your landlord for the damage done, although the extent of the damage may not be great.—K. C. T.]

A nursery foreman's notice.—Six months ago I took a situation as foreman-manager in a newly-opened nursery at a certain wage, and a house was to be built in which I was to live, but, until it was built I was to have the use of another house. I removed from a considerable distance to this situation, and on my arrival I was told I must go into lodgings for a week or two, as my employer did not like to turn his good-paying tenant out. He has not yet turned him out, and I am still in lodgings. I was to have a share in the profits, and I have been working overtime to get the place started, for which I have received nothing extra. Now that I have got the place into going order, my employer has, without any reason whatever, given me a week's notice to determine my service, and says he can manage himself. I find he has tried to manage one of the men under me at a much less wage than he gives me, and I have to leave on a week's notice? As I have been in lodgings ever since I came, can I make any claim on this account?—C. K.

[The bargain was that a house was to be found you, and as a house was not found and you were directed to go into lodgings until such a time as a house was found, you may claim from your employer the cost of your lodgings, and if he will not pay, you may recover the same in the county court. It is not so clear what notice you are entitled to. From the number of questions asked as to the notice gardeners of various kinds may claim, it seems that no party to such a contract, neither employed nor employer, ever thinks of making a stipulation as to notice at the time of the engagement. Having regard to the fact that you were engaged as a foreman-manager, and

that a house was to be found you, and that you were to have a share in the profits, I think it is clear that neither party intended that the contract should be determined by a week's notice. In my opinion you are at least entitled to a month's notice. You do not say how you are paid, but in this case it does not really matter whether you are paid weekly or not.—K. C. T.]

CORRESPONDENCE.

Questions.—Queries and answers are inserted in *GARDENING ILLUSTRATED* if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF *GARDENING ILLUSTRATED*, 11, Farnwood-street, Holborn, London, E.C. Letters on business should be sent to the PUBLISHERS. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as *GARDENING ILLUSTRATED* has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Anomatheca cruenta (*G. M. S.*).—This is a pretty little South African bulb belonging to the Iris family. It grows from 6 inches to 12 inches high, with carmine-crimson flowers, three of the lower segments marked with a dark spot. It is hardy on warm soils, but in others it should be planted on slopes, in very dry, sandy soil, or on warm borders, the bulbs being planted rather deep. In many soils it increases rapidly.

Rose Marechal Niel buds not opening (*Robert Newton*).—This Rose often produces more buds than come to perfect flowers. In what condition are the main stems? Are there any signs of canker? The non-swelling of the buds arises, no doubt, from there being too many for the plant, or lack of vital power in the plant in some forms. You might try what a little artificial stimulant in the way of manure-water will do.

Plant for background (*Swiss Sittlerher*).—There is some difficulty in this, as you doubtless require a plant as free and profuse in flowering as the Ivy-leaved Pelargonium, and we regret it is not forthcoming. *Salvia patens* would look well, but we fear it would not stand the heat, and the beautiful scarlet *Salvia* would not do at all in the circumstances. It is possible you may find a better plant in some of the warmth-loving annuals, such as the *Celosia*, *Love-lies-bleeding*, or similar plant. *Nelium-tus eucamerifolius* would do quite well, from the heat enduring side of the question, but it may be too tall for your purpose. It grows 3 feet high. Another plant is the annual *Gallardia*, which is showy and free. The old scarlet *Pelargonium* is often derided, but a better plant, with great freedom of blooming in dry and hot places, has not yet been found, and is such as the *Tuberous Begonia* is quite useful.

Outdoor Auriculas (*B. Ledward*).—Few hardy plants need less attention than do outdoor or border Auriculas. If you do not wish to save seed from your plants, pinch out the flower-stems low down so soon as the bloom is over, and if you have any old pot soil, or indeed any fairly good soil, run through a sieve, and place some of it about the plants, as it will assist new roots, which then generally break out from the base of the leafage. That so far relates to leaving the plants alone, and so treated they often grow into large clumps. If you wish to propagate the plants, you may, the moment the bloom is over, lift them, divide, cutting away any long or apparently decaying root-stock, and replant in good soil under the shade of a north wall, giving water in hot, dry weather. If, if preferred, you may leave the replanting until next October. Still, then the plants are slow in forming new roots.

Anemones (*Anemone fulgens*).—In the majority of instances lifting and a short, complete rest are beneficial, particularly for the "mixed" kinds, which we presume are the form of *A. coronaria*. Do not, however, lift them till well after the leafage has disappeared, then place the tubers in sand or rather dry soil, so that the enforced rest may be gradual as well as complete. Later on remove the tubers to quite dry sand, and keep them so till October or November, when you may replant them. With *A. fulgens* the case is indifferent, and in scarcely any two instances will the same experience give identical results. We know an instance where the plant is employed as a spring bedder where formerly the custom was to dry it off each year. So many failed to flower by this treatment that now the tubers are lifted soon after flowering is over, and heeled in in old potting soil under a north wall, and there they remain and re-start into growth, when they are lifted en bloc with spade and replanted in the beds, giving the first at results possible.

Remaking Lily of the Valley bed (*J. W. F.*).—Early autumn is the best season for such work. As the bed is an old one, the Lily roots have doubtless become crowded, and an impoverished condition generally has resulted. Select a fresh position, where fresh soil would be at hand. If this cannot be done, give an entire change of soil, taking out fully 15 inches of the old, and replacing by a like quantity from another part of the garden. Dig in plenty of very old manure and leaf-soil, if possible. Some care will be required in digging out the old bed.

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FRUIT.

MILDEWED VINES.

Having taken your very useful and practical paper for some time, I am sending by post a small bunch of grapes with two leaves. I am afraid they show mildew, and I should feel grateful if you would tell me, if that is the case, what I can do to get rid of it? I have nine vines in my house, and they have been more or less affected the last three years. The house is full of plants at present, but I hope to get them out next week. In the winter I dug out the roots of the vines, removed the old soil, and put in loam and a sprinkling of 4-inch bones, and the growth is very vigorous, as shown by the large size of the leaf on—S. P.

[Undoubtedly your vines are affected with mildew, and in a very severe form. It would have been better had you sought advice earlier, especially as you say they have been affected more or less for the last three years. Neither the leaves nor the bunch you send display any sign of vigour, rather, we should say, they were in a very debilitated state. You give us no information in helping to form an opinion as to the cause, but we may say that mildew comes from inattention to watering of the borders, from negligent ventilation, or from low, damp situations, with the border not well drained. Flowers of sulphur is the common remedy for mildew as affecting the leaves and bunches, applied in a dry state. It is impossible for you to clear the disease out in one season, because mildew is such a persistent fungoid growth once it gets a footing. We presume, although you do not say so, that your vinery is heated with hot-water pipes. If this is so, coat these with sulphur, first reduced with water or skim milk to a paint-like consistency, and maintain some heat in them regularly, and at night in particular, to a sufficient degree to give off a sulphurous vapour. With vines so badly infested persistent effort will have to be maintained ere this can be effectually checked. Procure some sulphate of iron in a powdered form from a horticultural sundriesman, and apply this to the border at the rate of an ounce to each square yard of surface, and water it in. Repeat the application in about two months' time, and you will find this a great help in getting at the root of the evil. In the meantime see that the border is in a proper state of moisture, not saturated on the one hand, or dry on the other, for these extremes are conducive to the mildew. It would be well, too, in order to assist as much as possible in keeping the foliage coated with a film of sulphur, to reduce lateral growth weekly to the point of origin. What is known as sublimed sulphur is the better article to procure for your purpose, though it is not strictly material. You should apply the fresh sulphur at least once a week in light dustings to the leaves and bunches, and, if this is well followed up, there will be less trouble in future. Ventilation should be given early in the morning, particularly if the aspect is one that invites the early sun. It is well known that to allow the sun to shine on the roof for any length of time in the morning before air is admitted conduces to the attack of mildew, even in otherwise healthy and vigorous vines. The same effects do not arise from closing the house in the afternoon when the sun is

declining; indeed, it is invigorating to the vines to close the ventilators sufficiently early to husband warmth from the declining sun. The growing of a quantity of plants in the vinery is not considered a good practice, and, in the case of mildewed vines, it certainly is not favourable. There are, however, thousands of vineries in which plant growing is of necessity practised, and it is possible, under good management, for both to grow together in harmony. In the winter it will be necessary to thoroughly clean the roof, stages, and walls, and to paint the vines with a sulphur concoction, so as to destroy the germs that may lurk in the bark and spurs, and later in spring, when the vines advance into leaf growth, employ the dry sulphur, then you may, with other suitable attention, subdue the evil.]

RASPBERRIES.

Raspberries will thrive and bear fruit in almost any kind of soil that is well manured; but the finest fruit is produced by plants growing in a deep, rich loam. Raspberries produce a thick mass of fibres near the surface, and therefore are very susceptible to drought, which causes the fruit to come small and shrivelled. Before a new plantation is made, the ground should be trenched two good spits deep, or, what is better, 2½ feet. This must, however, in some measure depend on the character of the sub-soil, as if it be of an inferior quality it will not be advisable to bring much of it to the surface. When trenching, plenty of manure or garden refuse should be worked into the ground. The best time for planting is as soon as the canes have shed their leaves. The mode of planting must, in some measure, be regulated by the form in which the canes are intended to be trained. Where stakes are available, the simplest plan is to tie the bearing canes to them, taking care that they are securely fixed in the soil. The stakes should stand out of the soil about 4½ feet, and to each of them should be tied, when the plants have become established, five or six of the strongest and best placed canes from each stool after the fruiting canes of the previous season have been removed. They should be planted in lines not less than 5 feet apart, and the distance asunder in the line should be the same, or not less than 4 feet. They will not throw up very strong growths the first year, but if the fruit be sacrificed and the canes cut to within 1 foot of the ground, they will throw up much stronger canes the following season. Another mode of training consists in placing strong posts at each end of the row, connecting these with galvanised wires, strained through intervening iron standards. Thus a trellis is formed on which the canes are trained, and, if properly fixed, a plantation of raspberries thus treated will last for years. Where this system is adopted the canes should be planted about 1 foot apart, and the shoots should be trained a little diagonally. Some growers dispense wholly with supports; merely placing the canes in bundles and uniting the tops from each end of the row. Thus forming a series of arches on which the fruit is borne.

After planting, surface-dress with decayed manure. During the summer the ground must be kept clear of weeds and the soil occasionally loosened with the Dutch hoe. When the plants have become established and made about a foot of new wood, all useless suckers should be pulled away in order to admit light and air to such canes as are selected to remain. When the fruit is gathered the canes that have borne it should be at once cut out, so as to give increased space to those intended to bear next year's crop, and as soon as the leaves have fallen the latter should be thinned and regulated. After regulating the canes, some recommend that the ground be dug and a quantity of manure worked in about the roots, but it is questionable whether such practice is not a mistake. A better plan is to loosen the surface with a steel fork, and then to mulch with 2 inches or 3 inches of decayed manure, which will protect the surface roots from frost in winter and drought in summer.

T.

NOTES AND REPLIES.

Melon fruits not swelling (J. W. W.).—There must be some local reason accounting for your failure, for, as a rule, if melons set there is no further trouble as regards their swelling. They must, however, be set all together, or they fail in the manner you complain of. In pots there is much greater uncertainty, and especially in those of so small a size. Ten-inch pots are not large enough, and the evil of this restriction is further accentuated by their close proximity to hot water pipes. Feeding with manure of any sort we have proved to be fatal to setting and swelling of melons in pots, and this may be the cause of your complaint. Clear water only should be given until they have set. If you have not already done so, you should give lime to the soil, preferably that which is air-slaked, and in planting or top-dressing add this to the soil. Some soils are very deficient in lime, and if this is so naturally, then the necessity of applying it by hand is apparent. Herein may be found a further cause of your failure. Melon growing may be easy, or it may prove just the contrary, as so much depends on the daily attention, the season, soil, and local conditions. We have found that it is not sufficient in melon growing to just fill the pots or make up a bed and consider this sufficient to carry them through to maturity. A little addition of new soil occasionally has a marked influence on their growth. One may feed with the best of manures, liquid or dry, but with soil crammed with hungry roots this does not satisfy every demand. If new roots can be encouraged there is material for supporting both the swelling fruit and leaf growth. If your fruits fail to swell, the only alternative is to wait for more flowers to open and set, and to proceed on the lines above stated, and endeavour to encourage and maintain new root formation by additions of new soil on the surface, both in pots and borders, not omitting lime in small doses occasionally. Do not, however, give lime and dry manures together, but rather as

an alternative course. A rim may be constructed on the edge of the pot with wet clay or turf to facilitate the soil additions.

Newly planted Vines unpruned.—Early in March I planted four Grape-Vines in a prepared outside border, the canes being brought into theinery, which is a cool one. My gardener is allowing all the laterals inside to grow, but proposes to stop them when a certain length. Some of my friends tell me this is all wrong, and I find in your issue of April 10th an answer to a query in which you say, "Newly planted Vines are by all good gardeners cut down to within a short distance of the soil." I wish I had noticed this before. Now, the question is, ought I to do this now? Some of the laterals are from 7 inches to 9 inches long. I am anxious to make theinery a success, and would be much obliged if you would tell me how to rectify the error I have committed!—S. H. A.

[The practice of cutting back newly-planted Vines is one universally adopted. Where this is not done there is not usually the same satisfaction derived from their progress. It would be well, even though your Vines have so far expended themselves, to reduce the laterals back from the point downwards, so as to strengthen the one chosen for the future permanent rod. It often happens that when newly planted Vines have reached the limit of the first growth, which in reality is stored in the embryo bud and unaffected by spring roots, they remain stationary, or almost so, and their future is both slow and unsatisfactory from a growing as well as a fruiting point of view. From these remarks you will observe that the chances of rectifying the error are not by any means certain. On the other hand, it would, we think, be better to sacrifice the existing lateral growth to a point where a strong shoot would conveniently form a permanent cane. By this time your Vines have reached a stage when roots should be active. You will probably find the strongest shoots on your Vines near the extremities of the canes, and those nearer the soil weaker. By a course of pruning the cane while in a dormant state this is changed somewhat, a strong shoot coming from the point to which it has been pruned. Pinching of the shoots when they have reached a certain length is not in itself sufficient. The ascending sap travels to the extremity, giving greater strength to the laterals at that point, and this same influence will be felt in the future. A young nursery-grown Vine is grown in a hurry, and prepared only for sale. When it passes into the hands of a permanent owner its course has to be modified and so dealt with as to build up a solid foundation. The unpruned cane would never swell up in its lower portion at the same rate as the uppermost; consequently, the Vine would become largest at the top instead of at the base near the soil. Permanent Vines need to be dealt with so as to encourage a production of stem from the border to the extreme end, and this comes from pruning and pinching.]

Diseased Apple-trees.—I enclose branches of some young Apple-trees, and would be much obliged if you would kindly say what is killing them, and what remedy (if any) I could apply? Some of the trees were planted by me two years since, when I got the orchard, others some four or five years previously. There were old trees in all the places some years since, but the young ones have not been planted exactly where the old ones stood, as the old ones were large standards and the young ones are pyramids and bushes, planted more closely than the old ones, and the places where the old ones stood were tilled (vegetables) for some years before being replanted. The youngest trees are bushes on Paradise-stocks, and the ones planted four or five years pyramids on, I believe, Crab-stocks. The largest branch I send has the leaves quite healthy on it until two or three days since. Would American blight be the cause? I had a good deal of this last autumn, but did not notice this effect at that time; in fact, I had very little of this disease, whatever it may be, until just lately.—J. C. Bantry.

[We see no present evidences of American blight on the portion of Apple-trees sent. In one case there is ample evidence of the existence of a fungoid or mildew attack, and what is known as the Apple Oidium. That refers to the portions mentioned as having been healthy up to a few days previous to sending. The other shows in the wood evidence of canker, as the bark is shrivelled and the leafage bears evidence of injury by sharp, late frosts. It seems as if the wood had suffered from the same cause, but in both cases mildew is there. Is it right to assume that the position of your orchard is low and damp, and that the summer wood does not ripen well? In any case, we think it would be wise to lift and replant the trees in the winter, adding to the soil a quantity of wood-ashes and sifted old mortar-refuse. A few weeks later prune rather hard to induce the formation of new healthy wood. But you may at once make a sulphate of copper

solution. Get 2 lb. of that material (bluestone), and dissolve in a large wooden tub in boiling water. Dissolve in a pail 2 lb. of lime (fresh), then pour the liquid into the tub, add 2 lb. of soft-soap, and then 30 gallons of water. With that gently spray or syringe your Apple-trees at once, doing so in the evening, and give a second spraying three weeks later. That should kill the mildew. A fine winter wash or spray is 1 lb. of caustic soda, 1 lb. of commercial potash, dissolved in water, then add 15 gallons of water, and use it as hot as can be borne. That dressing is a great cleanser. It should be applied only when the trees are at rest, but not in frosty weather. After all, soils and climatic conditions have more to do with these fungoid attacks than has anything else.]

TREES AND SHRUBS.

MAGNOLIA STELLATA.

This is the smallest of the hardy Magnolias, being a shrub rather than a tree, though, in



Magnolia stellata growing against a wall in Col. Baskerville's garden at Crowley Park, Henley-on-Thames. From a photograph by Mr. T. Taylor.

places where it has been planted for a long time and thriven well, it is as much as 12 feet high. Specimens 4 feet and 5 feet high may well rank among the loveliest of spring flowering shrubs. Its fragrant blossoms are pure white, and the numerous strap-shaped, radiating petals distinguish this from all other Magnolias. As this, like all the Magnolias, resents being moved, it should be placed in its permanent position as soon as possible. An addition of peat to the staple soil helps this Magnolia considerably. It is not absolutely necessary, as it will thrive in any good open loam; but peat is worth adding to the soil, especially as a means of bringing on young plants. It is a native of Japan, and, besides the older and correct name here given, is known also as *M. Halleana*.

Growing Broom.—I should be glad to know how to cultivate the common Broom. It seems difficult to transplant. Would it be better to grow it from seed? When should the seed be sown? Is Broom a fairly quick grower?—SHERWOOD.

[Yes, it is far the better way to raise from seed. Sow at once. Broom grows very fast if protected from rabbits.]

PLANTS AND FLOWERS.

CHRYSANTHEMUMS.

SEASONABLE NOTES.

THE cold and unseasonable weather of late has been all against the plants making satisfactory progress, and at the time of writing, generally speaking, their appearance is anything but what it ought to be. A curious feature of the unfavourable season has been the slow growth of those sorts which were pinched in the early spring. As a rule, plants treated in this way usually develop freely new lateral shoots, but this season the new growths were much longer than usual in developing. Unless a position could be found in which protection could be afforded against the cold easterly and northerly winds, it has been much better to keep the plants in cold frames, leaving the lights tilted. In exposed situations I have seen plants which have been injured by the exceptionally severe frosts (9 degs. May 15th),

and many of the plants, too, have been partially denuded of their foliage. The grower must always act according to the climatic conditions prevailing at the time. A close observation of the plants, especially those which were pinched or stopped, will in all probability disclose many of the young lateral shoots infested with green-fly, and if this be so, means should be taken at once to rid the plants of this pest. It is astonishing how quickly a dusting with Tobacco-powder will render their surroundings untenable, and if any happen to be left, do not fail to repeat the dose. Black fly is troublesome in some collections, and is often found more difficult to eradicate than the green form. Much depends upon taking the black fly in hand in good time—in fact, immediately it is first seen. I have seen plants which have been neglected in this respect for a little while, and in the interval their numbers have been nothing short of marvellous. The difficulty then in removing the pest is considerably increased, and the plants naturally must suffer in consequence. Another seemingly insignificant matter is the removal of weeds from the surface

soil in the pots. However careful a grower may be, weeds will develop; but this need not cause much concern, provided they are removed while they are very small. The rich character of the soil and the daily attention which the plants receive in the way of watering, etc., naturally promote growth of a robust and vigorous kind, and weeds luxuriate and attain such proportions that their removal causes some trouble. In the process of uprooting the weeds the surface roots are interfered with, and not infrequently laid bare, and under such treatment the plants must suffer in consequence.

Now that the plants are becoming well rooted in their 5-inch or 6-inch pots, more attention will have to be paid to watering. It is only reasonable to assume that we are now approaching warmer weather, and well-rooted and vigorous-growing plants will need copious supplies of water two or three times each day. A single day's neglect of this timely application of clear water may irreparably blight the prospect of would-be exhibitors. If stakes for their support are not yet inserted, the sooner this is done the better. There are no better stakes than Hazel rods, and if the grower cannot cut these out of his own hedge, he can buy a large bundle very cheaply indeed. That damage may not be done to the roots, see that the end of the stake which has to be inserted is nicely sharpened, and introduce this into the soil at a spot some distance removed from the stem of the plant. Use raffia for tying, leaving sufficient space in each loop for the stem to expand. The final potting should not be done till the pots are well filled with roots. E. G.

By now the bulk of the plants will be in their flowering pots, and preparations should be made to put them in their summer quarters, so that the wood may be ripened properly. The wider apart the plants stand from one another in the rows the dwarter they will be, and the wood will be much better ripened in consequence. When staking the plants each should be carefully looked over, and all traces of green fly removed; they hide in the young growing point of the shoot and cripple it considerably. I have often seen plants look quite free from fly on the outer leaves, and find them in numbers in the inside of the developing leaf. Where plenty of coal-ashes is procurable the pots may be plunged three parts up in same. This has two distinct advantages, as it keeps the plants from being blown over and saves the labour of watering too frequently. When the pots are exposed to the sun's rays for any length of time and get dry, the roots get scorched and the plants receive a serious check thereby. When they cannot be plunged they should be stood on a firm bed of ashes, and, in the event of a hot sun, boards or slates should be laid on their edges, so as to protect the pots. In this case it will also be necessary to secure the plants from wind, and nothing is better than a wire stretched between two strong stakes fixed in the ground at each end of a row; the stakes can then be easily secured to the wire. A good syringing of rain water after a hot day is very beneficial, this promoting healthy foliage and clean plants. Bridge-of-Weir, N.B. D. G. McL.

SPECIMEN PLANTS.

A FEW of these in the conservatory look exceedingly well at the dull season. Anyone having a few old stools from last season on hand may use them for the purpose, and, although the flowers may be small, still, the quantity will make up for the deficiency. To make good plants the stools should be potted into 5-inch pots in any good soil. The old ball may have to be reduced to fit these, but it will do them no harm. After potting, give them a little

warmth, when they will soon start away, especially if they receive a light syringing frequently. The shoots will come in excess of the number required, and should be thinned to nine or a dozen, taking care to cut out the weakest growths only.

When they have attained to the height of 6 inches or so pinch out the points of each shoot in the usual manner, the growths resulting from this pinching being treated in a similar fashion when 6 inches more of growth have been made. This should be continued until you have from thirty to forty shoots, which should make a grand specimen. All growths must be carefully tied out as they grow, to allow all the light and air possible to the centre of the plant. To encourage an even growth on both sides the plants should stand in rows running due north and south. They may be shifted from the 5-inch pots to 9-inch or 10-inch pots, in which they will flower well. When the buds appear, thin to one on each shoot in the case of Japanese varieties. The Pompon, reflexed, etc., may be allowed to open all their blooms. A little soot-water occasionally is very beneficial, and a stimulant should be given weekly after the buds appear. The good old white Pompon, Saer Melanie, treated

before, as we could easily have assisted you to treat your plants in order that they might develop nine blooms on each plant. You say you want your plants to bloom by the end of October, but we fear this is impossible if you want as many as nine blooms to finish satisfactorily. There is even now a difficulty in assuring a limited display at the time named, and we can only give you a general rule to follow, hoping thereby that the varieties you have are not late mid-season kinds. Your plants, from the description given, are now in 10-inch pots—a very large size in which to find plants so early in the summer. We assume that each plant has been potted up from time to time into pots of varying size, beginning first with 3-inch, then 5-inch or 6-inch pots, and finally into those measuring 10 inches across. If this be so, then they should be in a very forward state, and we should pinch out the point of each plant and grow on as many of the resulting shoots as develop satisfactorily. The chances are that not more than four or five shoots will develop, and these will quickly be seen forming in the axils of the leaves. Provided you keep the plants rather dry at the roots for a few days, you should hurry forward the subsequent growths, and when they are



Magnolia stellata in the open in Messrs. Barr's nursery at Tlaines Ditton. From a photograph by G. A. Champion. (See page 188.)

as a specimen, gives grand results, plants sometimes measuring 5 feet high and 3 feet through. D. McL.

Bridge-of-Weir, N.B.

NOTES AND REPLIES.

Good early-flowering Chrysanthemums.—Too many of these have indifferent growth. The model variety is undoubtedly Mme. Marie Masse. It is early, free-blooming, forms abundant growth, and is hardy enough to stand the winter in the open. Fortunately, this kind has produced several "sports," differing only in the colour of the flowers. The type is pink. A creamy-white is Ralph Curtis. From this we may eventually obtain a pure white. Rabbie Burns has blooms of a salmon-pink tint and very pretty. "Crimson" Mme. Marie Masse is in reality a bronze, ranging in shades of colour. From this has come Horace Martin, a rich yellow flower, and not the least valuable of all the sports.—H. S.

Chrysanthemums for exhibition.—I would be glad to know how Chrysanthemums ought to be grown so as to have one clear stem, with not less than nine good show blooms on them, by the end of October? My Chrysanthemums are now nice plants, with one stem about 2 ft. high, and have not yet been stopped. They are in pots 10 inches high and 10 inches across.—B. E. [It is a pity that your query was not sent us

sufficiently developed they should be grown on as quickly as possible. There is just one chance whereby you may get the desired number of shoots, but that depends upon the weather during June. If by the last week in June the new shoots above referred to have attained a length of a few inches, they may in turn be pinched out, and the new shoots subsequently developing grown on. In this way then you may, even at this late date, be successful, but another season commence these operations in late March or early April, and grow on the resulting shoots to the second crown-buds.—E. G.]

Early Chrysanthemum White Quintus.—This was obtained from the mauve-pink O. J. Quintus, and is a valuable plant. Could it be induced to bloom in September instead of October it would be by far the best white early sort, better than the well-known Mme. Desgrange. The blooms are of fine quality, and the plant is bushy and free. If it be planted in a position—such as at the foot of a wall—where protection may be given, one can keep the flowers clean, and they open well. This, too, is capital as a pot plant and will pay market men. White Quintus and O. J. Quintus should be the first two kinds to be thought of to supply blooms early in October.—H. S.

ROSES.

ROSES IN CUMBERLAND.

My garden is situated in east Cumberland, 800 feet above the sea, and lies on a slope to the north-east. The climate is considered a severe one, especially in the late spring, when sharp frosts, amounting to several degrees, and accompanied by snow showers, often visit us as late as the middle of May; the surrounding hills are constantly snow-tipped till June, and vegetation is, therefore, very slow and backward, while the late frosts often cause great havoc among the early-flowering plants and fruit-trees. Although the aspect does not sound a good one for a garden, I have succeeded, in so far that Roses, herbaceous and other plants, as well as vegetables, have done well; but probably this success is chiefly due to the fact that the soil is particularly good. It is a rich, deep, red-coloured loam in most parts, but here and there it has a good deal of clay in it. The rock of the country is carboniferous limestone, with thin beds of shale and sandstone, and it is on one of the latter that this house and garden stand. I have two Rose borders, with a Grass path between them; each border is 6 feet 6 inches in breadth and 58 yards in length, and has a wire espalier at the back of it. I first planted the Roses there in October, 1879. I have a number of varieties, both of Teas, Hybrid Teas, Hybrid Perpetuals, Noisettes, Bourbons, Chinas, and Polyantha Roses. The first winter I protected the plants with Bracken, but in spite of that precaution a good many died. The last winters I have given them no protection except the ordinary mulching, and I am glad to say every year my losses have been fewer, and this spring I have only found one dead. The first summer the Roses did only fairly well, and were very late in coming into bloom, and that autumn I replanted nearly all, putting them deeper into the ground, so that the soil covered the grafts. Each succeeding year since then they have, I think, flowered better than the last, and they are generally in their fullest bloom about the first week in July. I treat them in the ordinary way, giving them a good mulch of well decayed manure in November or December, and sometimes I have put on basic slag at the same time. Towards the end of March or beginning of April I dig in the manure lightly, and after that I prune. But the great secret of success is, in my opinion, letting the air into the soil by keeping the hoe constantly at work in the summer, so much advocated in GARDENING. The Hybrid Teas have succeeded best of all with me, especially that most lovely one Mme. Jules Grolez. I always wonder this Rose is not more often mentioned in articles and books on gardening, as it possesses nearly every good quality that can be desired. The colour is exquisite, it has a lovely bud, and a beautiful bloom when full blown; it is very hardy, a continuous bloomer, flowering both early and late, its only fault being that the flowers last so short a time when cut. Guillot sent it to me in 1897, the year he brought it out, and every succeeding year I have added to my stock. The other Hybrid Teas which have done well are Cameos, Kaiserin Augusta Victoria, Lady Mary Fitzwilliam, Marquise de Salisbury, Viscountess Folkestone, Triomphe de Pernet Père, Archiduchesse Marie Immaculata, Grace Darling, Progress, Mme. Caroline Testout, Gruss an Teplitz, and Papa Gontier. The Tea Rose that has answered best is Princesse de Sagan, and I must mention, in speaking of this Rose, that it does well under certain trees, such as Apple or Thorn-trees, but unfortunately its propensity to creep along the ground makes it troublesome to manage, otherwise it has the merit of being a good dark red colour, which does not change after it comes out into full bloom. Other Teas are Socrates, Souvenir de S. A. Prince, Mme. Berard, Mme. Bmy, Rubens, Mme. Creux, Ma Capucine, Iyon, Edith Gifford, Mme. Chedane Guinoisseau, Christine de Noué, and that lovely Rose, Souvenir de Catherine Guillot. Of Noisettes I have Ophir, W. A. Richardson, Alistair Stella Gray, Mme. Pierre Cochet, and a not very well-known Rose, Wassil. Chloé. The last is not a profuse bloomer, but has now

of a lovely colour and shape, which last well when cut. All the Chinas that I have here have done well—namely, Mme. Laurette Messimy, Mme. Eugène Resal, Cramoisi-Superieure, Fellenberg, and the very pretty apricot-coloured Queen Mab. Of Hybrid Perpetuals, those which have done best are Duke of Edinburgh, General Jacqueminot, Pride of Waltham, Her Majesty, Merveille de Lyon, Prince C. de Rohan, Mme. Gabriel Luizet, Mrs. John Laing, and Empereur de Maroc. Of this last I had some good-sized blooms on a plant on its own roots. The Crimson Rambler does very well against the espalier at the back of the Rose border, and as an edging I have Gloire des Polyanthas, which seems to bloom almost incessantly. I have absolutely failed with certain Roses; these are Etoile de Lyon, Jean Ducher, and Homère. Their foliage generally looks exceedingly healthy, and they have been covered with buds, but these drop off before they open. I am trying a yellow Banksian Rose against a S.E. wall, and it has stood the last two winters, which have been more than ordinarily severe. It has now, May 22nd, a number of buds upon it, but whether they will really open or not is doubtful, as we are having such intense cold.

I have been very successful with cuttings, owing to a method for the knowledge of which I am indebted to a friend and neighbour. Her plan is to trench the ground very deeply under a wall with a sunny aspect, either south, south-east, or south-west, then in October to cut off the long autumn shoots and put them in as deeply as possible, treading the soil down firmly round them. Of those Roses which do not make long shoots I put in short cuttings made in the ordinary way, and many of these have grown also; but the long ones generally do better and make large plants at once. The year that I first tried this method I only put in two cuttings—one of Jules Margottin, the other of Bouquet d'Or. The following summer the Jules Margottin had a number of blooms on it, and every year since then it has flowered profusely. The Bouquet d'Or also grew, but did not flower till the third year. Cuttings from the following Roses have also done well and flowered the first year: Crimson Rambler, Ophir, Alistair Stella Gray, Mme. Pierre Cochet, and Mme. Jules Grolez.

Penrith.

M. L. P.

NOTES AND REPLIES.

Rose growths diseased.—Shall be greatly obliged if you will inform me through your paper if the enclosed Roses are diseased, also name and remedy?—
LEASRICH PARK.

[We do not detect any sign of disease in the growths submitted to us. In our opinion, poverty of soil is responsible for much of the debilitated growth, and also the plants should have been more severely pruned. It is useless to retain thin, unripened growths on Tea Roses. They are sure to fail just when wanted to develop a blossom. The largest growths of Mme. Lambert should have been cut back to the plump, dormant buds, and the thin, soft shoots would have been better cut clean away. If a Tea Rose is healthy at the root one need not fear cutting it back too hard, although where the growth is thoroughly hard it is advisable to retain such well-ripened shoots a good length. The growth of the Hybrid Perpetual or Hybrid Tea sent should have been pruned more severely. We should advise a dressing at once of some good artificial manure, keeping this well hood in.]

Treatment of Tea Roses.—Please tell me what is the best treatment for Tea Roses? I have some which seem to be suffering from want of nourishment, although there are some growth and some bloom. Could I pot now? There is some mildew amongst them.—JACK.

[We presume your plants are now growing in pots, as you say there is some bloom. It is a pity you do not furnish us with more particulars, such as the age of the plants, the size of the pots they are now in, and when last repotted. Generally speaking, pot Roses are repotted too frequently, but when there seems a lack of vigour, repotting is the best remedy. It is a very safe plan to repot when it is known the present pots are full of roots, and the best time to do the work would be as soon as the plants have blossomed. We much prefer to repot Roses in June or July, they then have two or three months of genial weather in which to lay hold of the new soil before winter sets in. You

can give your plants now much assistance in the shape of liquid-manure. Water the plants first with plain water, then give them some of the liquid-manure. Place an old tub or cask in some out-of-the-way corner, put about a bushel of oow-manure in a bag, and a peck of soot in another bag, then fill tub with water. Allow this to stand for a day or two, then use it about half strength and once a week. It is very important that the liquid be clear. Anything that tends to prevent a free circulation of air in the soil is to be avoided.]

Rose Crimson Rambler foliage turning yellow (L. S.).—The recent cold nights have been undoubtedly a cause of the foliage turning yellow and falling off. The growths may also be partially injured. We have noticed many of the brown blotches in the hard wood of climbing Roses this year. Many believe this to be caused by the frost, others to insect punctures; in any case, the vigour of the new shoots is never so pronounced upon growths affected in this manner. There is yet another detail that may be responsible for this yellow foliage, and also the brown spots on the other leaf sent, and that is defective drainage, coupled with want of thinning of the growths. You must remember that a leaf has most important functions to perform, and unless it can receive abundance of air and light, the leaf will suffer, and parasitic pests soon take possession. In like manner, stagnation of water so that roots cannot act freely are most fruitful causes of these disorders. We should advise you to spread out the growths of the Crimson Rambler as much as practicable, and thin shoots of other kinds at same time. Keep the soil well aerated by frequent hoeings. In the case of "black spot," this is usually caused by an over-abundance of moisture at night, or the growths are too crowded to permit of the foliage receiving sufficient air. A good syringing with a fungicide will prevent its further progress. A very safe remedy is liver of sulphur. If the weather is cool and damp, you can use it at the rate of 1 oz. to 3 gallons of water; but if the weather is hot and bright, 1 oz. in 6 gallons or 7 gillons of water is the right proportion. Add enough soft-soap in either case to make a good lather. It is best applied in the evening. Only procure a small quantity at a time, as it is best to use it fresh. Unless your Roses are badly affected with black spot we think you need not be alarmed, as it will probably disappear as soon as good growing weather sets in.

Dark Rose for cool greenhouse.—Will you kindly tell me the name of the best dark red Rose to plant in a border against the south wall of a cool greenhouse? I have now a Marshal Niel and W. A. Richardson in the border, but they both have canker. The house has an earth floor, and is rather damp in winter. I should be glad to know if that would cause the canker? Also, would you tell me of any other climbers more suitable than Roses for the border? Would a Bougainvillea do?—JAY.

[We think you would be pleased with Monsieur Desir. It is a lovely Rose, velvety crimson in colour, with violet shading. Some of the dark Hybrid Perpetuals would also succeed on such a wall, especially if planted out in a well-prepared border. Charles Lefehvre, Ella Gordon, Jubilee, and Mme. Victor Verdier would all be good; Jubilee is the darkest. If you elect to plant one of these, procure a plant established in an 8-inch pot, and prune very sparingly. If planted out at once it would make a good growth during summer, and its growth would become well ripened, so that it would blossom well next year. As the floor of house is rather damp, you would do well to provide some artificial drainage for the border. Let the soil be thrown out to a depth of 2 feet 6 inches, put 6 inches of rubble, such as stones or broken bricks, in bottom, then return soil, or, better still, add some good loam from a pasture instead of all the old soil. Some well-rotted farmyard-manure should also be incorporated with the soil at the rate of about one part of the former to three of the latter. A Bougainvillea would not do well in such a house, but you could grow any of the following climbers: Scarlet Trumpet Honeysuckle, Clematis, Ceanothus (Gloire des Versailles, Habrothamnus elegans, Abutilon of sorts, Bignonia grandiflora, Platanus revolutum, Passion-flowers, Plumbago capensis, Fuchsias, Ipheiotropæ, or Tecoma jasminoides.]

INDOOR PLANTS.

BEGONIAS IN HANGING BASKETS.

fused with rose. This Begonia has been grown in England for nearly twenty years, but not always under the above name; indeed, it is also met with as *Begonia Limmingei*, *B. undulata*, and *B. glaucophylla*, this last being by botanists regarded as the correct name. It is a native of Brazil. By far the finest example that has come under my observation is in the Mexican house at Kew. It is now about a year since I was particularly struck with its imposing appearance, forming as it did a mass of foliage and flowers over 6 feet in depth and

summer months. *B. foliosa* or *microphylla* is also a very pretty basket plant, but much less vigorous than the preceding. The slender branching stems, clothed with small deep green leaves, present a frond-like appearance, while the small white flowers borne in early summer impart quite an additional feature to the plant. It is a native of New Granada.

In addition to these, some of the tuberous-rooted varieties do well in baskets. The very features which form an ideal pot-plant—that is to say, compact growth and large, upright blossoms—are against the basket varieties, for in their case the most desirable points are a loose style of growth and medium-sized flowers, freely produced. Though there are many named kinds, the majority of the tuberous-rooted varieties are raised from seeds, and when this is done, owing to variation incidental to seedlings, it will be easy to select those most suitable for baskets, as well as for pot culture or bedding. Tubers from one to three years old are the best for baskets. The better way is to start them in comparatively small pots, and plant them in the basket when they have started into growth. Though requiring a warmer structure than an ordinary greenhouse, that popular variety *Gloire de Lormine* must on no account be omitted from any list of varieties suitable for suspended baskets, as in this way it succeeds perfectly, and forms a very beautiful object, which remark applies to it with equal force when grown in pots.

In thus enumerating some of the most desirable Begonias for hanging baskets, a few words may be added as to the best means of

CULTIVATION.—In the first place, it is very essential that the basket be thoroughly lined, as if this is not done properly it will be a source of trouble throughout the season. Good, flaky Moss is one of the best materials we have; indeed, for small baskets it is absolutely necessary, but for large ones thin closely-woven turves are very good. They should be placed with the Grass side outwards, and arranged so closely as to prevent the soil dropping through, thus leaving a basin-shaped space for planting. The reason that Moss is preferable to turves for small baskets is it does not occupy so much space, thus allowing as great an amount of room as possible for the roots. In planting, equal parts of loam and peat form a very suitable compost, and it should be of a fairly rough, fibrous nature, as in this state it is much less likely to be washed away in watering than if fine. To facilitate watering, the soil must be kept a little below the lining of the basket. As the plants develop and the roots take possession of the compost, a stimulant in the shape of some of the many artificial manures, or that prepared from cow or sheep droppings, must be given about every fortnight. One caution to be particularly observed in the case of plants growing in hanging baskets is, that from their position they naturally dry sooner than if kept in pots; hence it is very necessary to see that they do not suffer from want of water.

T.

NOTES AND REPLIES.

Echinopsis Eyriesii and *E. oxygona*.—I shall be very much obliged if you will tell me whether I ought to remove the young bulbs which form on *Echinopsis Eyriesii* and *Echinopsis oxygona*? I am told that they weaken the parent bulb, and so prevent its flowering. Should they be taken off at any time of the year?—GERRARD.

[We can scarcely understand your question in reference to the formation of bulbs on *Echinopsis Eyriesii* and *E. oxygona*. If on the body of the plant, the objects that you take for bulbs may be flower-buds, we should also have suggested or fruits, except that from your note it would appear that the plants have not flowered. Offsets are so sparingly produced that we do not think you can refer to them, but if you do the present is a good time to take them off and pot singly. To flower these *Echinopsis* in a satisfactory manner they need full exposure to the sun at all seasons.]

Zonal Pelargonium Fire Dragon.—This is a distinct new break, the blooms being deep scarlet in colour and double, with ragged star-shaped tips, which give the flowers a lighter and more elegant appearance than is to be found in ordinary varieties. For all kinds of cut-flower work it will be found useful. I

URBANA-CHAMPAIGN

In making a selection for the purpose, that



A fine Begonia for hanging-baskets, *B. glaucophylla*, in Messrs. Laing's nursery at Forest Hill. From a photograph by G. A. Champion.

just alluded to is one of the very best. The general aspect of the plant is so well shown in the accompanying illustration that nothing further need be said, except that the colour of the flowers is of a pleasing rosy-red when fully expanded, but in the bud state they present a mottled or variegated appearance. From April or May onwards for three months or more a display is kept up. Even when out of bloom it is decidedly ornamental, the leaves being of a pleasing glaucous green, with the colored veins, the entire leaf being when young suffi-

quite a yard across. Being fully exposed to the sun, the flowers and rosy tint of the young leaves acquired a depth of colouring which is not to be found in plants grown in a shaded position. Of course, such a huge mass as this requires a good deal of attention in the matter of water during hot weather. This Begonia is readily increased by cuttings of the growing shoots, taken off at a length of 4 inches to 6 inches, put into pots of sandy soil, and covered with a bell-glass or close propagating case, any time during the spring or early

believe it is a sport from *Raspail*. At any rate, it has a similar habit of growth and is equally free blooming. Market growers should note it, as it is likely to find a ready sale, and amateurs should possess it, being something out of the common and in itself choice.—H.

Cassia corymbosa is an old inhabitant of our gardens, and a showy plant when laden with its numerous terminal heads of golden-yellow flowers at the end of June or early the following month. To do it justice it requires planting out against a pillar or rafter, and treated somewhat like the Grape-Vine as regards pruning, which should be done in early winter. Good loam, with a dash of peat and half-decayed leaf-soil, will grow it satisfactorily. Plenty of space must be given the plant, as the laterals spread out and grow a good length before flowering. It may also be grown well in pots. Cuttings taken with a heel of old wood unsharpened when 3 inches or 4 inches in length, and dibbled in in a shady corner under glass and kept moist, soon form roots, when they may be placed in 3-inch pots, and when established stood outdoors to ripen the wood. Such plants will in late summer, if not pinched, carry a nice head of bloom. This plant has proved hardy in Devon and Cornwall, but with me it gets cut down level with the soil each winter, owing to its late starting into growth in spring. The wood does not get fully ripened to withstand much frost. I am trying it in a more exposed position this year, though full south here I think it may ripen its wood better than in a sheltered nook facing south-east. Except in the mildest parts of England it should have a mat placed over it during severe spells of frost, removing this in mild weather. It would be wise also to protect the young growth in spring during much frost or cold, cutting winds.—J. M. B.

Streptosolen (Browallia) Jamesoni.

—As a climber this plant is not nearly so often met with as it deserves, for in a greenhouse that does not fall much below 40 degs. during winter it will be in full bloom by the middle of April, the orange-coloured flowers being quite a feature for six or eight weeks. When it has passed out of flower it should be spurred hard back and encouraged to make an early growth, so that the new wood may be thoroughly ripened by the end of summer, as all depends upon this maturation of wood whether it flowers well or not the following season. Thinning of the shoots when an inch in length, as in the case of *Bougainvillea glabra*, must not be neglected or a mass of flowerless shoots will be the result. It is of no use planting this in dark corners far from the glass, as it requires all the light possible and should be within a foot of the glass roof to get the best results. I have tried it outdoors in summer, but with me it did not prove a success, as it grew far too freely and gave little or no flower. During the resting period in winter the plant should not be over-watered. It is deciduous with me, though generally spoken of as an evergreen. Cuttings dibbled in when about 3 inches long in July soon root if placed in a shady corner and kept fairly moist without a bell-glass over them. Pot them up when rooted, and place outdoors as soon as established so that the growth gets well ripened by autumn. These, if left unpruned, will each carry a rich head of bloom towards May or June. The after treatment is the same as that for planted-out specimens, with the exception of repotting when nicely started into growth. Plants in borders should have a top-dressing annually in July, using a little artificial manure in the soil, which should be principally loam with a little leaf-soil and sand.—J. M. B.

Photographs of Gardens, Plants, or Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half n Guinea.

The Prize Winners this week are: 1, Mr. S. W. Fitzherbert, Bryndart, Kingswear, Devon, for Arum Lilies at Trellisick; 2, Miss Gertrude Hammersley, The Close, Salisbury, for *Dendrobium speciosum* and *E. J. Fern* in an Australian garden.

OUTDOOR PLANTS

FINE SPRING FLOWERS.

There is just now at Forde Abbey a very extensive and beautiful show of border Polyantheses, and it was to me recently a pleasure to go over them and mark those which I thought should be regarded as the best. Certainly, whilst all were remarkably showy, many were of superior excellence. There was a white, for instance, but one of many, yet the finest without exception I have ever seen. Also, there was a beautiful almost pure yellow, one out of many also which practically had no eye, as the ground colour suffused the whole flower. I had never seen one such before. In other colours, also, were other superb varieties, and the seed of these will be specially saved for next autumn sowing. Mr. Crook's practice, and it is much the best, is to sow the season's seed in August, wintering the plants in the boxes in which sown in any cold-house or frame, then planting out on north borders in April. The plants then become very fine ones by the following winter. I saw various strains of Polyantheses when in the west of England, but none so fine as is the Forde Abbey strain.

When in Exeter market whilst in the west I saw large plants offered very cheaply of an almost giant-flowered strain of Auriculas. Plants of these were obtained, and have also been planted to create both stock and seed at Forde, and it is to be hoped with good results. It is to be sincerely wished that the same attention which has been given to Polyantheses for spring flowering should also be given to border Auriculas. I noticed that these plants did remarkably well at Sherborne Castle, where there were scores of strong clumps; but, so far as I saw, there were not amongst them the bright, effective lines in the flower which are so desirable. What a fine field do these hardy plants offer to an earnest and patient worker.

There are other beautiful hardy spring flowers than these named, and Pansies rank high amongst them. There cannot be any finer flowered strain anywhere than is just now sent in by thousands of plants daily to the London markets in boxes—flowers of great size, good substance, and most superbly coloured. With such a grand strain naming Fancy Pansies seems an absurdity. A. D.

GROWING LILIUMS.

I SHOULD like to grow a collection of choice Lilies. My garden is very open, no shade, and exposed to strong winds, mostly south-west. The soil is fertile and very deep, but light; you can dig it in half an hour after rain with comfort. *Giadulus* bulbs do splendidly in it, and improve year by year. It is surrounded by walls on east, west, and north, and the house on the south. Can you tell me what kinds would succeed, what special treatment before planting, and what after planting? I do not want to grow any likely to fail if I can help it.—F. J. C., *Aerogavenny*.

[We are quite in sympathy with your desire to grow these plants well, but as failures may arise from a variety of circumstances, we fear you will not be exempt from failure any more than the most experienced of old cultivators. We say this advisedly, inasmuch as the frequently-adopted methods of culture fail in instances where the local conditions may seem identical. The soil you describe is much in your favour, while the "open, exposed" condition is not. The latter may be modified, however, as Lilies do not object to their flower-heads being in the fullest sunlight, provided the base is exempt from undue heat. The best way for a beginner would be to devote a border or borders to the plants in question, planting American plants, conifers, or the like, to serve as shelter, on the one hand, and to afford, on the other, that root companionship now regarded as an important feature in the successful cultivation of Lilies. To this end you may require to set apart at least three different beds or portions according to the needs of the various kinds. Quite a large number, however, will be content with the soil you have, others may require peat and leaf-mould, another set a certain degree of moisture, and a few others a stiffer, almost clay soil. Those that may be grown in the ordinary soil would alone form quite a representative collection, as also give a varied season of flowering; therefore, it may be best if you restrict your earliest attempts to

this portion. These are some of them: *auratum* with its varieties *platyphyllum* and *vittatum*, *bulbiferum*, *chalcidonicum*, that prefers a westerly position and a heavy loam, almost verging on clay or sandy clay; *Martagon* and its varieties; *pyrenaicum*, *pomponium*, *Szovitzianum*, *testaceum*, *umbellatum*, *tigrinum* and its several varieties; the forms of *elegans* or *Thunbergianum* generally, which could be best treated if brought together in the front portion of a border, as nearly all the forms are dwarf-growing. Other useful kinds are *croceum*, *Hansonii*, and *odorum*. Then there is quite a wealth of beauty in the early autumn-flowering *speciosum*, of which *cruciatum*, *rubrum*, *Melpomene*, *Kretzeri*, and *album-novum* are a good set. Not only are these good and showy, but valuable from the gardener's point of view in that they are all amenable to ordinary conditions, and prefer a good deal of cow-manure buried under the bulbs at 6 inches or 9 inches therefrom. If we except the "elegant" varieties, all the others may receive manure in the soil if deeply buried below the bulbs, certainly never within 6 inches of the base of any bulb. The bulbs of the *speciosum* group must be 6 inches below ground at least, and being great surface "stem-rooting" kinds, the surface should be mulched with manure or set with thin, low-growing plants so that the sun does not directly play on the roots near the surface. A good plan in the general arrangement of a border of these plants would be to plant certain flowering shrubs, as *Azalea mollis* and *Andromeda floribunda*, as a groundwork for the taller kinds, or the *Ledums*, *Kalmias*, or even small Hollies, preferably green-leaved kinds. In like manner the dwarf *Daphne cneorum*, the *St. John's Wort*, *Megaseas*, *Saxifraga Walloeci*, *Lenten Roses*, and *Tufted Pansies* may all form suitable groundwork, and provide masses of flowers also in their day. The Lilies would, of course, be first planted, and sufficiently deep that the planting on the surface of the other things could be done. Or with such as the *Lenten Roses* these could be in position and the Lilies go between. Much depends on the size of your garden and your intentions as to expenditure. You can hardly make a good start now, though you may get a supply of sound bulbs of a few kinds as *auratum*. The best planting time is October for some, and for others at intervals to the end of March. Those named are not very expensive.—E. J.]

TREATMENT OF BULBS AFTER BLOOMING.

The time is now fast approaching when the beds at present gay with *Hyacinths*, *Daffodils*, *Tulips*, etc., will have to be cleared to make way for the summer-flowering plants. What to do with the bulbs at such a time is often a vexed question, different people having different opinions of the treatment of such. Some that I am acquainted with dig over the beds with a handfork, and cut off the foliage of the underlying bulbs, then plant their *Geraniums*, etc., over the top of them, never expecting the bulbs to resent this unnatural desolation. This I consider one of the worst practices possible. The plan that I have found to answer best, in conjunction with cheapness, is as follows: As soon as the time arrives when the bulbs have to be replaced by the summer-blooming plants the bulbs are carefully lifted and "heeled in" in rows, in finely sifted ashes, covering to the same depth as when in the bed. This allows the foliage to gradually ripen off, whilst the nutriment contained in the leaves is gradually transferred to the bulbs, which store it up for the following season. When the foliage has died down, and feels to the touch somewhat similar to raffia, the bulbs are ready to be relifted. They should then be cleaned and stored away in some dry place—a shelf in the fruit-room being an ideal spot—until required for planting again in the following autumn. The offsets which accumulate round the parent bulb should be carefully removed and planted in single lines in a reserve bed, and in the course of a season or so they will be ready to play their part in the flower garden. Under the above system I have found *Daffodils* and *Tulips* do equally as well as newly bought ones. *Hyacinths*, I have not found to do so well, as they finally split up into offsets, which would,

I imagine, take a long time to come to flowering size, for which, however, I have neither time nor inclination to wait. H. B. P.

CLEMATIS FLAMMULA.

The picture on this page shows one of the uses to which the fragrant Virgin's Bower (Clematis Flammula) may be put in this country. Perfectly hardy and making a maze of long annual growths, which it is impossible to train methodically, it is admirably adapted for planting at the foot of any structure which it is wished to cover with an informal veil of flower and foliage. In this case we see the terminal pillar of a high wall crowned with its flowering growths, but for rough terraces, pergolas, summer-houses, and arbours it is equally

tree, either evergreen or deciduous, into whose branches it will ascend to a height of 30 feet in an amazingly short time when once established.

Old ruined Elms and Oaks are thus converted from eyesores to objects of beauty, and the starry trails of the Clematis are shown off to best advantage when swaying amid the sombre foliage of an ancient Yew. The yellow-flowered C. graveolens is a summer bloomer, and soon spreads over a large expanse. Its blooms are succeeded in the autumn by feathery seed-vessels, which are quite as effective as the preceding flowers, and suggest the smoke-grey billows of the common Traveller's Joy or Old Man's Beard (C. Vitalba) of our hedgerows and copses. C. Flammula is later in flowering, rarely being at its best before the end of August or

NOTES AND REPLIES.

Treatment of Pansies.—Will you kindly tell me how to treat my Pansies so as to make them continue in bloom through the summer? The seed was sown last year, and the plants are now flowering well. Should they be cut back in June, like *Viola*, in order to secure a second display, and, if so, am I to cut them right back to the root? There are four or five long stems to each plant, with a tuft of leaves and bloom. Should these be entirely removed? I shall be much obliged if you will kindly explain how it should be done?—E. D. H.

[No, Pansies will not submit to the treatment suitable for the Tufted Pansy, as they do not spread at the roots like the Tufted Pansy, and only bloom once, keeping up no succession during the summer. If you want a succession of bloom, you must grow some of the many fine forms of the Tufted Pansy we now have.]

Blight on Lilies of the Valley.—Lady Onslow would be much obliged if the editor could tell her what has caused the blight to her Lilies of the Valley, of which she encloses specimens? Most of the flowers in the beds are spoiled in this manner, but not all. Some overhung by trees have escaped, and some in a higher, colder part of the garden are free from injury. Some of the beds affected are very old and thick with leaves, but some are newer. It happened just the same about three or four years ago, and ever since there are some blighted flowers each year, but last year hardly any.—LADY OSLOW.

[We could not determine from the state of the blooms whether frost or poverty of the soil was mainly responsible for the failure. The flower-buds gave the idea of the frost, but the weakly and very thin leafage bespoke poverty of the soil. Information as to dryness or wetness of the soil would have been helpful, and good foliage—essentially the builder-up of good spikes of bloom—is rarely seen in dry soils, and still more rarely where dryness and poorness go hand in hand. We know of some plantations in Thames-side gardens, much under trees of large size, that produce grand spikes of bloom each spring. These, however, are often within reach of water, and at flood-time immersed for awhile. At such times, too, there is the usual residuum from the overflow—a by no means invaluable asset, inconvenient though the flood may be. In your case we are quite prepared to believe that better results would ensue if replanting of the beds was taken in hand in the coming autumn. Moisture at the root is very necessary, and if to this we add that the Lily of the Valley always delights in very deep and quite rich soil, you have the general requirements in a nutshell. We believe there is not much amiss that cannot be rectified by good culture, and if you can, by water or supplies of liquid-manure, irrigate your plants now—even a sowing of soot well watered in, or soot-water after flowering would do—so much the better for the work of replanting that should be done early in October next. Old plantations should be heavily mulched each winter with manure.]

Planting Snowdrops.—I wish to plant a thick carpet of Snowdrops next autumn under a large Copper Beech in my garden. My soil is light and poor. I thought of digging out a spit of soil where I want to plant the bulbs and putting down a thin layer of clay, which I can obtain near here, then replace the soil above. Would that give the Snowdrops a better chance of doing well? If so, I should put down the clay in good time to give it time to settle before planting the bulbs. Could you suggest any low-growing plant that I could use as a groundwork to come out after the Snowdrops were over?—T. M. D. H.

[The idea of sinking in some clay beneath these bulbs will do quite well, but we suggest, instead of inserting the clay *en bloc*, that you dig more deeply and in irregular patches or drifts, as it were, dig out the original soil, and incorporate the clay with the remainder, and plant the bulbs in this mixture. For the underlay the clay may predominate, using less, or, if you like, none at all in the upper portion. What you also should bear in mind when preparing the positions for the Snowdrops is their preference for deep planting. Far too many make indifferent progress in gardens because planted just under the surface, whereas the growth and all else are much stronger when the bulbs are planted at least 6 inches deep. If the bulbs are quite fresh and sound there need be no fear of success. We have dug up old clumps that must have been nearly three times this depth, while the leaf growth was not far short of the same length. One of the best dwarf plants to follow the Snowdrop is *Anemone pennina*, that makes a nice carpet of leaves and furnishes abundance of its pretty blue flowers quite early in April and through the month of May. Do not crowd this in planting. Single tubers should be inserted 6 inches apart and about 4 inches deep. The effect is very



Clematis Flammula on a pillar. From a photograph by Mrs. Deane, Fairfields, Fareham, Hants.

desirable. Other members of the Clematis family lend themselves effectively to the same usage as suggested for C. Flammula. Clematis balerica or calycina is absolutely hardy in the south-west, and bears its greenish-white flowers, spotted with purple in the interior, as early as the month of February. It is a vigorous grower, and is especially decorative when festooning evergreens, which it readily mounts to the height of 20 feet or more. It is followed a month or so later by the very similar C. cirrhosa, whose flowers are unspotted. Towards the end of May and commencement of June the well-known C. montana flowers, and creates a lovely effect as it drapes wall and tree with an ivory-white mantle of star-flowers. This is a Clematis of especially vigorous habit, and should be allowed to express its characteristic attraction by absolutely untrammelled growth. It is seen at its best when planted at the roots of some old

beginning of September. C. paniculata is not unlike the foregoing, being also sweetly-scented. Its white flowers are alike in shape and in their whiteness, but the petals are of a firmer texture. It follows C. Flammula in its period of blooming, being usually in the zenith of its beauty in October. Clematis coccinea is not adapted for such positions as recommended for those of the same genus already mentioned, but is a beautiful and very uncommon flower. In the best forms the drooping flowers are scarlet, and give the plant an exceptionally bright appearance. It is a native of Texas, and requires warm and light soil. In the colder countries it is often cut down to the ground in winter. When well established it makes growth from 10 feet to 12 feet in length, and flowers for a lengthened period. It is well worth growing by anyone who can give it a sheltered wall.

S. WILKINSON

pretty in or near the Grass, and always admired. Many other dwarf Anemones are also suitable, but this we think the more so in the present instance.]

Using a brick pit (Perplexed).—If you heat your 15 feet long brick pit with a flue of drain pipes, the best course is to fix the flue fairly low down, and have wood slabs placed crosswise over it, through which heat can rise to warm the soil placed on the slabs. The pipes should be fully 6 inches in diameter. For such heating you would need a furnace low down at one end, and a small pipe chimney at the other. If you fixed a small boiler, but with enough length of pipe to run along the front of the pit just under the glass and to return beneath the bed, you would get better results, but the cost might be some £4 to £5. You could, if you like, dispense with such heating, and fill up the pit with well-prepared hot-bed manure to within 12 inches of the top, treading it well, then putting on to that 4 inches of soil, and sowing on it or in pans, pots, or boxes, all sorts of flower seeds, Tomatoes, Cucumbers, Marrows, and many things. But such bottom-heat would not long endure, and then you would have to trust to sun-heat as the summer advanced. To have any good heat from manure, the pit should be fully 4 feet deep inside. An earth floor is best for all purposes. If the top of the pit is properly slanting, and as it faces to the south, you should have ample light, but, of course, all things grown in it should be kept as near the glass as possible. Forcing Rhubarb would need that the roots be put into soil fully 2 feet from the glass. But Rhubarb can commonly be better forced in any warm cellar or dark place, especially if 12 inches thick of warm manure be placed at the bottom. For Cucumbers the soil should be in mounds along the centre of the pit, 12 inches from the glass, two plants being put into a mound under each light.

Late-flowering Tulips.—We are reminded of the value of the May-flowering Tulips in the garden by a gathering of flowers in many colours from Mrs. Bayldon, Oaklands, Dawlish, Devon, these being unsurpassed for a brilliant effect in the garden at this season of the year. The chief thing is to plant the best self-coloured kinds in quantity, for, beautiful as a single bloom of the striped or flaked Tulip may be, it is only the self-coloured species and varieties that give the finest display in the garden. The early-flowering kinds descended from *T. suaveolens* are certainly very useful, but, to our mind, are of less value than the fine late sturdy-growing kinds that open in May. These all spring from *T. Gesneriana*, and, while possessing infinite variety of colour, have the same form and stately habit of the parent. These late Tulips, coming after the Daffodils, are precious garden flowers and not often enough seen. We want more Tulips of the same colours as the florists' forms in self colours, such as White Swan, Bouton d'Or, Golden Eagle (yellow, edged red), and Golden Beauty (self yellow). Among the wild Tulips, too, there are also many beautiful kinds, such as *T. elegans*, *T. Didieri* (with bright red flowers, having black blotches inside at the base), *T. fulgens* (flowers rich crimson on tall stems), *T. Kaufmanniana*, *T. Kolpakowskyana*, *T. macrosepa*, *T. retroflexa* (pure yellow), and *T. vitellina*, of a lovely yellow tint.

Doronicum plantagineum (Leopard's Bane).—I have some fine pieces of this spring-flowering hardy plant, which, together with the pretty *Alchemilla*, provide a con-

tinuous supply of yellow blossoms when the Daffodils are past their best. My plants are now three years old, and, as may be readily imagined, they make an imposing display. They are somewhat coarse in their style of growth, and unless given plenty of room quickly spoil other less vigorous plants near them. The cold and cutting easterly winds which have lately prevailed bleached and curled the outer ends of the somewhat narrow florets, but as there are so many other buds to follow, those with the blenish just referred to are better cut off. It is a plant suitable for almost any position, and succeeds well in town gardens.—W. V. T.

ST. BRIGID ANEMONES.

THESE brilliant flowers are the result of careful selection from the single flowered French or Poppy Anemone, *A. coronaria*, and were originated by an Irish lady about thirty years ago at a place called Nurree, or the Oratory, in the county of Kildare. It was in Kildare under an Oak tree that St. Brigid began her Christian missions in the fifth century, hence the popular name adopted for these flowers. The modern St. Brigid treated these flowers as early annuals, sowing the seed every spring in February or March, and rigidly weeding out poor flowers so that the next season's seed



St. Brigid Anemones flowering in early spring at Geashill.

might be better than the last, and in this way the strain was continually improved by selection and good cultivation alone. The seed was sown directly in the beds in which it was intended to bloom. The seedlings were thinned out to 6 inches apart, any blanks in the beds being filled up with the best of those removed in the thinning out. The beds themselves were dug two spits deep, the top spit being thrown out in the process, and plenty of old well-rotten cow-manure was added before the last 6 inches of soil were filled in. The seed should be rubbed up in sand or dry, fine earth, so as to separate it before sowing, and then scattered thinly broadcast, or sown in lines over the bed. If the weather is very dry the seed may be covered with mats or canvas until it begins to grow, when they should be at once removed, and, if possible, during showery weather.

Thinning may be carried out when the seedlings are 1½ inches to 2 inches in height, and the young plants may, if desired, be replanted at 6 inches apart in other deeply dug and well-manured beds. It should not be forgotten that these Anemones are essentially flowers of the sun, and do best in an open and fully exposed position, provided they are sheltered from high winds and gales. Seed sown in February often produces plants that commence flowering in October the same year, and even if checked by winter frosts and snow, they again begin flowering in February and March, reaching their fullest flush of beauty in April and May.

We have seen them in full beauty all through the winter in warm and sheltered sunny nooks near to the sea both in England and Ireland, and by picking the buds and opening blooms they were most welcome and long enduring as used for indoor floral decorations. At the Daffodil show held at Birmingham on April 24 considerable excitement was caused by a large and most effectively-arranged stand of these flowers from Geashill, in the King's County. They were large and long-stalked blooms, mostly semi-double, and of all colours from white and flesh colour, through all shades of bluish-lilac, purple, red, and scarlet, to other shades verging on blood colour and crimson. As shown in water under a glass, the hot sunshine that made some of the Narcissi look faint and wan only seemed to infuse new life and brilliancy of colouring into these gorgeous Windflowers, thus showing what admirable cut-flowers they really are, or may be. They are grown by the acre at Geashill for trade purposes, but even in the smallest of gardens they may be readily raised and grown for the sake of their dense carpet of fresh green Parsley-like leaves, thick set in spring with their buds and flowers.

Some growers purchase roots or tubers and plant them with good results, especially on stiff, holding, or loamy soils; but, as a rule, it is better to sow the seed as above directed, in the beds where they are to grow and bloom. At present, a packet of seed yields all colours, but in the future we hope that tubers of the finest colours and shades may be isolated and grown on for seed, so that, as in Primrose, Cyclamen, and other florists' flowers, the finest shades may become fixed by inter-crossing so as to come true from seed. All the Windflowers, or Anemones, are very beautiful, but none are quite so Poppy-like, so beautiful and effective, or so easily grown in large groups and masses as are those of the St. Brigid strain.—Field.

—The display of the varieties of the Poppy Anemone (*A. coronaria*) the other day at the Drill Hall doubtless very largely whetted the appetites of visitors to have tubers or seed of these beautiful things, and thus secure stock. It is probable that English purchasers would do best to secure tubers or roots next autumn. They should, if put out in good soil and where the flowers get ample light without being exposed to harsh winds, give a beautiful mass of flowers. But it is doubtful whether, if the position be dry and arid, the tubers, whether lifted and replanted in fresh ground or allowed to remain in the ground, would give anything like that fine mass of bloom the next year they give in Ireland, or would furnish the first year of planting. Anemone leafage is very susceptible to injury by sulphurous fogs and dry atmospheres. Probably the worst enemy is fog, as it is most difficult to grow them in the metropolitan fog area. That was not always the case. I was some years ago able to have the French Poppy Anemones raised from seed in most beautiful form in West Middlesex, but a few years later the demon fog rendered generous growth practically impossible. Still, there can be little doubt that the wondrously fine flowers and good leafage seen on the Irish plants are largely due to the relative moisture of the climate. By its aid the leafage not only becomes robust, but it can fully mature, and hence fine flower-producing tubers are formed. Wherever in England the situation is relatively moist, yet sheltered, Crown Anemones should do as well as in Ireland. If raised from seed, sow at once in shallow pans or boxes or under handlights in sandy soil.—A. D.

Gladioli.—It is, I think, a popular belief that if Gladioli corms are left in the ground during the winter, the probability is that they will perish, and I have always acted up to this, removing mine from the borders in October, replanting them in April. On putting them in the other week I came across a number of corms in a bed, which had been overlooked. They were growing well, and did not appear to be any the worse for being in the ground all winter. I should hesitate in recommending that the corms be left in the soil in a general way, as probably some of them, the older ones especially, might rot, but it is interesting to note that there are no exceptions to some of our

rules which many have come to regard as of the utmost importance. The soil where the corns wintered is a light, loamy one.—W. F., Derby.

ORCHIDS.

OPEN-AIR ORCHIDS AND FERNS.

The illustration shows *Dendrobium speciosum* and one of the larger Elk's-horn Ferns (*Platycerium*) growing on a tree-trunk in an Australian garden. In tropical and sub-tropical countries many of the rarest of Orchids are thus grown, and are often very beautiful and not a little surprising to those who know these things only under a glass roof in northern gardens. I shall never forget the delight with which I saw *Allamandas*, *Stephanotis*, and *Xepenthes* luxuriating in the open-air beds and borders in the Botanical Gardens at Singapore, and the rustle of feathery Palm-leaves as they tossed and trembled in the air high overhead, each from silhouetted against a cloudless sky. In one of the more distant flower beds I saw a mass of what looked like a tall clump of Sweet Pea, but there seemed a difference, and on going closer I found it was a

very common, but I never saw so many fine specimens thus naturally grown as in the extensive and beautiful orchard or fruit garden made by Sir Hugh Low when he was Colonial Secretary at Labuan many years ago. Our residents in the colonies abroad, both in the east as in the west, have often great opportunities for real sub-tropical gardening, and yet we too often find a mere repetition of gardening as carried out at home. The English copy the bedding out in the London parks, and the French try to repeat the effects of the Luxemburg garden, or at least those of the Parc Monceau, forgetful or neglectful of what noble gardens could be made of the best of native things. The illustration of the Rock Lily of Eastern Australia, supported by the Elk's-horn Ferns, tells its own tale, and the style of arrangement or grouping might now and then be made use of in our Orchid-houses here at home. F. W. BRIDGEMAN.

GARDEN PESTS AND FRIENDS.

Fungus on Pelargonium leaves (J. Thoms).—Your Geranium leaves are attacked by a fungus belonging probably to the genus *Cercospora*. Pick off and burn the infested leaves, look well after the ventilation, not

very expensive. The best is published in nine octavo volumes, costing about £1 apiece, by the Ray Society. There is another, which is far inferior, which costs about £3, the name of which I cannot remember, but I could find out if you wish to know it. It is impossible to name caterpillars from descriptions.—G. S. S.]

Pear leaf blister mite.—I shall be much obliged if you will tell me in GARDENING what the spots are on enclosed Pear leaves?—IRETON.

[The leaves of your Pear-tree are infested by the Pear leaf blister mite (*Eriophyes pyri*), which burrows into the leaves and causes the spots, the colour of which, I suppose, is caused by the action of the mites cutting off the supply of nutriment to cells of the leaves under which they are feeding, which become discoloured much the same as they do in the autumn. If your tree is a small one, so as to render it possible to pick off the affected leaves, I should do so at once, and immediately burn them, and then spray the tree with a solution of paraffin emulsion; the spray should be applied to both surfaces of the leaves. In the winter it would be well to spray the trees again, as this mite passes the winter among the outer bracts of the buds; or the tree might be sprayed with a caustic alkali wash any time after the leaves have fallen and before the buds show any signs of opening in the spring. The mites are very small, white, narrow creatures, which, as a rule, are quite invisible without a magnifying-glass.—G. S. S.]

VEGETABLES.

SECURING THE STEMS OF ASPARAGUS.

This is not practised so often as it should be, and yet it should be looked upon as one of the most important details connected therewith. One might go into numbers of gardens during the summer months and find the Asparagus quarters somewhat neglected, the tops bending over. Even if not partially broken through, they are in such a condition that they cannot perform their proper functions—viz., storing the roots with nutriment for another season's crop. Considering that Asparagus is one of the most important of vegetables, it is surprising that it should so often be left, as it were, to take care of itself, and yet when the season comes round the crop is eagerly looked for; in fact, when vegetables are scarce it has to prove a veritable sheet anchor. Being truly herbaceous, it is all the more desirable that the growth be well cared for. No doubt there are instances of good Asparagus being produced annually where no securing of the stems is practised, but these are more the exception than the rule, and position must be greatly in their favour, being in this respect well sheltered from wind-storms. I have known seasons when the tops would have been quite free from injury until the summer was far advanced, or, indeed, well into autumn before any violent storms have occurred, but we can never tell what may happen, and it is always best to be well prepared.

The process of staking is not at all difficult, and the time it takes is hardly worth mentioning. Where the crowns are very strong and planted some distance apart, these should have a stake placed to them individually, taking care that the stakes are not thrust into the centres of the crowns. In other cases stout stakes may be placed at each end of the lines, and a few others intermediate down the rows, or according to the distance, these being for the support of long and slender rods, and to which the stems must be tied. Another advantage, besides the injury from wind-waving, is that by being tied upright, direct sunshine and light reach the bottom of the stems. By allowing the tops to sprawl all over the beds the surface is not so apt to dry quickly, but where the beds are properly mulched this is not likely to happen. Not only established beds, but seedlings should be seen to. P.

Mulching early Peas.—As a rule the first early Peas are planted in the warmest corner of the garden and in a warm soil, the object being to secure a few pickings as quickly as possible. This being so, it is sometimes necessary to mulch and even to water to avoid a sudden collapse of the crop. Chelsea Gem is slow to fulfil these promises well.



Dendrobium speciosum and Elk's-horn Fern in an Australian garden. From a photograph sent by Miss G. Hammenley, Salisbury.

splendid mass of *Vanda teres* growing to the top of Teak wood stakes 8 feet high, all the topmost portion a mass of soft white and ruby-tinted flowers. So, also, in the tropic island of Labuan, Orchids such as *Vandas*, *Phalaenopsis*, and many other epiphytal kinds, grow and flower most luxuriantly on the cultivated Orange-trees. These plants are often in the first instance established on Palm stems or in old husks of the Cocoa-nut, and are then placed in the forks of the branches or lashed to the trunk or main branches with rottan canes, and if this is done just as the rainy season sets in, they soon spread and fix themselves firmly to the smooth, living bark of the trees by their thong-like, aerial roots. The approachers to some suburban bungalows in Singapore are planted with great masses of *Gramatophyllum speciosum*, having thick Reed-like stems 8 feet or 10 feet high, so that visitors really walk up to the floor through an avenue of this gigantic Orchid. To walk out in the early morning or in the cool of the day, and wander through an orchard of Oranges, Pomeles, Citrons, and Limes, interspersed here and there with trees of the Mango, the Mangosteen, Durian, Jack-fruit, and Litchies, is an experience not easily forgotten. In some of these tropical fruit orchards the Orchids and Elk's-horn Ferns are

keeping the plants too closely packed together, and spray every 10 days or so while there are any signs of the disease with "Bordeaux mixture."—G. S. S.

Insect pests.—Can you give me the name of an illustrated book that will enable me to identify insect pests? In my orchard I have small green caterpillars (larva of winter moth), small brown caterpillars, and many leaves infested with a small grub about the size of a pin's head and of a bluish-grey colour.—J. C. PRADIE.

[I am afraid that there is no book which would enable you to identify all insect pests. There are several books on the subject, dealing, however, more particularly with those which affect agricultural crops. Among the best are "Manual of Injurious Insects," by Miss Ormerod, an octavo book, freely illustrated with woodcuts, published at 5s.; Curtis' "Fam. Insects," a quarto book, illustrated with woodcuts and coloured plates, the latter add largely to the cost of the work, which is 16s. There are some very valuable leaflets issued by the Board of Agriculture, and which will be sent free to anyone asking for them, which are well worth your getting. Apply to the Secretary, Board of Agriculture, 4, Whitehall-place, London, S.W. You need not stamp your letter of application. The only books which would enable you to name any caterpillars you might meet with (the books already alluded to will enable you to identify many of

Before putting on the mulch of short manure give a sprinkling of artificial manure; this will be washed down to the roots by occasional waterings and enable the pods to swell off. If this assistance is denied the crop in dry windy weather the secondary blooms sometimes fail to set at all. If William the First, Exonian, or any of the second earlies show a tendency to grow instead of to flower, they may be urged into fertility by pinching out the leading growths, and when well furnished with bloom may be assisted in the same way as advised for the earlier crops.

GARDEN WORK.

Conservatory.—The hard-wooded plants which have completed their flowering should be collected together and placed in a house by themselves, where growth can be made under suitable conditions, and any pruning or pinching required can be given from time to time to keep the plants symmetrical. Repotting, if required, should not be delayed. Those who have fine specimens and wish to keep them so will not allow them to remain in the conservatory so long, as the usual kind of house is not the best for hard-wooded plants, though in careful hands they are safe enough for a time; but Azaleas want the syringe daily when growing, and this cannot be done where the house is full of flowering plants. The flowering of the Acacias is over, and the plants should have been pruned back. Winter-flowering Heaths also should be put into condition for growth, and repotted if necessary. It is of no use attempting to grow Heaths in anything but the best of fibrous peat and clean silver-sand. Erica propendens is one of the prettiest early-flowering Heaths, and is not difficult to grow—at least, those who can grow the winter-flowering varieties will succeed with propendens. Good specimens of Erica Cavendishi and ventricosa are very attractive now, and, if placed in a light position, will last in perfection some time in the conservatory without injury. With such plants the watering and the ventilation are the chief things to be considered. The house will be very bright now with Pelargoniums (including Zonals), Fuchsias, Hydrangeas, Lilies of various kinds, Tree-Carnations, Roses, etc., including a few odds of novelties which are not in sufficient stock to make any great display. For instance, just now a little group of early-flowering Gloxinias, Himantophyllums, and Streptocarpuses, set off with a mixture of Maiden-hair and other Ferns, is pleasant to look upon. Fires have been discontinued, and a little ventilation will be left on all night along the ridge. The watering may still be done in the morning, but many things will want another look round about midday. In very hot weather it may be desirable to damp floors once or twice during the day to keep down the heat. Shade will be necessary if very bright.

Stove.—Fine-foliaged plants, including Caladiums, Dracaenas, Crotons, Marantas, etc., will be very interesting now, as the new growth of most things in this way is so clear and bright. Suckers may be taken from Pandanus Veitchii when they can be obtained. This makes a good specimen for exhibition, and is easily grown. Small plants of good colour are sometimes used for table decoration, having a striking appearance as centre plants, but they are not generally popular—at least, we have not found them so, as the hooked spurs on the leaves are always catching things near them. The most popular leaf plants are Caladium argyrites, Cocos Palms, red or golden-leaved Dracaenas, and the long, narrow-leaved Crotons. What is generally required for the work is not bulk or weight of foliage, but light, graceful-foliaged plants. The variegated Cyperus is very well for a change, and rather small plants of the gold and silver Ferns are useful when a distinct feature is required. A good many plants are required for table work in large country houses in the autumn and winter, for which provision should be made now. Smilax and Asparagus Sprengeri and plumosus are sure to be wanted, and these cannot be improvised on the spur of the moment.

Orchard-house.—Top dress trees in pots with rich compost. At the present stage trees

in pots will take a good deal of nourishment. The best way is by giving top-dressings, supplementing where necessary with liquid-manure. The final thinning of the fruit should be given soon. Quantity when excessive means poor quality. Use the syringe daily in bright weather twice a day, and without overdoing it see that no trees suffer from dryness at the root. Ventilate very freely when the weather is warm, but keep out cold north or east winds without unduly raising the temperature. Leave a little air on all night in warm weather.

Ripening fruit.—When any fruit is approaching the ripening or finishing stage, diminish the supply of water—not to permit the roots to get dust-dry, but if the roots are deluged when the fruits are finishing the flavour will be spoiled. This refers especially to Melons, Peaches, Pines, and in a less degree to Grapes. Peaches and Melons soon show by the flavour the bad effects of an influx of water at the roots at the finish. Deficient ventilation also has a bad effect upon flavour when fruits are ripening.

Sublateral growth on Vines.—Every Grape-grower who has studied the constitution of his Vines will know how to manage the sublaterals in the various stages of the Vine's progress. Sometimes when the crop is taking its last swelling, it is good policy to permit a little more freedom to the lateral growth, especially in such kinds as Madresfield Court Muscat, which under certain conditions shows a tendency to crack the berries. Dryness at the root in the early stages, very close pinching of the young growth by reducing the breadth of foliage, may have a tendency to cause cracking, or, in some cases, shanking is produced by it. There should be plenty of foliage, but every leaf should have room for full development. With the advent of warmer weather less fire-heat will be required, though in our changeable climate the fireman must always be prepared to turn on the heat.

Window gardening.—Window-boxes are now being filled, and special efforts are made to have a gay scene early. There is a big demand for red, white, and blue flowers. I daily come into contact with a good many people, and all are running upon the same ideas of decorating with the National colours. I have no sympathy with crowns and monograms worked out in flowers. They are usually dismal failures, and belong more to the gasfitter or electrical engineer than the gardener. Have the windows bright certainly, and if there are any well-flowered plants of Agapanthus umbellatus in tubs, stand them about the lawn or in the forecourt. Good bushy plants of Hydrangeas in tubs also will help to brighten up the front garden. A mass of Salvia patens in a rustic basket surrounded by white Ivy Geraniums is attractive. Those who want scarlet will find abundant material in Geraniums. Fuchsias are always graceful things and easily grown.

Outdoor garden.—The season is very backward; even the usual spring bedding has hardly reached its best. So, where the tender bedders follow spring flowers, the tender things must be well looked after to prevent a check being given. There is a great demand this Coronation year for red, white, and blue flowers, and most of the scarlet Geraniums, white Marguerites, and blue Lobelias will be used up. Scarlet Lobelia Queen Victoria, blue Salvia patens, and white Verbenas, pegged down, will give the national colours in a somewhat different form, perhaps a little more interesting than the usual Geraniums, etc. There will be a severe struggle with insects this season. They always come in shoals with the east wind, or, rather, the east wind checks the growth and prepares the way for the green-fly. One of the best insecticides for flies, green or black, is Tobacco powder. It is always ready, can be easily applied, has a deadly effect, and is cheaper than washes; but do not wait till the leaves are curled. Maggots in the foliage of Roses must be crushed between the finger and thumb. Place the stakes to Carnations in good time. The same remark applies to Dahlias and Hollyhocks, and have the stakes strong enough to resist a gale of wind. What a lovely family the border Pinks are, and how early they grow a good collection! They are worthy

of more attention. Hardy annuals should be thinned in good time, as a plant weakened by overcrowding never does its best. The Ever-lasting Peas are among the best plants for planting against small trees to cover the stems, such as Apples, Thorns, etc. Keep the hoe going. A loose surface saves watering.

Fruit garden.—The early blossoms of Strawberries have suffered from the frost, and in some exposed, low-lying situations the crop will be a smaller one than was at one time hoped. Bush fruits also will probably be affected by the same cause, though it is probably premature yet to give a final estimation, as very often results come out better than expected. The principal work now is fighting insects, and this must be followed up till the trees have been cleared of their enemies. The copious rains which have recently fallen were much needed, and will have a beneficial effect. All spare frames may now be filled with Cucumbers and Melons. There must be root warmth to give the plants a start, especially for Melons, as a cold root-run generally leads to disease, canker in Melons being generally induced by a low temperature. If canker appears on the main stems of Melons, attack it by covering the affected parts with quicklime, changing it often till the disease is checked. If taken in time the plants will be enabled to ripen the crop. I think it is important that seeds should be saved from healthy plants only, and where possible growers should save their own seed. In earthing up Melons use rather heavy loam slightly enriched with bone-meal.

Vegetable garden.—Turnips may be sown in larger patches now. Snowball and Veitch's Red Globe are good varieties. There is not likely to be too many Peas—Autocrat, Ne Plus Ultra, Walker's Perpetual, and Daniel's Matchless are good varieties. Early sown Leeks may go into shallow trenches enriched with rotten manure or manurial compost. The preparation of Celery trenches will be in progress now, and here also it is an advantage, if the manure is worked in, to include some of the old vegetable waste and charred refuse of the garden. There is yet time to sow Scarlet Runners for succession. We generally plant the white-seeded Runner at this season. Veitch's Climbing French Bean is a profitable variety. It is important that all Beans and Peas should be gathered as soon as fit for use. We have often had a good lot second crop from Ne Plus Ultra and other Peas when the plants have not been exhausted by leaving the pods or any part of them on the plants to get old, and the same remark applies to Beans. Even Longpod and Windsor have borne a second crop not much inferior to the first when the pods have been gathered young and the stems shortened, and a mulch of manure given. Early Horn Carrots to be drawn young may be sown up to the end of June, and Parsley, from a June sowing, always comes in useful.

E. HORDAY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

June 2nd.—The planting of flower-beds and borders is in full swing, and other work will for the time being have to give place to it. Planted out New Zealand Spinach which has been raised in heat. We find this very useful. We give it a warm, sunny situation. Placed stakes to Carnations and Pinks of the choice kinds. When Pinks grow into a mass, of course stakes are not required, as the flowers support each other. Planted out Dahlias and placed stakes to them, and supported each plant with a tie.

June 3rd.—Prepared trenches for Celery. Planted Lettuces on the ridges between the rows. French Beans are being gathered from pots now. All plants in pots have been removed from houses, as they become dangerous from their liability to red-spider. Liquid-manure is given to Strawberries in pots in cool-houses. This is the last crop under glass. Plants outside on warm border have set fruit. Fortunately these were sheltered with tiffany and escaped frost. Attention is being given to spray fruit-trees to clear them of insects.

June 4th.—The hoe is used freely among early Potatoes now through the ground.

Staking and tying Tomatoes in cold-house, and rubbing off side-shoots. Tomatoes for planting outside are hardening in cold-pits with lights off all day. We have planted out a few Vegetable Marrows and ridge Cucumbers under handlights, and others are waiting in cold-pits for settled weather to make it safe for planting. Fresh manure is not used for these plants. A little good compost is placed in the hole with each plant.

June 5th.—Placed stakes to Hollyhocks and Madonna Lilies; the last are strong clumps, and the soil being rather gritty, a mulch of manure has been placed among the plants. Hollyhocks, Dahlias, and Phloxes are treated in the same way. Potted off a lot of seedling Gloxinias and Streptocarpuses. Moved Cyclamens to cold-pit; shall soon begin to shift into 3-inch pots. This refers to last season's seedlings only. Older bulbs are planted out in cold, shady pit under north wall. We have given over drying off Cyclamen corms; there are fewer losses in consequence.

June 6th.—Placed some Orchids just beginning to grow into new baskets. A few *Oncidium*s and *Dendrobis* have been attached to new blocks. Shifted on various *Neprolepis-Ferns*. Several strong plants of *Neprolepis exaltata* and *Polypodium aureum* have been placed in wire baskets. Several baskets have been filled with *Achimenes*, and will be kept in a warm, shady house for the present. Planted early Leeks in trenches. Pricked out more late Celery-plants, Major Clarke's Solid Red being a favourite.

June 7th.—Planted out Stocks and Asters in reserve beds for cutting. Asters are especially useful to us. Planted out more Brussels Sprouts and Veitch's Self-protecting Autumn Broccoli. A good breadth of Autumn Giant Cauliflower has also been planted. A good many of the Plums have fallen from the severity of the weather, but there will be a crop, and the fruit on some trees may require thinning. It pays to thin the best dessert Plums. Looked over Roses to remove suckers and destroy insects. We find Tobacco-powder useful for green-fly.

BIRDS.

Food for Canaries (Silver Plated).—The staple food should be Canary-seed. To this should be added, in similar quantities, the smaller kind of Rape, of a purple or reddish hue. The large black Rape is harmful, especially to young birds. A little white Millet-seed may be given occasionally, while Linseed is found very useful in helping these birds over their molting; indeed, a little may be given at any time. Inga-seed must be carefully avoided as it causes derangement of the liver in a very short time. Hemp may be given, but it must be used sparingly, as it is very heating, and of a fattening nature. The small kind of Hemp is the best, and should be of a bright grey colour. You were not judicious in giving your bird so much Apple; a little hit now and then, however, will do no harm. The green food should consist of Groundsel, Chickweed, Dandelion, and Lettuce, but should be given in small quantities, and fresh, although not immediately after being gathered. It is well to remove from the cage any not consumed within a couple of hours or so, as stale green food is harmful. A rusty nail in the drinking water provides a mild tonic, and keeps caged-birds in health.—S. S. G.

POULTRY.

Food for chickens and ducklings (H. A. T.).—The best food for chickens after first few meals of hard-beiled egg and bread-crumbs is one part of Barley-meal and two parts of coarse Oatmeal, mixed with milk or water to a crumbly paste. In a few days they may have crushed Wheat, grits, or bruised Oats, while a little lean, undordone meat, minced fine, may be given daily until the chickens are about three weeks old. At first they should be fed every two hours, and then the number of meals gradually reduced to four or five. If there is no Grass now, or if the weather is not favourable, some Grass or other

vegetable food, minced small, may be given. For the first three weeks ducklings may have well-toiled Rice and groats mixed, which, when thoroughly drained, should have as much Barley-meal worked into it as will make it into a dry, crumbly mass. Chopped Leek-tops, Onions, or Lettuce will keep the ducklings in good health, and a little meat in the shape of boiled liver, minced, is very beneficial. For the first ten days they should not be allowed to go near water, but sufficient must, of course, be given for drinking. They should be cooped in a dry situation free from draughts. At the end of three weeks they may be less studied in their diet; in fact, they will at that age consume almost anything in the shape of Corn, meal, garden refuse, and scraps. To fatten ducks they should have as much food as they will eat, crushed Oats and Pea-meal being the standard. Green food, of which nothing is better than Lettuces, may be given abundantly. Boiled roots mixed with Barley-meal and a little milk added are excellent during fattening. If well fed they should be fat in eight or ten weeks. It is impossible to say which is "the best incubator" out of the large number there are in the market. Of American machines alone there are at least thirty different makes.—S. S. G.

LAW AND CUSTOM.

Trespassing cats.—What steps am I justified in taking to protect myself against the nuisance of neighbour's cats straying continually into my garden?—S. C. R. (I think your only practicable remedy is to chase them out, although, if the cats do actual damage, and you request your neighbour to prevent a recurrence of the trespass, and he ignores your request, you may, on proof of the facts, recover damages in the county court.—K. C. T.)

Tenant continuing in occupation after expiration of lease.—I held a piece of land on a lease for a term expiring on January 6, 1902, but am remaining in occupation without any new agreement. By the old lease it was at liberty to remove and take away everything on quitting. What is my present position? I am a working gardener, and have erected greenhouses, frames, and shed, and planted trees and shrubs, etc.—M.

[I suppose you are remaining in occupation under an informal arrangement, and that there is no question as to any wrongful holding over. If this be so, as soon as you pay any rent accruing due after January 6, 1902, you will become, by implication of law, a yearly tenant holding on such of the terms and conditions of the expired lease as are not inconsistent with a yearly tenancy. A clause in a lease permitting a tenant to remove, when he quits, all the things he has planted or erected upon the holding, is not inconsistent with a yearly tenancy; and so, when you quit, you will be at liberty to remove all the greenhouses, plants, shrubs, trees, etc., you have erected or planted. It will, of course, be open for your landlord to rebut the presumption that you are a yearly tenant holding upon the terms of the expired lease, but to do this he must bring evidence to support his contention.—K. C. T.]

Contract to relay lawn (W. H. W. G.).—Last May you contracted with a gardener to turf a lawn for you, and on completion of the work you paid him the greater portion of the sum he was to receive for it, and retained the remainder until it could be seen whether the work proved satisfactory. You do not say whether it was a condition of the contract that you were to withhold this portion. If it was not, but was afterwards imported by you, the deduction was illegal, and the gardener could have at once recovered the balance, unless you could have then proved that the work was badly done. You say that the lawn proved unsatisfactory, as some of the turf died, while every part of it was full of rough Grass, Thistles, and weeds. He then offered to relay the turf, but, as the offer was made in mid-winter, you declined it, and you wanted the work done in early spring, and said you should hold the money until the lawn proved to have been satisfactorily laid. He declined this proposal, and so the work remains undone. You ask if you can employ another gardener to do the work, and use the balance you have in hand to defray the expense incurred, and, if that balance proves insufficient, you ask if you can recover the excess from the original contractor? The answer depends upon the terms of the original contract. If there was not a stipulation that you should retain a portion of

the contract price until it could be seen how the lawn turned out, I think you cannot do as you propose. It is, however, evident that the work was badly done, as the weeds and Thistles would not have appeared if proper material had been used, and as the man did not sue at the proper time, I think he cannot now do so with success. You may expend in relaying the balance you have in hand, but I think that if the work of relaying costs more than that balance, you cannot recover the excess from your original contractor.—K. C. T.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in GARDENING free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF GARDENING, 17, FURNIVAL-STREET, HOLBORN, LONDON, E.C. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents simple specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Raising Myosotis and Alyssum (D. McLeod).—Forget-me-not is easily raised from seed sown now in the open air or in boxes, pricking out the seedling plants afterwards. Alyssum saxatile can be raised freely in the same way. We are supposing that you have no plants. If you have any, division is a good way of increasing these plants.

Soot-water (Edith Chalmers).—So long as the water is much discoloured by frequent disturbance of the beetles the water is so long in their virtue in the soil. When the water is no longer darkened it is evident the carbon is well exhausted, and a fresh lot of soot may be put in. Soot is such a safe stimulant that its use may be prolonged almost indefinitely, or so long as growth is active.

Preparing Quassia extract (R. H. Morebank).—Soak 1 lb. of the chips in a gallon of water for two or three hours, then heat it till it boils. Let it simmer for at least 12 hours, strain, and add 10 oz. of the best soft-soap. Add 10 gallons of water before using. This is the ordinary strength used for destroying green-fly, etc.

Destroying wireworms (Amateur).—These may be caught by burying small slices of Turnips, Mangolds, Carrots, or Potatoes near the plants they are attacking just below the surface of the soil. A small wooden skewer stuck into each bait renders them easier to handle and find. They should be examined every morning. Small pieces of Rape cake are also very useful for the same purpose.

Sweet Pea flowers falling to open (S. C. R.).—If all the buds are like those sent we can only suggest that a check be made in the direction of the buds in all probability the time the flower-buds were formed. On check, as excessive dryness at the root, and that frequently occurring, has taken place, then we may look for the fault in the soil being insufficiently charged with lime. Water with lime-water for a time, and give a top-dressing of soil mixed with bone-meal.

Carnations failing (Jack).—In all probability the most satisfactory way to treat your Carnations will be to throw them away, for it is too late to propagate any except the Malmansons, and, as they are all in a bad state, you cannot obtain good cuttings. You might, however, plant them outdoors and keep them watered, when, if any recover and push out new shoots, they may be layered. If these are potted when rooted and wintered in a cool-house, they will give you a supply of young plants to start with next spring.

Primula obconica poisonous (Geddes).—It is quite true that in some few persons who have some constitutional predisposition to skin disease the handling of this plant has caused severe irritation. We have handled this plant for many years without any ill effects of any kind, but, as stated above, the results in a few cases may be undesirable. In such cases, then, it is not wise to have anything to do with *P. obconica*, but we have known *P. sinensis* act in a similar way. *P. obconica* is too charming a plant when in flower for anyone to destroy.

Increasing Gloire de Lorraine Begonia (S. C. R.).—You ought to have cut down your plants immediately flowering was over below where the first blooms were produced. In a short time young shoots will be pushed out from the base of the plant, and when these are from 1 1/2 inches to 2 inches long they form the best of cuttings. Cut them off close to the main stem and dibble them into well drained pots of sandy soil, water through a fine rose, and stand in a close propagating-case in the stove. The cuttings will root in about three weeks, when they should be potted off singly into small pots.

Planting flower garden (J. H.).—As your side border is but 3 feet wide, we should prefer to plant that with Antirrhinums at the back, Asters and Stocks mixed in the middle, and Phlox Drummond at the front. Plant the broad border, No. 2, with Dahlias behind, then Feat-

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VEGETABLES.

SEVERE MAY FROSTS.

This year there has been a second winter in the matter of late severe frosts and cold, cutting winds, and the influence of such unusual weather is manifested in the present state of garden and field crops. Almost every tender crop bears the impress of cold weather in the slow and scanty growth which has been made. In the 14th of the month 6 degs. were recorded, tender Potato tops, Strawberry flowers, and Asparagus heads showing unmistakable evidence of the extreme cold. There has been not one morning up to the middle of May on which there has been no frost, the one exception being Sunday the 11th. Frosts of the same severity, following a period of mild weather, would have inflicted greater havoc, and the hardening influence of the continued cold winds saved many crops. Potatoes only emerging from the soil have suffered the most. The value of shelter has been amply demonstrated this spring, for tender vegetation in the open has suffered badly, while under walls and hedges much less damage has been inflicted. Such a winter is a period to be dreaded, because the season then is so far advanced that protection is entirely out of the question. Where a quantity of bedding and pot-plants are drafted into sheltered corners outdoors, both with a view to the relief of the glass structure and for the purpose of hardening them for open air use in summer, much anxiety is caused in such a season. In suburban and town gardens it is customary to commence the summer bedding by the middle of May, but it can not be admitted the cold and frost are not so severe as in the more open country gardens. The result of this extreme cold must of necessity both retard and diminish the output of many a garden in its outdoor crops. Potatoes, in particular, must be late, and if the tops are repeatedly frosted the yield is lessened in a serious degree. Beans and Marrows, too, will not repay early sowing this year.

W. S.

VEGETABLE MARROWS.

(Reply to "C. H. A.")

The seed of Vegetable Marrows should be sown in April under glass in a temperature of 65 degs. or 70 degs. As soon as the rough leaf is formed pot off singly into 6-inch pots, and return the plants to a frame until they become established. Gradually harden them off and plant out in the open air towards the end of May. Hamlights should be placed over them for a few days after planting. Do not keep on the lights too long, as the plants are liable to be attacked by mildew. When well established the shoots may be stopped to make them throw out from six to eight leading stems. These may be led off in different directions to form the plants. After the plants reach a considerable size a fruit will be formed under each leaf, and if the Marrows be cut young and none left to ripen seeds, the plants will go on bearing until October unless cut off by frost. If

planted on rich soil very little water will be required; but if the soil is poor and sandy frequent watering is necessary, with an occasional soaking of liquid-manure. On no account allow the plants to flag, as then they will be attacked by mildew, which will soon destroy them. A simpler way for those who have no glass is to sow the seeds in the ground about the middle of May. A bell-glass may be put over the seeds to assist germination, and the plants, when well established, will continue to fruit during the summer and well into the autumn.

Rapid growth, too, is important, hence the soil can hardly be too rich. If grown slowly the Marrow is apt to be tough and bitter. On a rubbish-heap the Vegetable Marrow will do well and fruit abundantly. It is also a capital plant for filling any nook or corner, covering dead walls and fences, scrambling over out-buildings, or growing in any out-of-the-way place. Among varieties the best are the long White and Pen-y-Byd.

CABBAGES BOLTING.

There seems still to be a good deal of uneasiness amongst small Cabbage-growers with respect to the tendency which exists on the part of their plants sown in the autumn and planted later to bolt off to flower in the spring instead of hearting in. It does not seem to be known that certain varieties are better suited for spring sowing, and so treated do not bolt. It does seem as if these varieties still had in them something of the annual character of the original species, or may, to secure certain nice flavour, have been the product of crosses with one or other of the Cole-worts. If these latter be sown in the autumn they all bolt to flower. If they be sown during spring or summer they heart in capitally. If any readers find that any variety shows a constant tendency to bolt from autumn sowings, they should not so employ the variety again. There is plenty of good reliable varieties that will not so bolt. There is reason sometimes to assume that too early sowing in the autumn may govern bolting. I do not think evidence is strong enough to justify that assumption to any material extent. Still, it is very easy for anyone to test its merits by making a sowing the last week in July, and a second the third week in August, which is late enough to secure good plants to put out in October for spring hearting. Even in these cases some allowance must always be made for a trifling proportion of what are termed "rogues" being among the plants. These find their way into good stock. Still, in pulling plants from a bed, any that seem to be a trifle coarse or not true should be avoided or thrown away. I have never yet seen a breadth of Cabbage, large or small, of however good stock, which did not have in it a few plants at least that were not quite true to character.

I have been just looking over a most interesting trial of autumn-sown Cabbages growing on an open, exposed site on a deep but not rich bed of sand. The trial includes its varieties got from leading seed firms, and of each one two sowings were made, viz., July 24th and

August 16th, the respective plantings being done on September 25th and October 16th. One half the plot was first planted and the second one had the first rows continued right across. These were put out 40 plants in each row, so that the total number put out in the trial was 1,440, quite a sufficient number. Of the first planting only 11 plants out of 720 bolted, and these were distributed over six varieties—a proportion too trifling to merit consideration; yet of the second planting there was not a single bolter. That fact was made all the more apparent because with the second planting some 300 additional plants were put out to fill the space the trial left unoccupied. If, therefore, there was in respect of non-bolting a trifling gain in favour of the August sowing and October planting, it is worthy of note that the proportion of bolters in the first planting was very trifling, and in the second there was material gain in earliness, hearts being ready to cut fully a fortnight before any from the second planting were ready.

A. D.

PEAS FOR EXHIBITION.

It used often to be written concerning Potatoes that exhibition varieties were of no value for domestic uses. It is so far unfortunate in relation to Potatoes that there are some varieties, notably the old International Kidney, Mr. Breese, Red Kidney, and Edgote, Purple Kidney, that are really bad cookers, and should never be grown for any purpose. Still, the majority of Potatoes are equally good for show or for eating, and, therefore, the reflection on those referred to has little force. But with Peas, we know of no variety that is not good for show, but is also equally good for the table, for, apart from appearance, judges, if in doubt as to the merits of one dish or variety over another, usually open pods and taste the Peas, and flavour then materially influences the decision. But we have now such a wealth of splendid Peas, fine in pod, well filled, good in colour and in flavour, that there is little difficulty in growing and exhibiting of the best. Generally, it is found that the requirements of exhibition Peas are: pods of equal size, long, well filled, yet young and fresh, pods and peas of good deep green colour, the former carrying a nice, powdery-like bloom, and the latter tender and of good flavour. There are many varieties of Peas which give these requirements naturally if good culture has developed them. To preserve the "bloom" on the pods, care should be taken not to run against them in passing up and down between the rows, but also, when gathering, only the stem should be handled, the pod being carefully preserved from marks. Any rust marks or abrasion on the pods are defects in exhibition Peas, although they may not in the least affect their cooking qualities.

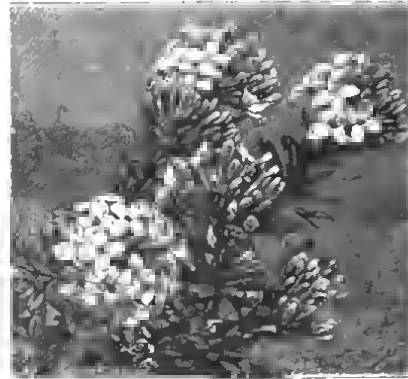
To produce fine, clean, handsome pods, high-class culture is requisite. No matter what the variety or the season, real show pods cannot be obtained unless the soil be deeply trenched, liberally manured, and the plants freely supplied with water during hot, dry weather. In addition, also, it is a good

plan to syringe the rows with clean water in the evening, as by so damping the growth spider or thrips, both troublesome pests, are kept in check. A mulch of long manure some 18 inches wide laid along on each side of rows of Peas does great good in retaining moisture. No matter what the variety, the seeds should always be sown thinly. The leading vegetable exhibitors put in their Peas fully 6 inches apart, and in drills that have been thrown out with a spade 7 inches to 8 inches wide. So treated the plants later get plenty of root and leaf room, and thus escape many of the troubles which affect Peas that have been thickly sown. Good varieties to produce fine deep green pods are Gradus, Early Giant, Duke of Albany, Edwin Beckett, Prizewinner, The Gladstone, Sharpe's Queen, The Duchess, and Alderman, but there are others also. Probably the Duke of Albany and The Gladstone are more generally grown, but all these are first rate. A. H.

NOTES AND REPLIES.

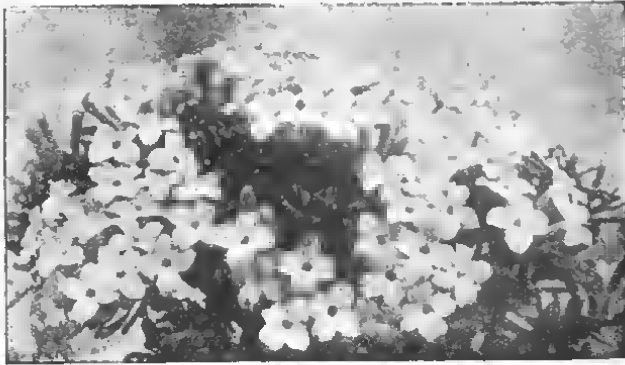
Early v. late planting of Brussels Sprouts.—No green vegetable is so profitable in the garden as this. Six months for a crop to be in use is a long time. Some may ask how this can be accomplished. The answer is, sow early under a handlight, an odd light, or in the open border, plant out early in June in highly cultivated land that has been worked deeply early in the year and allowed to settle, in rows 2½ feet apart and 2 feet from plant to plant. Some years ago I planted early in June and at

the soil? Neglecting to take these simple precautions invariably leads to an attack being set up the following season, as the spores lie dormant during the winter months, either in



The Garland Flower (*Daphne Cneorum*). (See page 201.)

the soil or on the woodwork, and only need a congenial atmosphere to call them into being. As your other plants are as yet free from the disease, you may possibly keep them so by



Rock Garland Flower (*Daphne rupestris*). (See page 201.)

the end of July, with the result that both lots came in at one time, and since that I have given up planting late. Last year my main crop was put out in June. The plants grew 3 feet high, with sprouts from the ground. From these I commenced gathering nice close sprouts early in October, and continued all through the winter till the middle of April. Some plants I could not get out till a month later from want of land. These did not give two-thirds the sprouts. My best selection was Market Favourite. I am no believer in sowing on a hotbed or in heat at all. My plants are ready to go out in time enough by sowing on open border and putting a glass over. J. CROOK.

Tomatoes falling.—I send you by post a Tomato plant which puzzles my gardener. It was one of a long row in a greenhouse, planted in a sort of sleep trough. Every other plant is looking healthy and strong. I cannot understand why the one I send you has gone off. Last year I lost several plants in the same mysterious way, and I shall be much obliged if you can assign any reason?—W. FORESTER MILLS.

[The Tomato plant submitted appears to be suffering from an attack of the Potato disease (*Peronospora infestans*) or an allied form of it, and your last season's losses doubtless resulted from the same cause. It is somewhat difficult to assign a reason for an outbreak occurring so early in the season, but the following queries may perhaps assist you in clearing up the matter: Did you clear out the soil in which the infested plants were grown last season? Also, was the woodwork and glass well washed with warm, soapy water, and did the walls and all portions of brickwork receive a thorough coating of hot lime wash after the same manner

maintaining a dry, warm, buoyant atmosphere in the house (the opposite conditions are all in favour of the germination of the spores), and paying particular attention to ventilation. On warm, sunny days admit air both at the front and apex, but if the wind is cold and in the east keep the front lights closed until such



The Sweet Daphne (*D. odorata*). (See page 201.)

lime as warmer conditions prevail. Also, if you have Potatoes planted in proximity to the front ventilators, keep the latter closed together until the crop is lifted. The soil

attached to the roots of the plants submitted is not exactly suitable for Tomatoes, as peat is not an essential; but this would not, in our opinion, have anything to do with the disease complained of.]

Tomatoes diseased.—I am sending you some leaves of my Tomatoes, and I shall be very much obliged if you will tell me what is wrong with them? They are growing in a low span-roofed house, in which I had a splendid lot of Tomatoes last year. Every bit of the old soil was cleared out and fresh soil given them. I always keep a little warmth in the pipes at night, and on wet or cold days, and ventilate freely. They were planted about the middle of April, and the plants are very strong. I got some of the disease on a plant or two soon after they were planted, and I immediately gave them a thorough spraying with sulphate of copper, which appeared to kill the disease, only to appear again in a few days; since then I have tried several other mixtures and another spraying of sulphate of copper, with the same result. I started the plants in a manure hotbed, in one of which there was a very moist atmosphere. I think the plants are almost useless, therefore I have sown some more seed. Can you tell me how to clear the disease out of the house before putting in fresh plants? Would burning sulphur in the house kill it?—CONSTANT SUBSCRIBER.

[Your Tomato plants are suffering from a bad attack of Tomato disease (*Cladisporium fulvum*), for which there is unfortunately no known cure. This latter statement is amply verified by your own efforts to stamp out the disease, as the "stem" and leaves sent are eaten up with it, in spite of the heavy sprayings of sulphate of copper to which you have subjected them. Your only course is to root



The Mezereum (*D. Mezereum*). (See page 201.)

out the plants, burn them, and then subside your house to a thorough cleansing after clearing out the soil, following this up with a liberal whitewashing of walls and every particle of brickwork, using fresh slaked lime only for the purpose. Then put in a new bed of soil and procure good strong plants from an uncontaminated source, avoiding your own newly raised ones for this season, as they, by careful attention to cultural details, such as the maintenance of a buoyant, dry atmosphere at all times and ventilating liberally when the outside air is soft and halmy, and more carefully when the wind is chilly and blowing from a cold quarter, there is no reason why you should not yet obtain a full crop of fruit. The reply to your last query is in the negative, for, according to our experience, the burning of sulphur in the house is non-effective.]

Photographs of Gardens, Plants, or Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

The Prize Winners this week are: 1. Miss E. Frank, Blackhurst, Tunbridge Wells, for Yellow Alyssum on an old terrace wall; 2. Miss Baylton, Oaklands, Dawlish, Devon, for Narcissus poeticus in Beech wood.

TREES AND SHRUBS.

CLIPPED COCKS AND HENS AT THE TEMPLE SHOW.

We noticed at this show an attempt to revive some of the worst features of the topiary "art" in the shape of Box and other bushes cut to eccentric shapes. This costly fad can only deceive those who practise it. We know one unfortunate man, with certainly more money than wit in this particular case, who ordered a lot of these things and put them in a garden by themselves. Half of them died, especially the variegated ones; the others are all kept to look at, and a more comical spectacle could hardly be seen, even among the scenic treasures of a penny gaff.

Fortunately, there are some old English gardens yet to be seen in the west country and elsewhere which show us the meaning of the practice—it was done, usually, to restrain a low bush or Yew which had grown a little too vigorous, and so was clipped into some shape. We warn our readers against over-indulgence in vegetable cocks and hens, usually imported from Holland and charged absurd prices for.

And here we may note the influence of the Dutch on English gardens. As to garden design, it was wholly evil in bringing their ideas of tree form into the garden. They allowed their noblest artists to starve, or even die in the workhouse—men whose pictures are now beyond price—and left their gardens to men who treated trees as so much green material to cut into walls, horrible to all who see the true and eternally settled natural forms of tree or shrub. Dutchmen are good nurserymen and bulb growers, and supply half Europe with their bulbs, but right taste in gardening is not among their possessions.

VARIEGATED TREES AND SHRUBS AT THE TEMPLE SHOW.

A very bad effect at the Temple Show arose from the undue prominence given to variegated shrubs in the open-air display. The nurseryman seizes every bit of variegation that occurs on a shrub and propagates it, and the result could be judged in the general effect of the avenue in the Temple Gardens. Nothing more spotty, formless, or ugly could well be seen. The half-diseased spotty things are shown in this way in order to get what nurserymen call "a bit of colour," and few of the really fine shrubs which our nurseries possess were seen in this mass. Not one out of forty of the shrubs we allude to can ever give any good effect in a garden or plantation, with the single exception, perhaps, of a good variegated Holly. It is deplorable that the society should encourage the exhibition of such poor things at its great summer show while our nurseries are full of handsome evergreen and other fine shrubs.

DAPHNE (GARLAND FLOWER).

ALPINE and mountain shrubs, some dwarf as well as beautiful, fragrant, and of the highest value for the rock-garden. Where the bushy rock-garden is made the larger kinds will be useful; the smaller may go with the choicer and more diminutive alpine plants. They are chiefly natives of Europe, and in cultivation do best when shaded in summer from the mid-day sun, and in winter screened from cold winds. If nurtured by the fallen leaves of trees they will grow with a vigour that we can scarcely hope to witness in our gardens under ordinary treatment. They have but few roots, and require to be transplanted when young. The best soil is a mixture of free loam and decayed leaf-mould, with some old road soil added. None of the Daphnes require a rich soil, and some of them even prefer old road soil to any other; this is especially the case with the Mezereum.

DAPHNE ALPINA (Mountain Mezereum).—A dwarf summer-leaving and distinct rock shrub, reaching 2 feet high, the flowers yellowish-white, silky outside, fragrant, in clusters of five from the sides of the branches. It is a low, branching shrubby flowerer from April to June, and bears round red berries in September. Central and S. Europe.

D. BAGAYANA (The King's Garland-flower).

—A dwarf alpine shrub, 3 inches to 8 inches high, of straggling growth, the leaves forming rosetta-like tufts at the tips of the branches, encircling dense clusters of fragrant, creamy-white flowers. It blooms in spring for several weeks, and thrives in the rock-garden in well-drained spots surrounded by stones or its wiry roots to ramble among. It is hardy, and in open spots thrives in any good soil; increased by layers pegged down in spring and separated from the plants as soon as roots are emitted.

D. CYNORUM (Garland-flower).—A little trailing shrub, growing from 6 inches to 10 inches high, and bearing rosy-lilac flowers, the unopened buds crimson, and so sweet that, where much grown, the air often seems charged with their fragrance. It is a native of most of the great mountain chains of Europe, and is one of the best of all plants for the rock-garden. It thrives in peaty and very sandy, moist soils, but in cold and stiff soils often fails. Wherever the soil is favourable it should be much used, and is usually increased by layers.

D. COLLINA (Box-leaved Garland-flower).—The leaves of this much resemble in shape and

There appear to be several varieties of *D. Genkwa*, some with much larger flowers than others, and some of a darker shade of purple. It is not quite hardy in cold districts. Syn., *D. Fortunei*.

DAPHNE HOTTETIANA (Van Houtte's Mezereum).—This singular kind forms a robust, spreading bush 3 feet or 4 feet high, with all the leaves collected on the young branches, while the old ones are naked. It is a distinct bush, quite hardy, flowering in the spring before the leaves appear, and is said to be a hybrid, which originated in one of the Belgian nurseries, between the common *D. Mezereum* and *Spurge Laurel*. Its leaves are from 3 inches to 3½ inches long and 1 inch broad, stained with purple on the upper side when fully developed, but when quite young and in the bud state of a dark purple colour. The shoots, when young, are also of a purple colour, but when old, light brown, stout, and spreading; the flowers are small, dark purple, quite smooth, and are borne along the shoots of the previous year, before the young leaves appear.



The King's Garland Flower (*Daphne Bagayana*) in the rock garden. From a photograph by Miss Wilhmott.

size those of the Balearic Box, the upper surface of a dark glossy green. The flowers are in close groups, and of a light lilac or pinkish colour, the tubes rather broad and densely coated externally with silky white hairs, which give the tubes a silvery appearance. It forms a beautiful, low, dense, evergreen shrub, the branches of which always take an upright direction, and form a level head, covered with masses of flowers from February to May. It is a native of Greece, South Europe, growing from 2 feet to 3 feet in height, and quite hardy. *D. vespertina* is probably a variety of it.

D. FROXIANA (Fion's Garland-flower).—A compact shrub not uncommon in gardens; the heads of bloom are in clusters, five fragrant flowers in each, of a pale lilac colour, the tubes densely covered externally with short, silvery hairs. This shrub flowers from March to May, and is hardy about London.

D. GENKWA (Lilac Garland-flower) is a summer-leaving shrub of from 2 feet to 3 feet in height, with downy branches and fragrant violet-coloured flowers thickly set on the leafless branches in early spring, giving the plant much fragrance of a small Persian Lilac.

DAPHNE MEZEREUM (Mezereum), a wild plant in English woods, is a charming and fragrant bush and the earliest to flower, often in February. Where the shrubby rock-garden is carried out nothing is more lovely for its adornment than a group of this. Though quite hardy, it is slow and not so pretty on some cold soils; but on such soils as we use on the rock-garden it will thrive. It is best to begin with little plants, and it is easily raised from seed.

D. OROKA (Sweet Daphne).—A fragrant and beautiful kind, in mild and southern districts hardy on the rock-garden. It is a greenhouse plant of exceptional merit when well grown. We know no fragrance more pleasant than that emitted by the pinkish flowers of this *Daphne*. Usually best on western aspects. There are varieties called *alba*, *rubra*, *Mazeli*, *punctata*. *Mazeli* is, according to Max Leichtlin, hardier than the older kind. Syn., *D. indica*. China.

D. RUPESTRIS (Rock Garland-flower) is a neat little shrub, with erect shoots forming dense, compact tufts, 2 inches high and 1 foot or more across, often covered with flowers of a soft-shaded pink in clustered heads. It is essentially a rock-plant, growing wild in fissures of

limestone in peaty loam, but is of slow growth, and it takes some years to form a good tuft. It seems to thrive in very stony and peaty earth with abundance of white sand, and should be planted in a well-drained but not a dry position.

D. STRIATA (Striated Garland-flower).—A sweet-scented hardy trailing species. It forms dense, twiggy, spreading masses, 1 foot to 3 feet across, which, in June and July, are covered with rosy-purple, scented flowers in clusters. The trailing and freely-spreading habit of this plant recommends it for covering bare parts of rock work. France.

GARDEN PESTS AND FRIENDS.

Fungus on Fir-tree.—I enclose specimen of Fir, the part of it appears to be in health, and the other part diseased. Kindly tell me its name, and what I can do to cure it.—**MRS. WALTER HILL.**

[The specimen of Fir which you enclose is attacked by a fungus which is by no means uncommon (*Peridermium elatinum*). Often curious abnormal growths known as "Wilches' Broom" spring from the gouty swellings. I do not know of any cure for this disease beyond cutting off the infested shoots and burning them. No application of any insecticide is of any use, as the fungus lives in the tissues of the shoots, and therefore cannot be destroyed by any outward application.—**G. S. S.**]

Insects on fruit-trees.—The enclosed leaves are from a Plum tree growing on a mud wall (thatched), and facing west. Almost all the young shoots are in a similar condition. I have tried syringing with insecticide, and also in the winter applied a Sunlight-soap wash, according to directions given in *GARDENING ILLUSTRATED*. The tree had very little blossom. Is the insect the common green-fly, and is there anything else I can do for that and for the Pear-tree (see enclosed leaves), eaten, I suppose, by caterpillars?—**R. J. STRIMMONS.**

[Your Plum-tree is not attacked by the common fly (that is, the green-fly of the Rose), but by a very similar insect—*Aphis pruni*. Cut off and destroy at once the badly-affected shoots, and syringe the others with a solution of paraffin-emulsion. Another year, as soon as the pest is noticed—and a sharp look-out for it should be kept—dip the ends of the shoots in the foregoing insecticide. Applying a wash of Sunlight-soap in the winter is of no use in such a case as yours. The Pear-leaves appear to have been eaten by some insect, and now to be infested by a fungus, which, however, is not in a condition that it is possible to name it. If you would kindly send some more specimens I might be able to tell you more about it.—**G. S. S.**]

Harvest-bug.—Can anyone tell me of anything which will prevent the attacks of this irritating insect? It is impossible to go into many of the gardens in the Carse of Gowrie (Perthshire) during the Gooseberry season owing to the virulent attacks of these tiny pests, which produce a most disagreeable irritation of the skin, not only on the face and hands, but all over, causing great discomfort for days.—**AN ANNUAL SUFFERER IN THE CARSE OF GOWRIE.**

[The fly you so-called "Gooseberry bug" is evidently, from your description, a small mite frequently known as "harvest-bugs" (*Leptus autumnalis*). It is said that dusting flowers of sulphur over the under garments will keep the mites away, and that rubbing the sulphur into the lites will kill the pests. Sulphur-ointment, paraffin-oil or formalin and water (I forget in what proportions)—the wet stopper or cork of the bottle should just touch the bits.

Have all been recommended by various persons, and no doubt are useful. Like many other insects, they seem to attack some persons more than others. While some suffer from these mites, others are hardly aware of their presence. Spraying the bushes with a solution of paraffin-emulsion would, no doubt, free the bushes from them; but these insects are so ubiquitous that you would be sure to pick up some from other plants.—**G. S. S.**]

Grubs on Apple-tree leaves.—I enclose specimens of curled-up leaves from various fruit-trees, a grub being in each. All the wall trees are attacked. I have tried hand picking, but fear it is impossible to kill all. Would Hellebore-powder do good, or would syringing with an insecticide be better? I am afraid nothing can get inside to kill the grubs, as the leaves are so tightly gummed together. Last year the Apple-trees were attacked with the same grubs, so, some six weeks ago, the trees and wall were syringed with blue-stone and soft-soap, 7 lb. of each to 40 gallons of water, and it is a great disappointment to find the pests as bad as ever. All the trees Apples, Plums, and Cherries—are at present covered with blossom.—**M. I. BYRAGE.**

[The leaves of your fruit trees are attacked by various insects. The most conspicuous were the caterpillars by the name of *Agrotis*.

(*Myzomenta padellus*). There were besides several specimens of the caterpillars of a small moth belonging to the family Tortricidae, or bell moths. The caterpillars of several species attack the leaves of fruit-trees, and it is difficult, as they are much alike, to be certain to which species they belong and on what kind of leaf a certain caterpillar was feeding, particularly when leaves of various kinds are packed together in the same box and the caterpillars crawl over them. The leaves were also infested by a number of aphides. Hand-picking is by far the most certain remedy, though tedious. Spraying the foliage with 2oz. of Paris-green (that sold as a paste is the best) and twice the amount, but in bulk, of fresh lime, mixed and kept well stirred in 25 gallons of water, or a solution of paraffin emulsion, would be useful, as they poison the leaves as far as the caterpillars are concerned, but they will not poison the aphides, though the paraffin emulsion will kill the aphides with which it comes thoroughly into contact. Hellebore would not be of much use. It would be better not to spray with any insecticide until the petals of the blossoms have fallen. In the winter (that is, any time between the fall of the leaf and the outer bracts of the buds showing signs of opening) it would be well to spray the trees with the caustic alkali wash so often referred to in these pages.—**G. S. S.**]

PLANTS AND FLOWERS.

OUTDOOR PLANTS

A GROUP OF MARGUERITES.

The illustration of a cluster of Marguerites (*Chrysanthemum frutescens*) represents a group



Group of Marguerites. From a photograph sent by Rev. G. W. Hall, Norton Vicarage, near Sheffield.

of these chaste and beautiful flowers in an old-fashioned vicarage garden in the North of England. From midsummer until autumn these bright blooms, with their snowy petals, form an excellent background for smaller and more showy plants. Their value for table decoration is well known. **G. W. HALL.**

Norton Vicarage, Sheffield.

BROWING DAHLIAS.

The end of May is the time to think of this important garden plant, and to make preparations for the year. An idea which has, I suppose, been handed down, but which is a wrong one, is that Dahlias require a very rich soil to grow properly. There are two points which I consider far more important—one is plenty of room, and the other proper thinning of the growth. Too rich soil produces an over-abundance of leafage, and when this is of a soft, sappy nature the blossoms are not of a satisfactory character. When planting Dahlias in a mixed border among other things, it is

well to cover each one at night by placing an inverted flower-pot over every Dahlia and taking the covers away during the day. PLANTING OUT.—Plant deep enough that when finished a saucer-shaped cavity may be left around each plant. This will give room for water later on, as the Dahlia delights in copious supplies. Secure each plant early by driving down a stout stake 4 feet long. Another advantage in staking early is to prevent damage to the growing bulb when left later. It must be remembered that a Dahlia plant will grow in an early autumn a big bush 4 feet through, although at this time it may be a small bit about the thickness of a lead pencil. Let the plants branch naturally, then begin to thin the shoots to form a well-balanced bush. The central stem will produce flower-buds early in July; perhaps these may be removed, as they rarely open well. Choose four to five side-growths, and each of these should have a stake, so that they may be securely tied early in their career. These growths, which soon gain the appearance of separate stems, with about three

shoots immediately under the bloom-buds on the central stem, are ample growths to provide a wealth of blossom to last until frost comes. Lateral shoots may be taken away—at least all those that tend to be in the way of the flowers. This item of thinning the growth is of the utmost importance. We frequently read in gardening papers of Dahlias not blooming, but of making all leaves. If this thinning of branches be followed such complaints would be rare, provided, of course, that other points, such as watering, have been attended to. Dahlias require plenty of water in dry weather, but one thorough soaking once or twice a week will do more good than a little each day. When the bloom-buds are forming liquid-manure is most beneficial. Take advantage, too, of showery weather by sprinkling fertilisers around the base of the plant to be washed down.

DISBUDDING.—Like other plants, Dahlias can be, and often are, over-budded. If, as some do, we concentrate the strength of the plant in the production of about half-a-dozen blooms, the chances are that they will open coarse and otherwise deformed. Even for exhibition it is well to allow from a dozen to eighteen blossoms to develop at the same time, besides other buds to follow. I am thinking now most of the Cactus varieties, the big double Dahlias require rather less in number, and the Pompons need not be disbudded. This is a very satisfactory class to grow, as they are so showy in the garden.

WATER FOR CERRISE. One fault the Dahlia has, and that is, it lasts more too well in a cut state. I have, however, found putting the stems into water immediately they are cut is a means of prolonging the flowers. When once the florets flag it is difficult to get them stiff again, but placing the stems into water prevents flagging to a great extent. If cut for exhibition I would prefer, the night before a show, placing the stems in water to a considerable depth. There is just one little matter that may be useful to exhibitors. The blooms take a month (as near as can be) to open from the dry soil state, and one may safely disbud accordingly.

PESTS. The pests most troublesome to Dahlias are earwigs, which may be trapped by placing an inverted flower pot filled with Moss or dry hay on the top of the stakes, and, of course, examining occasionally. Black and green aphids attack the plants in dry weather. A dusting of Tobacco powder and abundance of water at the roots will make the plants free from this.

VARIETIES. The following selections are quite up-to-date, and the sorts may be relied upon. A dozen Cactus Dahlias for exhibition: Mrs. J. J. Crowe, Lord Roberts, J. W. Wilkinson, Mrs. Carter-Payne, Up-to-Date, Uncle Tom, Britannia, Comaeopsis, J. E. Hulson, Vesta, Lucius, and Mary Service. A dozen for garden decoration: Standard Bearer, Mrs. J. J. Crowe, Mrs. Carter-Payne, Uncle Tom, Magnificent, Mary Service, Red Rover, Emperor, Britannia, Countess of Louisa, Loyalty, and Keyes White. Twelve Pompons for exhibition or the garden: Gannymede, Sunny Daybreak, Tommy Keith, Baculus, Emily Hopper, Geo. Brinkman, Douglas, Nerissa, Nelly Broomhead, Phoebe, Eurydice, and Whisper. A dozen show or large double Dahlias: John Walker, Arthur Rawlings, Victor, Duchess of York, Duke of Eife, Mrs. Gladstone, Colonel, J. T. West, R. T. Rawlings, Wm. Rawlings, David Johnson, and Warrior. H. S.

Tufted Pansy Mrs. E. A. Cade.—With the large number of rayless yellow Tufted Pansies now in commerce, it seems almost impossible to find much advance, and yet in the variety under notice we have a very beautiful representative of these charming flowers. The Tufted Pansy is essentially a plant for the hardy flower garden, and that its best characteristics should be appreciated it should have a dwarf, compact, or creeping-like style of growth, also a robust constitution, and, above all, should blossom freely, and the individual flowers should possess plenty of substance. Colour, of course, is all-important, and this should be bright and clear. In plants of the variety under notice *Digitized by Google*

heading habit, and the blooms are developed on stout erect footstalks, and are freely displayed. The colour is a very bright yellow with a neat orange eye, and the blossoms are sweet-scented.—W. V. T.

LILIUM ELEGANS AND ITS VARIETIES.

LILIUM ELEGANS, or *L. Taubergianum*, as it is also called, with its many beautiful varieties, may be regarded as among the choicest of the dwarf Lilies. The typical species, like many others, comes to us from Japan, and is quite as hardy and easily managed as most imported Lilies. For the most part dwarf, only a few kinds attaining more than 2 feet in height and not large or spreading in growth, these beautiful plants are well suited to grouping near the margin of a bed of peat-loving shrubs, where protection of leaf and branch is always helpful in the event of frost, and not less helpful below

L. elegans is that the root fibres are not persistent as some are, therefore they take less injury and suffer less from a lowered vitality when out of the soil, thus enabling would-be planters to safely plant these quite into the early spring months, when good bulbs are obtainable at a cheap rate. There are probably some two dozen varieties of this group, most of which are June and July flowering when established. Others, as for example *L. e. Batemanii*, is one of the finest forms of this group, and not only later-flowering but requiring a rather moister and more loamy soil. In the naturally sandy soils of Hampton, with a deep sub-soil of sunny gravel, this kind does quite well without any other preparation of the soil than old manure buried 6 inches or 8 inches below the bulbs. The following are the best kinds:—

ORANGE QUEEN, of which a couple of inflor-



Lilium elegans Orange Queen.

ground by reason of the many root fibres that encompass the bulbs, maintaining for them a moist condition of the soil when the bulbs are in their resting state. The same conditions may be given them in other ways, and in none more surely, perhaps, than by the preparation of a special bed for this tribe, with adequate drainage below a good bed of peat, leaf-mould, and loam, with a covering of sand over and under the bulbs. The soil must be in about equal parts, and of a depth of at least 18 inches. The idea of a bed done for these forms of *L. elegans* would not find much favour in gardens where the other alternative site would of a surety exist. The reason of a bed of these not being popular perhaps may, to some extent, depend upon their flowering period and the shortness of the season in the majority of instances. Again, as groups here and there in the foreground, these plants would be more at home and more natural looking. The amateur, too, with a cold greenhouse will also find them extremely useful as pot plants, and being dwarf and not more than 1 1/2 feet high in many instances, are particularly suited to the decoration of conservatory, sitting-room, or other apartment. In potting these forms of *elegans*, it should be remembered that a flowering bulb is no larger than a Walnut, and of such it were easy to get half-a-dozen in a 6-inch pot. The flowers, too, are not so strongly fragrant, hence their greater suitability to the purpose just mentioned. You can item more or less peculiar

essences appear in the illustration, is one of the newest forms and a great acquisition. The flowers are large and handsome, rich orange in colour, shading to warm apricot near the margin of the petals. The latter are broad and of great substance. Height 12 inches to 15 inches.

ANDREW WILSON is a kind not far removed in point of merit, but the flowers are of a more lemon shade, with a soft tone of apricot.

ALECTRUM, about 12 inches high, has pale apricot, abundantly-spotted flowers.

ATROSCINERUM is a richly coloured red, heavily spotted black form, often carrying four to six blooms.

MARMORATUM ATRUM, orange-yellow, with crimson spots, is a rather early-flowering kind, 18 inches high.

PRINCE OF ORANGE, apricot-yellow, dwarf, is very pretty for pots.

VAN HOPPER, a fine crimson, with very large, handsome flowers, is one of the most striking of this set.

WILSONI. This grows about 2 feet high, flowers large and cupped, apricot with many purplish spots streaked with yellow in the centre.

Other kinds are *Horsmanni*, blood-red; *fulgens*, deep red; and *sanguineum*, deep blood-red. E. J.

Late Sweet Peas.—Everyone acknowledges the value of Sweet Peas, and it is well known that the late-flowering varieties are those

earliest produced, as after cutting continuously for a few weeks, although there is no apparent diminution in the quantity of flowers, there is a decided change in the quality, the blooms becoming smaller. One may obviate this if, instead of sowing all the seed in the spring, some of it is left for sowing towards the end of May or early in June. Blooms from this late sowing will be found to come in during August and September, finer than those from the first sowing, and continue in good condition until out of all frosts. Many of my Sweet Peas sown in March of last year, and which suffered from the cold spring, did not furnish the best of blossoms, but from seed sown in June I gathered flowers of excellent quality in August and September.—LEAHURST.

THE FORMAL GARDEN.

TO THE EDITOR OF "GARDENING ILLUSTRATED,"

SIR, The advocate of the formal garden should delight in the garden of the Bello Isola, one of the Borronian Islands on Lago Maggiore. The gardener marched us through shrubberies and along terraces, firing off at us now and again the names of such familiar shrubs as *Magnolia grandiflora*, *Rhododendron ponticum*, *Azalea indica*, and the like. These, planted in single specimens as in a botanical garden, we smilingly acknowledged, and passed on in the hope that at any moment a turn in the path might reveal the wealth of flowers of an Italian spring. Patiently we mounted steps with stone balustrades leading up to a monstrous grotto-like erection. We gazed with awe at the weather-beaten statues, which seemed to invite a helping hand to speed them to a watery grave beneath. We survived the grotto and the statues, and became even more expectant as our guide led us towards a parapet, where he threw up his arms and beckoned us forward to gaze on some treasure beneath. Here, then, we should find the flowers. We reached the parapet, and peeped over, at the gardener's exciting invitation. "Jardin mosaïque—jardin mosaïque!" he cried. We gazed anxiously at the ample terrace beneath, lying in warm, southern sunshine and lapped by the waters of the lake. Here, in bright green grass, lay some half-dozen little wriggling beds of brown stones edged with white stones. "Jardin mosaïque" still haunted our ears like some shrill mockingbird as we turned sadly away. This, then, was the culminating effort of the designer of this island garden, situated in a climate that favours the growth of all things beautiful and choice.

The situation of this island garden is probably unique. It lies on the bosom of blue waters, that lie sparkling in a noble amphitheatre of mountains stretching in all directions as far as the eye can reach. It is an island in Fairyland—a complete realisation of the fairy stories of our childhood. It is a spot that may well give pause to the most skilful and thoughtful of gardeners. Here surely Nature might well be left to have her way, or, if gardening is to be done, the best of flowering shrubs should be massed together, and vigorous flowering climbers allowed to fling themselves down the rocks to the water's edge.

The formal gardener will plead that the "jardin mosaïque" was probably in relation to the building. To this assent may be heartily given. It would be impossible to say anything under or more appropriate about the château that stands like a hideous prison-house on one of the fairest spots of the earth.

SYDNEY SPALDINA

Baveno, Lago Maggiore.

NOTES AND REPLIES.

Delphiniums. It may seem to those unacquainted with the requirements of Delphiniums an exaggeration to say that they will do well in any soil and almost any garden, but such really is the case. They serve us best, however, when planted in deep loam, mixed with good stable manure, on a partly shaded border backed up by trees or on the margins of shrubberies, where their flowering spikes, in themselves conspicuous, are rendered more so by a leafy background. As a rule, there is a deficiency in most gardens of five flowers, but

in the Larkspurs we get lovely gradations of colour from palest blue to deepest shades of indigo, with rose and white intermingled. Room they must have, hence the necessity for planting them clear of other plants in order to show them off to the fullest advantage. To have good spikes of flowers one must not forget that they are moisture-loving plants, so that as the spikes throw up one should see that they enjoy copious supplies of water. Liquid manure, too, may be given them with advantage. They may be planted at any time from October to April. The propagation is readily effected by division of roots in the autumn, and owing to their rapid growth a large collection is acquired after a few years. The annual Larkspurs do not attain such large proportions as the perennial sorts; they are nevertheless very beautiful, and should be grown where room cannot be found for the taller growing varieties.—LEAHURST.

Hardy plants for edgings.—Where the system of summer bedding is practised, the matter of raising a sufficient quantity of dwarf plants suitable for edgings to beds and borders has to be considered every year, unless something is planted that is hardy. Ageratums and Lobelias are both pretty, but where arrangements cannot be made to propagate them at home, and they have to be bought, one finds out in a long border of what little use is a solitary dozen plants; indeed, in some places where all the "bedders" have to be purchased, edging plants have been dispensed with altogether. There is, however, another class of plants suitable for edgings, owing to their dwarfness, that only need once planting, and each year serve one's purpose. I refer to some of our hardy plants. A walk on either side of which Pinks are planted always looks neat, and has a charming effect when the Pinks are in bloom. So, too, are the white Arabis and the double and recently introduced form, *Arabis alba flore pleno*. *Cerastium Bierbersteinii* will be remembered by many as a plant often seen in rock gardens, but as an edging it has its advantages. Campanulas, which give us many that are tall and graceful, also furnish us with dwarf kinds that come to our aid for the purpose named. There is, for instance, *C. nitida* and *C. pumila*. *Cineraria maritima* is a plant also frequently to be seen in the rock garden, and its white foliage, even in the dreariest days of winter, is white; this makes a most useful subject for a finish to beds and borders. *Myosotis palustris*, which in June makes a charming change from the majority of plants used for this purpose, is easily propagated from cuttings.—WOOBASTWICK.

Spring bedding.—By the time this is at its best, which is generally by the end of April and early in May, it behoves the gardener to prepare for next year's display, so as to get good plants to put out in autumn. An early start is necessary with such things as Wallflowers, *Polyanthuses*, *Alyssum saxatile compactum*, *Myosotis*, *Anbrietias*, *Violas*, *Erysimum*, etc., all of which require a long season of growth to develop into strong, sturdy plants capable of withstanding the winter, and, with the exception of Wallflowers, I have found it is much the best plan to sow in boxes or pans, and keep in a cold frame until well through the soil, shading from the sun until this takes place, then place out-of-doors. Pick out into nursery lines in the open border before the plants have a chance to damp through overcrowding, allowing a space of 4 inches or 6 inches each way, or, better still, 8 inches between the rows, when a flat hoe can be frequently plied between. Winter must be applied during dry, hot weather, and *Polyanthuses* should be frequently syringed if red-spider attacks them. A north border is the best place for these, where they keep cool, and consequently more moist. Old plants of these may be lifted when out of bloom, laid in thickly together and well watered, dividing the same at the end of June, and planting when 6 inches apart in well-prepared ground. They will make serviceable stuff for autumn planting if well cared for in the matter of watering, etc., though seedlings make much the strongest plants as a rule. I consider the yellow variety is the most beautiful of all, but the seed must be got from a reliable source. *Polyanthuses* thrive best in fairly heavy loam. In light

sandy soils they soon fall a prey to red-spider, and require to be syringed with sulphur-water pretty often to keep them going.—J. M. B.

Flowers for autumn cutting.—We often go to a deal of trouble to make our gardens look smart in summer, but do not arrange for autumn-blooming plants. I have heard people occasionally express regret at being so late with Asters and Zinnias, and have seen them being pushed on in heat in April, as if everything depended on their being planted out the first week in May. Few think of sowing seed so late as May, but if we want a bright show on our warmest borders in October, then that is just the time when seed should be sown. We have, of course, some flowers that we always look forward to. There are, for example, outdoor Chrysanthemums that bloom in October, and which may be planted out during the present month. Where Cornflowers are grown, one is sure to have, in a sunny October, plenty of blossoms, and the *Coreopsis*, an annual which produces an abundance of gold and brown flowers, is a most persistent autumn bloomer. Sunflowers keep us company far on in the season, and some of the miniature sorts are excellent for cutting. Perhaps the best flowers we have are the Michaelmas Daisies. Few plants stand the frosts of autumn with so little harm to the blossoms as these. Autumn, too, brings us blossoms that we call everlasting. I am writing in a room where the bright red calyx of the Winter Cherries (*Physalis Alkekengi* and *P. Franchetti*) stand out conspicuously in a vase with Echinops, Eryngiums, and Statice, all gathered last October. I remember, too, how quite late in that month I gathered Gloire de Dijon and other late-flowering Roses, and how Dahlias that had been planted late had been placed on a warm border, and being somewhat sheltered, blossoms were gathered some time after others in a more exposed part of the garden had shown signs of frost. We may keep many flowers later than what we think if only we plant a little late, as in the case of annuals, and shelter the rest on the warmest borders.—LEAHURST.

Double Poet's Narcissus failing.—Can you tell me the cause of so many of my double Narcissus blooms not coming to perfection? I enclose some of the buds.—A. F. E. R.

[The so-called blindness in the double white Poet's Narcissus is a failing more or less prevalent each year, and is due to a variety of causes. This is a gross feeder, and therefore should be well manured. It prefers being planted deeply in the soil, not less than 6 inches, and preferably at 8 inches. A strong, almost tenacious soil is that most suited to its growth and flowering. In light soils, in conjunction with shallow planting, it is usually a failure. The bulbs are impatient of removal, and especially resent being dried off. When replanting is contemplated, this should be done in July, if possible. The root fibres of this kind are almost perpetual in character. Bulbs that have stood some time and flowered in the same spot have impoverished the soil, and failure is sure to follow. In such a case a winter mulching of manure would be helpful. Too often this is where the neglect comes in, though quite unwittingly. It is not sufficiently recognised that by reason of its late flowering the summer is approaching before the bulbs are fully ripened off. It is not generally known that the flowers that should appear in May of the present year are really formed and exist in embryo in midsummer in 1901. It is for this reason that every support should be accorded the bulbs, so that the growing season may be prolonged as much as possible, and thereby ensure the fullest development and the proper formation of the buds at this time. Not a few regard the "blindness," as this failing is called, as the result of the climatic or atmospheric conditions of the moment, but the true cause is more probably insufficient development in the previous year, as even though blind all the other parts may be good, and as such are produced by the bulb in its season. All you can now do is to encourage the most vigorous growth by mulching with manure and a good dressing of soot, and at least weekly applications of liquid manure. In digging in the manure cow manure and soot are best if your soil is light—keep it 4 inches or 6 inches below the bulbs.]

ROOM AND WINDOW.

ON FLORAL DECORATION.

On July 27th, last year, an article appeared under the above heading, the writer of which was very severe on the exhibitors and judges at Rose-shows. It was asserted that those who exhibited Roses in the conventional stands in vases at shows could not by any possibility have a real love for flowers, and, further, that anyone who could become enraptured with a show bloom was incapable of recognising the "wayward beauty" of naturally-growing Tea

classes for the so-called "garden Roses," artistic arrangement is possible, but until this method obtains with the "show bloom" classes the exhibitor is powerless to make any alteration, however much he may desire to do so. The statement that the admirer of, let us say, the champion bloom at the National Rose Society's show necessarily ignores the charm of the blossom-laden sprays of our garden Roses attributes to the individual in question a decidedly limited intelligence. Personally, though I delight in gazing at the graceful vigour of the growing Tea Roses, with the tender colouring of their buds and half-expanded

correspondent deservedly derides the hackneyed formula that such things are "only matters of taste," a statement that "if it were confined to the ignorant would do but little harm, but we hear it expressed by men of education." It is not a question of taste, but a question of right and wrong. Bad judging in this department means ignorance both of the first principles of artistic training and of the truth and beauty of natural expression. I have often wished that judges of floral decorations would affix to each exhibit a plainly-written card stating their reasons for awarding or withholding the prizes, and have myself been sorely tempted to do so when judging in these classes. I recognise, however, that such a practice would do, probably, more harm than good, for where the judgment was faulty the public would be led to form an erroneous estimate of the ideal to be aimed at. To those who have thoroughly studied the floral arrangements staged for competition at many shows, it is evident how little beauty of colour and form is comprehended by many of the exhibitors. The beheaded Lilies mentioned by your correspondent offer a case in point, and as to Crimson Rambler Rose, the man who could employ this crinoid and had colour for a dinner-table would doubtless be equal to making a funeral wreath of Nasturtiums. Instances such as these are, unfortunately, to be met with at almost every exhibition where cut flowers are staged for effect. Many competitors appear to enter the show room with little or no idea of the design which they are about to work out, but such conceptions are rarely satisfactorily evolved on the spur of the moment. Not having considered a plan beforehand, the operator frequently finds it difficult to know where to stop, and continues ailing until what might have been an artistic creation is hopelessly burdened by superabundant material. Time after time, while watching the arrangers at their work, have I seen this happen.

Colour as well as form often proves a stumbling-block. It may be laid down as a general rule that the fewer the colours the better will be the effect. Green is necessarily present in every case, except in arrangements of autumn foliage, as is white in the majority in ninety-nine cases out of a hundred, the hundredth occurring where the polished mahogany, shining like a mirror, is left uncovered to reflect the silver and crystal, but this exception is naturally absent in competitions. Green and white being present, white flowers may be employed without adding another colour, and with these may be associated a third tint, vivid or subdued according to the arranger's discretion, a combination affording every possibility of an artistic creation. An association of bright colours in allied tints, such as red, orange, yellow, and sulphur, may be successfully carried out, but care must be taken that no discordant hue is admitted. I once saw a glaring arrangement of autumn foliage and scarlet, orange, and yellow flowers entirely spoil by the introduction of blossoms of the pink Cosmos, the pink being of a cold tint that held a suggestion of blue, and thus destroyed the sense of harmony. Colour harmonies are generally preferable to contrasts, though these may oftentimes be charming. Associations such as the scarlet Euphorbia jacquiniiflora and Paper-white Narcissi, the steel-blue Sea Holly and orange Alstromeria, white Lilies and the lavender Frigeron speciosus, or the same Lilies with the fawn-brown Day Lily, white Galega and blue Cornflowers, and the gentian-blue Salvia patens and sulphur Paris Daisies, all form pleasing contrasts, but the latter must not be employed at night, as under artificial light the blue of the Salvia turns to purple-black. Floral arrangements owe much to the nature of the

materials employed. These should be simple in form and subdued in colour, for, as in the rock-garden, the sole mission of the stones should be to present the plants to the best advantage, so the vases used to contain the flowers should be such as not to distract attention from the flowers themselves. Heavy camlelaba, bowls of gold-fish, mirrors representing sheets of water, on which mimic swans repose, and massive cypresses, though suitable for a civic banquet, are altogether out of place on a small table. Spilery centre-pieces covered with gold tinsel, now too often seen, are a lamentable failure. Other wise artistic arrange-



Flowers of Chinese Lily Tree in old China bronze vase.

Roses. Now, the fallacy of arguments such as these does more harm than good to the cause of "artistic floral arrangement." It will be admitted that the present method of staging Roses at shows is far from being artistic; but the end in view is not the production of a pleasing general effect, but the display of the flowers in the manner best calculated to afford the judges the opportunity of arriving at the merits of every individual bloom. The chief object of the exhibitor is to win the prize, and to do so he must conform to the rules and regulations. Directly he strikes out a line of his own he is disqualified by the

flowers, set off by the bronze tints of the young foliage, the sight of a perfect show bloom of Comtesse de Nadailac also gives me pleasure, and so, I think, it is with others. Mistakes more often occur in judging floral arrangements at shows than in any other section. Sometimes this is owing to the awards being made hurriedly, but even when serious attention is given the result is not necessarily better, but often worse. Almost everyone considers himself or herself competent to judge "floral decorations," but, as a matter of fact, the number of those who are really competent is extremely limited. Your

ments are sometimes entirely spoiled by the accessories employed. I remember a table which, so far as form and colour of the floral design were concerned, was distinctly meritorious. The flowers consisted of *Gloriosa superba* and white *Bouvardia*, while Maiden-hair fronds and *Smilax* were used with discretion. The lawn-orange of the *Gloriosa* contrasted well with the white of the *Bouvardia* and the cloth, but the effect was entirely marred by a pedestal of vivid blue on which the centre-piece stood, and by ribbons of the same colour which adorned two white china vases. Those who are anxious to become experts in artistic floral decoration cannot do better than study

THE METHODS OF THE JAPANESE, in which recognition of the value of simplicity and sympathy for beauty of form are strikingly patent. As a nation the Japanese have for generations regarded the arrangement of cut flowers as a high art, and many exhaustive treatises have been written on the subject by the leaders of the cult. Few if any of our own countrymen have mastered the intricate and symbolic styles of arrangement practised by the different schools of Japanese floral artists, but the simplest form is tolerably familiar to us now. This consists of three shoots or flower-sprays, the centre one being tall and straight, that on the one side sweeping horizontally outward at half the height of the central shoot, and that on the other side much shorter than the others, bending slightly outward from the centre. To these three distinct parts, as to every portion of more important compositions, traditional meanings are attached, but while we need not trouble ourselves as to the touch, we may well take to heart the lesson of rigidly limiting the number of components employed. A few blossoms of one species of wild flower mixed with field grasses or long-stemmed Tea Roses arranged with their own foliage will afford greater pleasure than pretentious displays, to provide which stove and Orchid-house have been ransacked.

FLOWERS AND FOLIAGE. Flowers should, if possible, be arranged with their own foliage. In some cases, however, they are leafless at their blossoming time, and in others cutting the leafage would prove injurious to the plants, in either of which events it is necessary to substitute other foliage; thus *Belladonna Lilies* arrange well with the somewhat similar leaves of the *Gladwin* (*Iris foetidissima*), glowing Ghent Azaleas are set off to perfection by the crimson maroon foliage of the *Sycamore* suckers, which spring up so thickly around the tree-holes, single *Poppies* associate charmingly with wild oats, and a flowering branch of wild Cherry is fittingly supplemented by emerald green Larch sprays. In judging table decorations the general effect should first be studied, and this can be more accurately determined from a little distance than close at hand. The difference between light and graceful and heavy, overburdened arrangements then becomes instantly apparent, as well as the trivial appearance presented by numbers of little flower-glasses and the sombrel aspect produced by overmuch hanging greenery. When a conclusion has been arrived at on the question of general merit a close inspection becomes necessary in order to ascertain if the exhibits are marred by any blemishes that would catch the eye of one sitting at the table, though unnoticeable further off, such as a discoloured petal, a withered leaf, or the evident use of wire, all of which should tell heavily against a prize.

S. W. F.

Araucaria excelsa for furnishing.—Few green-leaved plants are so useful in pots for furnishing as this *Araucaria*. Its enduring nature is wonderful. I have a plant now in good health that a lady had in a drawing-room in London for nearly twelve years. Having bought it quite a small plant, and being naturally fond of gardening, she cherished this in a way only such people do. When it got into bad health and was very leggy it was sent to me, asking me if anything could be done with it. When it came into my hands I saw it had some good leafage at the top. It was shaken out, roots washed, and potted into a very small pot, placing it in a growing temperature, and now after two years it has made capital growth, with branches 3 feet 10 inches long.

small pots this *Araucaria* is very useful for the dinner-table, as quite large plants can be grown in small pots. At one time I had a pair 18 feet high, growing in 14-inch pots, and now I have a perfect specimen in a 10-inch pot 8 feet high. In a dark corner I had for eight months one that had lost its top by accident. A little manure-water keeps the plants going wonderfully in small pots. —J. Crook.

ROSES.

A BEAUTIFUL NEW RAMBLER ROSE.

We now and then get a very good novelty in the way of Roses from the United States. Dorothy Perkins is the latest comer. The charming little double shell-pink flowers as they open remind one of the miniature *Provence De Meaux*, only that they are brighter and rather larger. They are produced in splendid clusters of twenty to fifty flowers. One can imagine, therefore, the effect obtained from a well-developed plant. Growths are made in one season of 10 feet to 12 feet long. Although this new Rose was raised from *Rosa Wichuriana*, crossed with the old H.P. Rose *Mme. Gabriel Luitet*, it loses the procumbent form of the seed parent, and, instead, partakes of the upright habit of *Crimson Rambler*, so that it is a first-rate companion of this latter. Being a Rose of such a vigorous habit, one would suppose that it would not be suitable for pots except in pillar form; but that is not so. Plants potted since January and pruned back to within 1 foot 6 inches of their base are now yielding ten or twelve trusses of lovely little blossoms, so that it makes a most elegant and valuable pot plant. The foliage is almost evergreen, and resembles that of *R. Wichuriana* in some degree, except that it is not quite so glaucous. Unlike most of the Rambler section, Dorothy Perkins possesses a very pleasing fragrance, which it doubtless inherits from the pollen parent. If this very valuable running Rose (*R. Wichuriana*) is capable of such a beautiful development, our gardens will soon be enriched with a race of elegant climbers. And who knows but that in time we shall impart to them a perpetual-flowering tendency? Most of the hybrids of *R. Wichuriana* are just as beautiful when growing upon pergolas or twining over fences and arbors; but the type certainly looks out of place when planted in such positions.

Two other members of *R. Wichuriana* exhibited at the Temple Show recently attracted much attention. They were *Aberic Barbier* and *Reue Andre*, both carrying buds almost tree-like in character and refinement.

Guss.

MILDEW ON ROSES.

In some gardens both outdoor Roses and those grown under glass would seem unable to resist mildew, and it is only by persistent applications of some favoured fungicide that clean plants can be maintained. Very much, I think, depend on the structure in which they are grown. In my own case it needs constant effort to maintain a freedom from mildew as regards pot-grown Roses, while, at the same time, climbing Roses in fruit-houses never show a trace of mildew from one end of the year to the other, no matter what the weather or the time of year may be. There are some which are started into growth very early in January, others follow in rotation, but in each case no trouble is experienced from these roof-grown Roses. In pots the case is different, for, stood on the floor of the same house, they would not make 6 inches of growth before mildew asserted itself. Outdoors, mildew gives us no trouble. During the course of a brief visit and conversation with Mr. Crook, at Forde Abbey, I had an object lesson as to the value of paraffin emulsion for staying mildew on outdoor Roses. Against the end of one of his glass-houses were trained some Roses, and, for the purpose of experiment, Mr. Crook had prior to my visit given a portion of these Roses a dressing of paraffin emulsion and warm water, other portions being left untouched. The dressed and undressed portions of the trees made the influence of this now popular insecticide apparent. The same experiment

was carried out indoors, and the results were equally favourable.

As a general rule, sulphur enters largely into the composition of mildew specifics, and is more often used alone for mildew on *Roset* and other subjects liable to its attack. Certainly the effect on mildewed leaves of a dressing of paraffin emulsion was very marked. In its use, however, there is this important necessity that it be applied early, or even before there is evidence of mildew. W. S.

NOTES AND REPLIES

Tea Rose *Mme. Berkeley*.—To those who like a Rose in the bud state this new kind is exceedingly pretty. The bud is very long and the petals well arranged, but it opens to a semi-double flower only. As a pot-Rose this variety may be recommended, the habit of the plant being free and branching. —S.

Some very handsome blooms of this Rose, rivaling *Niphotos* in purity of colour when grown indoors, were shown by Messrs. Paul and Son at a recent meeting of the Royal Horticultural Society. We understand that the blooms shown were part of the second crop this year. It was given an award of merit in September of last year. —Ed.]

Pruning *Marechal Niel* Rose.—Some years ago when I grew this Rose in quantity under glass I always cut back the trees almost to the ground line after flowering, and depended on entirely new growth for the following season. But whether the after treatment was different or not from that of others I do not know. I have never seen the practice so successfully followed since. Anyhow, in a number of instances since, I have seen bad results from the method. Instead of breaking away freely, the plants become cramped and debilitated, too much of the life seems to be taken from them. The plants must be thinned so that their growth immediately after flowering, else they become an entangled mass, which eventually gets pung and weak. I would prefer to cut out the older branches entirely rather than shorten the younger ones, and thereby have a supply of youthful growth. What I would especially guard against is mildew. This readily attacks tender shoots, and is usually the result of cold draughts. Little air and ample moisture are what Roses under glass require; the growth then seems to mature too fast for the pests to harm. This popular Rose blossoms best on long growths of the previous year, so that our efforts should go to the production of these. The young growths may be thinned so that each shall have room to extend, and be trained under the glass where the abundant light will mature the wood properly. —H. S.

Climbing Roses for low walls.—Will you kindly give me the names of about two dozen different varieties of wall Roses? There are three walls, about 6 feet high, with south, west, and north aspects. Perhaps you can say what varieties would do best under the north wall particularly? —M. W. K.

[A selection for low walls can best be made from what are known as half-climbers. If you planted Roses of the type of *Rosa d'Or* you would have your wall covered quickly but obtain very little blossom, simply because such Roses require walls some 18 feet to 20 feet in height to enable them to fully develop their beauty. Of course, one may train these strong growers horizontally, but the result is not always satisfactory. By selecting the less vigorous kinds the wall is not covered so quickly, but you obtain blossom from the commencement, and each year the plants widen in proportion to their upward growth. We have known plants of *Marie Van Houtte* and *Anna Ollivier* cover even 10-foot walls, and Roses of the *La France* race will make a lot of growth so cultivated. The kinds which we would recommend for your different walls are as follows:—South wall: *Billiard et Barre*, *Mme. Abel Chatenay*, *Hermine Trochon*, *Mme. Wagram*, *Belle Lyonnaise*, *Mme. Lambert*, *Celine Forestier*, and *Maman Cochet*. West wall: *Gross* an *Teplitz*, *Houquet d'Or*, *Marie Van Houtte*, *Mons. Desir*, *W. A. Richardson*, *Safrano*, *Longworth Rambler*, and *Mme. Juliet Siegfried*. North wall: *Cheshant Hybrid*, *Pink Rover*, *Ulrich Brunner*, *Caroline Testout* (General Jacqueminot), *Boule de Neige*, *Mrs. Anthony Waterer*, and *Mrs. John Laing*.]

INDOOR PLANTS.

SUMMER TREATMENT OF CAMELLIAS.

CAMELLIAS as a rule will now be in full growth, and the quicker and more robust they can be made to grow the better, as this will ensure a thorough ripening of the young wood before the short days set in, and be a great advantage to them at the blooming period. Nothing equals well developed, thoroughly matured wood for producing blooms abundantly and of the finest quality.

PRUNING.—In many instances this is necessary. We are often obliged to do it, and in no other way. Some of our trees which are growing in a road house became so close in growth last year that it was impossible to see into them or through them. As soon as they had finished blooming in spring, and just before they had got fairly into growth, we found great armfuls from each of them, so as

CLEANING.—Where the leaves are close and the branches massed together, ordinary syringing may not have kept the foliage quite free from dirt and insects, but as soon as pruning is over a thorough cleansing must take place. The wood may be brushed with a hard hand-brush, and all the dirty leaves carefully sponged. Once thoroughly cleaned in this way, they may easily be kept in that condition by frequent syringings. Plants which may not want pruning should also be cleaned before growth has much advanced. Then comes

ROOT ATTENTION.—Camellias are not benefited by having their roots upset annually; on the contrary, once they get into a thorough growing state they are better undisturbed for years, but they must be well supplied with water. It is of much importance that all the soil about the roots be in a sweet, moist condition before growth begins. Without this their progress will never be satisfactory. Those in pots should be plunged in some material at

and it is seen that the flower-buds are well set, syringing may cease, and water may be more sparingly applied at the roots, at the same time avoid drying them off in any way or withholding water until the roots or leaves shrivel. Plenty of air should also be given them at that period; anything like a close, moist atmosphere and much shade must not be encouraged. Flower buds falling off before they open is a complaint often heard; but this is only the result of some severe check or change in the state of the soil or atmosphere. Immature wood never holds its buds or opens them so freely or well as that which is hard and sun-ripened, and this all should do their utmost to secure from now until well into the autumn.

HEATING CONSERVATORY.

(REPLY TO "HEAT.")

If the conservatory is detached from the dwelling house, it is quite probable that heating by



Flowers of Pansy Pembroke in a glass bowl. From a photograph by G. A. Champton. (See page 206.)

to admit light, air, and sun into them, and those then they have gone on growing in a most satisfactory way. From some of the old shoots there are six and eight growths about a foot in length each, and they all look like bloom-bearing wood. Had they not been pruned they would have been one intricate mass of shoots, with small chance of ripening properly; now their chances are much better. As a rule, it is now too late in the season to prune, but were I beginning to take Camellias in hand which would be benefited by pruning, I would even now be inclined to let daylight into them. This might check them for a little time, but before the end of the season they would be in better blooming condition than if left too thick. The main growths need not be removed, but where there are many small weak branches clustering together many of them may safely be taken off. This is the first thing which should be seen to in beginning the summer culture of the Camellia, and secondly, the

this time, a plunging lessens the chances of their becoming at any time too dry. Soot-water may be given at the roots once weekly with advantage, and from the time the shoots can first be seen until the bloom-buds are visible they should be syringed overhead once or twice daily according to the brightness of the weather. Respecting the

TEMPERATURE in which Camellias should make their growth, there are great differences of opinion, some putting their plants into a viney or Peach-house, but ours are never out of the house in which they bloom, a structure where artificial heat is never introduced except to keep out frost. In some cases much shade is applied, and in others none at all, and under both modes of management the plants succeed, but our experience leads us to prefer no shading. When once subjected to shade, it takes careful treatment to harden them up to stand the sun-heat again, and a little of this is necessary in order to ripen the wood well in autumn. As the growth has been completed,

oil-lamps would do to some extent, for the moment, at least. Of these or, rather, the oil-heated stove, which is a great improvement on the original lamp, quite a number are given in the advertisement columns weekly. Apart from these, which are never so good from the heating point of view as the hot-water apparatus, are some kinds which can be fixed to the outer wall occasionally, and at other times quite independent. Here, however, is an instance of the latter. A gentleman of our acquaintance has a small conservatory fixed to his dwelling and covering the French window entrance—or, rather, where this originally existed—or exit to the lawn. A tiled path and a step-stage are on each side, the lowest stage for plants being at 3 feet from the floor; folding-doors at the garden end, and turning to left and in corner against the house is the boiler-house. It is of wood, 5 feet high at back, 4 feet high at front, 3 feet 6 inches wide, and perhaps 6 feet long. The wood roof is so hinged and in sections that it may be folded

completely back, and with a buttoned door in front opens the whole to view for stoking, etc. The boiler is a small independent one, fed from top, and the shed when closed may be easily mistaken for a nicely-arranged, neat, compact garden tool house. It is not seen from the greenhouse, and what is seen from the garden only reveals good workmanship and an ingenious mind. The entire thing is painted dark brown. The boiler is sunk 2 feet below the level, a depth that admits of the necessary rise around the further side of house, where the pipes cross beneath the window-sill. Three-inch pipes are used, and a temperature of 70 degs. is easily obtained if necessary. The size is rather more than that given of yours. The pipes are connected, so that on entering the house one section turns sharp up the left side of house, while the other extends to the opposite side in the same way. It is possible a modification of the above would suit your own case. If you refer to seedlings of *Canelina* and *Asalea* as well as *Begonia*, we may say at once the two first are extremely slow in growth, even when under expert treatment, but the *Begonias* should make more headway with warmer days. The cold, sunless spring of the present year has not favoured a quick growth in such plants, and if the young seedlings are pricked off singly, you must take care that the soil is not soured by over-watering, or that the sun does not scorch them when dry. The happy medium between the two will be the safest plan. A lung frame is a very suitable place for *Begonias* if the heat be not too severe or the manure too rank.

NOTES AND REPLIES.

Cutting down Ficus.—I have in conservatory a very thriving *Ficus* in an 8-inch pot, with stout stems, total height nearly 12 feet. Half way up are five vigorous shoots, each 4 feet or more in length; two more are forming up higher, and there is growth from every point. The plant is within a couple of lines of overhauling roof. If I cut down the centre stem a certain distance, shall I permanently damage the plant? It has been growing about three years, from quite a small pot plant.—*OSWALD.*

[There will be no risk of permanently damaging your *Ficus* if you cut the stem down to the required height, as it will soon recover therefrom and push out fresh shoots, provided it is done at once, as, by so doing, the plant will have a long growing season before winter sets in.]

Greenhouse climbers.—Do not let the climbers escape notice; if any be getting too crowded in growth some thinning out will certainly be advisable, and at the same time preferable also to tying in closely. This latter plan is senseless to a degree: it gives a trimmed and prim appearance, it is true, which some may think the right thing to adopt, but it is neither conducive to flowering nor to the health of the plants. Where climbers are turned out do not let them escape notice in watering; most of these will now take a liberal supply.

Arranging plants.—Overcrowding is an evil to be guarded against. There is a temptation frequently to use more plants than would otherwise be the case simply because they happen to be in flower. This often occurs through want of management in regulating the supply, which is easily done by a little tact. Take *Pelargonium* as an instance of overcrowding. These, when stood closely together, will soon have a number of leaves turning yellow, whilst at the same time it fosters an attack of aphid, the two combined tending to shorten the flowering period. Rather than allow overcrowding, it is decidedly better to grow fewer plants and thereby have them at the same time more presentable.

Fuchsias.—Up to this time it will have been found an advantage to continue stopping the stock of *Fuchsias*. Now those intended for the earliest bloom should be allowed to grow away for flower; this batch will then come in useful early in July, just when in many cases there is a lack of bloom. Others should be allowed three weeks longer before another stopping, and younger plants another one still. This is far better than permitting them to rush into flower all at once. The later stock will be all the better for another shift if they have not had the second since the spring shaking out and repotting. This will not be possible in the case of basket plants or those probably that are trained up the rafters; these, therefore, should

receive liberal treatment instead. Any other plants seen to be coming on more speedily than is desirable should also be stopped, or at least have the flowers picked off in an early stage, so as not to weaken them for later use.

Cineraria stellata. In this, the individual flowers, much smaller than in the ordinary florist's *Cinerarias*, are borne on long, branching heads in great variety of colour, and, when in bloom, might be mistaken for Michaelmas Daisies. Very large plants may be grown in 6-inch or 7-inch pots, and, where conservatories have to be kept gay with a mixed collection of flowering plants, a few well-grown specimens will be found invaluable. They need plenty of moisture and careful shading from strong sunlight, when they give a long succession of bloom, as the main stems branch out very much more than in the ordinary varieties. It is unfortunate that *Cinerarias* are so liable to green-fly. I find, however, that when they are kept in quite cool quarters no fly will touch them, and for several winters past I have kept all my stock in cold-pits or frames, and relied solely on covering with mats and litter to keep the frost out, only removing the plants to heated houses when the flowers were nearly ready to expand. This plan entails a good deal of work in the shape of covering and uncovering, but it pays in the end.—*JAMES GRIMM, Wootton.*

Cytisus.—By now most of these will have passed out of flower, and require cutting hard back to within a couple of inches to where last pruned, keeping a bit drier at the root for a week or so, but syringing overhead two or three times a day until new growth starts afresh. A cold-pit or frame, if closed towards 4 p.m., after dewing overhead, will be a suitable place. Before growth has much advanced reduce the ball of soil a bit, and repot into a trifle larger pot, potting firmly, and standing back in the same place for a few weeks, when remove outdoors to a fairly sunny spot. I like to use a little peat with the loam, and just enough sand to keep all sweet and porous, as the plant soon succumbs if treated roughly or regards over-watering or an injudicious use of manure of any kind. Pinch out the points of the strongest shoots if taking the lead, though this should not be practised late in the season or the growths will not get ripened and fail to flower satisfactorily. Many gardeners fail to root cuttings of this plant, and they certainly are a bit fickle, but I find little difficulty about this if taken when 3 inches long with a bit of old wood, and dibbled into a shady nook in the conservatory. They take longer here probably to form roots, but few go off, and by autumn they may be lifted and potted up, making nice lushy plants by the following autumn in 5-inch or 6-inch pots. I have also raised a stock from seed, but the plants are much more straggling and require to be pinched several times to keep the base well feathered. Cool treatment suits this plant best at all seasons.—*J. M. B.*

Caladiums. As summer and autumn line-foliage plants these stand in the foremost rank. Of late years they have become popular, and rightly so, seeing the diversity of colour in the leaves. They may be grown small enough for a small vase, or into big specimens many feet through. Everyone who has visited the Temple Show in May or early June must have been attracted by the glorious groups put up there. Everyone who grows these for decoration should not select the very tall-growing kinds as these are totally unfit for this use. Nothing can be more beautiful than a well-grown plant of *C. argyreatum* for placing on the dinner-table. Its small, dwarf habit, with pure white and green leafage, is most striking, especially when well grown and the foliage hanging over the pot. All of the highly-coloured leaved kinds are liable to get scorched with the sun if grown where it can shine direct on them, but they are safe when under a thin shading. *Caladiums* may be grown in a warm-pit in the summer, and may be started in a Cucumber-pit. The bulbs may be wintered in any place where the temperature does not drop lower than 50 degs. to 55 degs. If they are needed for conservatory embellishment, then they should be brought on slowly, giving an abundance of air. I have seen them stand in cold-houses in autumn when grown in this way.—*J. CROOK.*

FERNS.

A USEFUL LITTLE FERNERY.

SOME years ago, on adding a range of cool niches to one of our heating systems, the connecting flow and return pipes had to traverse a considerable distance out-of-doors, and rather than bury these pipes, they were carried along the north front of the back wall of a late-vinery, and their heat utilised by excavating the ground 3 feet deep and building a small sun-house 6½ feet wide over a portion of them. This is in the form of a lean-to, the roof appearing as a continuation of the back part of the hip-roofed vinery, with the bottom of the sashes resting on the plate on a low brick wall in front. This little house or pit we last spring converted into a place for Ferns to supply cuttings. These are at all times in request, and who can wonder at it, seeing that most flowers in a cut state are so much improved by association with them. In our instance so valuable have they become that it was imperative to provide for a regular supply of them in some way; numbers of different kinds are grown in pots, but mostly for conservatory decoration, and one cuts plants in pots with reluctance. We have no pots in this fernery, everything being planted out; attention in the way of watering is thus greatly lessened, and the health of the plants is increased. The door being at the west corner, next the high wall, the body of the house is formed into one raised bed, sloping up to the front wall, in which the Ferns are planted; 24 feet are allowed for a path straight along the side of the back wall, and the bed is enclosed by a 4½-inch brick wall seven courses high; drainage has been thoroughly provided for, and a good lasting mixture of peat and leaf-soil, with sand liberally added, was used for the bed, which is firmly filled. At the time of planting, cuttings of *Ficus repens* were thickly dibbled in along the foot of the low rear wall in front; most of them rooted and now prettily clothe the wall up to the woodwork. Four wires are fixed lengthways along the roof, on which are trained *Lydinium scandens*, *Cissus discolor*, and *Selaginella casaria arborea*. On the back wall are three rows of spouting, such as builders employ under the eaves of houses to catch rain-water; these are fixed one above the other 18 inches apart; their widths are 4 inches, 5 inches, and 6 inches; the widest one is at the bottom. Small holes were drilled 10 inches apart in the bottoms of these troughs to enable the superfluous water to escape, and after being well filled with soil, laid on a layer of pounded charcoal, they were thickly planted with the following, all mixed together, viz.: Ferns of various kinds, consisting of the smaller growers, *Selaginella Kraussiana* and its golden variety, *apoda*, *involvens*, *Martensii*, and *M. albo-variegata*; also *Begonia of the Rex type*; *Pellionia Dauveana*, *Pannaria variegata*, *Tradescantia zebrina*, *aurata*, and multicolor, and the red and white veined *Fittonias*, all of which grow in them as well as could be wished. We much prefer these metal troughs in earthenware ones for such a purpose as this, because they are practically imperishable; the plants in them do not need a tithe of the attention as regards watering that they do in more porous material, and they thrive equally well, if not better, in them than in earthenware. It is a simple, quick, permanent, and effective way of draping with vegetation high walls in warm plant-houses. The varieties of Ferns which we have are mostly such sorts of Maiden-hair and *Pteris* as we found most durable and least liable to be injured by cutting. Few are more useful than *Adiantum cuneatum* and *Pteris serrulata*. A great advantage in having Ferns for cutting by themselves is that we can ventilate freely, and by comparatively cool treatment render the fronds doubly durable. Immersion in water for a short time before packing them also greatly helps to keep them fresh. A. C.

Management of Fern-case.—I shall be much obliged if you will give me in your paper any advice as to the management of a Fern-case. I have a glass case, 25 inches long by 17 inches wide, which opens by doors at either end; a little ventilation is provided at both top and sides. The case stands in the window of an unheated room. I have tried *Filix Ferns* and other hardier kinds, such as *Adiantum formosum*, *Doodia caudata*, etc., but none do well. In most cases the foliage soon turns black.

and the Ferns die, or, if they live, they lose their freshness, and any new fronds are small and poor. I do not water them overhead, and at the roots only when the soil appears to be dry. I sometimes give ventilation by opening one of the doors. There is not much depth of soil in the case, but plenty of crocks, etc., for drainage. I shall be much obliged if you can give me any likely cause of failure.—D. C. M.

[The floor of your Fern case should be a flat zinc trough, with a small outlet pipe to carry off surplus moisture. This should be partially filled with rubble, and on it be laid some pieces of tufa stone, making in this way small pockets to hold soil in which Ferns and Mosses may be planted. The best compost is turfy loam, peat, and sand, with which should be mixed some pieces of charcoal. Use such Ferns as *Pteris cretica*, *Adiantum capillus-Veneris*, *Asplenium Trichomanes*, and *Davallia bullata*, carpeting them with *Selaginella Kraussiana*, or any of the hardier Mosses. Keep the plants free from decaying fronds and wash the glass occasionally. Plants growing in such a case will not require much water, as the evaporation condenses on the glass and runs down to the roots again. A little ventilation is sometimes beneficial in the morning.]

FRUIT.

PEACH-TREES CASTING THEIR FRUIT.

There are four fruits of Royal George Peach. Can you tell me the cause of their falling off; in fact, the whole crop has fallen? Also I have three more trees in the same back. Two are dropping their fruit as the above, but the other one seems more satisfactory. The trees are fairly healthy. The Royal George is an old tree, but the two others are young ones.—S. J. A.

[Your Peach-trees are casting their fruit from one of the two following causes: (1) Allowing the trees to carry far too great a number of fruits up to the stoning period, when the strain becomes so great that they are unable to perfect the kernels in the stones, with the result that the fruits drop in the manner you describe. (2) The absence of lime in the soil composing the border. Peach trees both demand and assimilate a great quantity of lime to enable them to perfect their seeds or, in other words, the stones and kernels, and when this constituent is absent, or present in but small quantities, they cast their fruits at the critical period designated "stoning." This brief explanation will enable you to arrive at a conclusion as to which of the two causes named your trees are suffering from. If it is the first mentioned—although nothing can be done this season—you should be on the alert and thin the fruits down within reasonable limits should a heavy set result next year. Many cultivators thin out, so that when the fruits have perfected their stones there are but a few dozens to pull off. A safe rule is to have about double the number that will be ultimately required. A good and safe crop should never exceed one fruit to every square foot of trellising clothed by the branches of the trees. If, on the other hand, you arrive at the conclusion your trees are needing lime, you can supply their needs to a certain extent now by dressing the border with the following mixture: Take 1 lb. muriate of potash, 2 lb. superphosphate of lime, and 2 lb. of bonemeal. Mix altogether, and then dress the surface of the border with it at the rate of 2 oz. to each square yard of surface, and lightly prick it in with a fork. Then well water it in, and in from six weeks' to two months' time give the border another dressing, but only half the quantity on this occasion, and water in as before. When autumn arrives, or a week or so before the trees cast their leaves, we would advise you to lift your trees and remake the border, wholly or in part, taking great care to use, if possible, a sound, calcareous loam as the chief constituent. If this is not to hand, you must supply the deficiency in the loam you use by mixing a fair quantity of old mortar-rubble, such as plaster or old mortar saved from buildings in course of being dismantled, also 4-inch bones at the rate of 1 cwt. to each ton of compost, and bone-meal in the same proportion. Make the new border as firm as possible by well treading the soil as it is wheeled in, even going to the length of ramming it, if it should be at all dry. A firm, compact border will ensure medium, short-jointed, fruitful wood being produced, and trees growing in such a compost never fail to set and perfect their crops. Should you require further information

as to how to lift the trees and correct formulae as to the making of a Peach border, please address us again and we shall be glad to assist you.]

NEWLY-PLANTED VINES.

There is a great difference in the way in which newly-planted Vines are treated by different growers. Instead of cutting them back to the wall plate, some leave them nearly the whole length with the view to getting the rods up to the top of the rafter as quickly as possible, and by this means save time. Than this there cannot be a greater mistake, unless conditions are exceptionally favourable, and more than ordinary skill and care are brought to bear on their after management, so as to ensure every bud breaking from top to bottom of the canes. As we generally see them, a few buds near the top are all that start, all below being a blank, which after all necessitates the Vine being cut back to ensure fruiting spurs from the bottom upwards. Therefore, it would have been better to have cut them down first, and thus prevented loss of time. Even when all the buds start into growth, when the canes are left their whole length, two or three buds at the top will, if not properly managed, monopolise so much of the strength of the rods as to leave shoots below them in a very weak condition. When due care and patience are exercised it is possible to get every bud on a 6-foot-long cane to start into growth, but the cane must be carefully bent down so as to insure the bottom buds breaking first, and the tops must not have a much higher temperature than the roots, or the buds will be sure to break weakly. This is the rock on which many inexperienced people wreck their hopes of a satisfactory start. They plant perhaps in February or March, and as there are no Vines on the roof to shut out the light, the vinery is turned into a forcing-house; the consequence of this is the tops of the newly-planted Vines are forced while their roots are in a cold border outside. The tops, therefore, grow away for a week or two until they have consumed all stored-up nutriment. They then come to a standstill, and only recommence to grow again when the outside temperature has risen sufficiently to make the roots active. There is no reason whatever why a vinery should remain empty just to accommodate the Vines, but if the border is outside, and they are planted in March, the tops should be temporarily nailed to the wall outside. At the end of April they could be brought inside, as by that time there would not be so much difference between inside and outside temperatures, and by the time the tops had started into growth the roots would also be active, and a proper balance between tops and roots would be maintained. In a general way it is inadvisable to cut down newly-planted Vines, and when it is decided in autumn to plant Vines in spring, plants for that purpose should be obtained and immediately cut back, leaving only 2 feet of cane, so that the wound might have time to heal before growth commenced in the spring. C. C.

GRAPES FOR EXHIBITION.

I should be much obliged if you could tell me the best way to grow Grapes for exhibition in September? They are Black Hamburg, and are only just setting now. They are grown in a lean-to vinery heated with hot water, and are planted inside. The roots are able to grow out as well. I can get plenty of liquid manure, also superphosphate.—S. J.

[The particulars furnished in your letter are very vague when seeking such advice. The age of the Vines, extent and nature of border, would have afforded useful and important data. However, we may tell you that to get well-finished Black Hamburgs, good enough for exhibition, demands a great deal of careful thought in the daily routine. The soil ought to be of the best description and the border properly drained. A great many readers would be only too pleased to obtain exactly the same information you seek, but local circumstances vary so much that no uniform practice suffices for all. Water is a most important item in Vine growing, and the frequency necessary for its application to the roots depends entirely on its elevation, the nature of the soil, and the house. We know of a vinery that is given water twice or not more than three times a year, with the result of other instances where it is

made a rule to give water every day in summer, but the two instances are so extreme that a combination of the practices would certainly not result in show Grapes, yet these two gardeners were each successful exhibitors. A heavy soil will not need half the water a light one would; we know of outside borders that never get any moisture except that afforded by rain. Your inside border may need water once a fortnight, or it may be once a month, much depending on soil and situation. You must examine it frequently to ascertain the extent of moisture, remembering that Vines when in full growth absorb a deal of water from the soil. Manure-water will be beneficial given in a diluted state at each summer watering, provided your Vines are in full bearing and the border well occupied with healthy roots. Much depends on this. An excess will poison the soil and ruin your prospect of success. Superphosphate is not a manure suited to Vines by itself; something is needed in conjunction, but your liquid manure, if obtained from a mixed source—pigs, cows, and horses—would do that. Bone-meal is good for Vines, and a little sulphate of ammonia used with superphosphate is good for some soils. Ventilation is another important point, and on this largely depends a good colour in the berries. When Grapes are ripening never close the roof ventilators down quite close, but allow air to escape, for a buoyant atmosphere is favourable in a dense bloom. If the air is overcharged with moisture and the ventilators kept closed too much, the berries assume a shiny, polished appearance instead of showing a hoar-like bloom. The berries when set need to be thinned in such a manner that they have space to swell to full size without becoming too closely compressed together. This is a bad practice, and can be carried on over a few weeks if it is found that the first effort does not satisfy. Keep all superfluous lateral growth suppressed, so that the principal leaves have an exposure to light and air. It is well to go over the Vines every week and pinch the shoots until their growth is such that it does not call for it. To get the best results we would advise a little Vine-manure once or twice during the season, as this does the border good, sprinkling it on the surface and watering in.]

Thinning Peaches.—I have Peach-trees under glass. The fruit is now about the size of large Bantons, in many cases in clusters of three or four. Is now about the right time to thin them, and ought more than one to be left on the cluster? What distance ought they be from each other on the branches? I should also like to get information on the same points with regard to Apples and Pear-trees now in full bloom.—CARD.

[It is quite time your Peaches were thinned, although it is not always a good plan to commence this too early, simply because the fruits will occasionally swell to the size you name, and then become stationary. When, however, they set so thickly on the trees, a moderate reduction should be made as soon as they are set and swelling, continuing this periodically. By doing it in this way the work is simplified, because it is more easy to define the better fruits from the lead they always take. If we tell you that one fruit to each square foot of tree surface is considered sufficient for a crop, you will the more readily understand the extent of thinning necessary. Certainly two fruits ought not to be left together on one branch. From 9 inches to a foot apart will give you the desired crop, if this is uniform over the whole tree. Apples and Pears when thickly set repay as much as Peaches to be thinned, leaving not more than one fruit where a cluster has set. If more of this could be done there would be fewer complaints about tight and heavy crops alternating from year to year. With a heavy crop the resources of trees become overtaxed, and the result is found in the barrenness of the succeeding summer as affecting such trees. If you reduced all the smaller-growing Apples and Pears to one on each twig, larger fruiting sorts even more severely, you would get more typical fruits and regular crops.]

As many of the most interesting notes and articles in "GARDENING" from the very beginning have come from its readers, we offer each week a copy of the latest edition of either "STOVE AND GREENHOUSE PLANTS," or "THE ENGLISH FLOWER-GARDEN," to the sender of the most useful or interesting letter or short article published in the current week's issue, and which will be marked thus:—

GARDEN WORK.

Conservatory.—By growing a suitable collection of Lilies one may always have a few in bloom, and Lilies are now very much in the ascendant for decoration. The most lovely of all, to my mind, for pot work is *L. longiflorum*, and by adopting cool storage the season is practically continuous. But I am not sure that we want anything, not even Lilies, continuously, not even *longiflorum*. We generally begin with *Harrisi*, but of late years this Lily from Bermuda has been much diseased, and many failures have occurred in consequence. Next to *Harrisi* comes the *longiflorum* from Japan, but this last season there have been symptoms of disease in the Japanese bulbs, due probably to forcing culture and a desire to be first in the market with large bulbs; at any rate, there is disease in some of the bulbs, but the sound bulbs have thrown very fine spikes. The *lancofolium* section is one of the most useful to the gardener. The bulbs live with him without deterioration, and by placing a number of bulbs in a pot very fine specimens are obtained that will last some time in a cool conservatory, and all conservatories ought to be kept as cool as possible now. Very many Lilies not usually grown in pots will do well in this way. The double form of the Tiger Lily does very well in pots, and a good specimen standing among *Feruss* and *Eulalias* has a pretty effect. A house full of the usual kind of plants—*Begonias*, *Geraniums*, etc.—may be bright enough, but does not altogether satisfy. We want something else, and this is where a good collection of Lilies to draw upon comes in so useful, and now the weather is warmer we can move some plants from the warmer houses. *Eucharis* Lilies, coloured-leaved *Dracenas*, and various other things can be moved to the conservatory for a few days at a time to cause those pleasant little changes which people of taste so much appreciate. The coal-ash-beds should soon be in readiness for turning things out to ripen. Zonal *Geraniums* for winter flowering, of which the most valuable for cutting are *Raspail Improved* and *Mme. Rozain*, should be shifted on when required; at present these will be in a cold-frame with the lights off, except during heavy rains. No plant requires more careful watering than the Zonal *Geranium*. If the soil gets sour the plant may be thrown out.

Stove.—The value of a low, close pit to relieve the stove of the young stuff will be very great just now. Young growing specimens must have room, and for the time being almost any structure may be made to grow the majority of stove plants and Ferns. We generally move all the young growing stock of *Feruss* into a cold-pit with a rather flat roof, and whiten the glass, giving only ventilation sufficient to harden the fronds. Here they are quite at home, and of a splendid dark green colour, and the attention required is nothing like so much as is necessary in a house which gets warm from the sunshine. The training of climbing plants on balloon or other shaped trainers must have timely attention. *Allamandas*, *Bougainvilleas*, *Clerodendrons*, and *Diplolenias* are among the brightest summer-flowering stove plants, and the training of the young shoots up into the light is important, fit-and-by, when the flower-buds are visible, the shoots can be trained to the best advantage. Fires must be kept in check in bright weather. If the pipes are hot in the daytime when the sun is shining frequently, the fuel is not only wasted, but the dry atmosphere is injurious to the plants. Sixty-five degs. at night is high enough. If the thermometer inside will stand at 60 degs. in the morning we shall let the fires go out.

The stoning period in fruit.—This is a critical time and must not be hurried, or the fruits may fall. The temperature should be kept steady and the roots moist. When the stoning of Grapes, Peaches, and Plums is finished, nourishment may be freely given. If there is a farmyard-tank handy that will suffice. In the old days we relied on the manure-tank entirely, and the results were satisfactory. Feeding with artificial manures takes less time but requires more judgment. I have seen remarkable results from using

Peruvian guano freely one season, but the next the results from the same quantity were not equal. This shows that the use of any kind of manure may be overdone, and that to manure properly a mixture of substances is necessary. Our usual course is to use potash and phosphatic manures early in the season, and give the finishing touches with guano or nitrates when the stoning is completed. Whatever artificial manure is used should be carried in by watering at once, and not left on the surface.

Potting Chrysanthemums.—This is the season for shifting into the flowering pot. Many growers have probably got forward with the work of the general collection, but the culture of this beautiful autumn flower has been so extended that it has branched off into many directions, and the plants are grown in various ways for different purposes. Cuttings of the strong leads, struck now without flagging, will throw good flowers in 6-inch pots, and are very useful for grouping for exhibition. All the plants must now be in the flowering pots, and a regular system of training, insect watching, and other routine work in connection therewith must be gone through. The fungus known as rust has not shown itself with us yet. This, like many other diseases, is brought on the weaker of the plants by a rushing system of propagating and culture, and will disappear under rational treatment if one could get clean plants to start with. Of one thing I am convinced: though the *Chrysanthemum* will do fairly well amid the smoke of the town, it will do better in the pure air of the country, and, if one grows stock for sale, the country is the place to grow the stock plants. Firm potting is necessary for *Chrysanthemums*. We always leave space on the top for a top-dressing later, as we find the plants like this. It is better even than too much liquid-manure, which may clog up the soil.

Window gardening.—What a rush there appears to be for red, white, and blue flowers this season. It is difficult to provide novelty at a moment's notice, but white Lothian Stocks might take the place of the white *Marguerites*, which, unless grown very cool and sturdy, get too tall. The Lothian Stocks are sown in autumn generally, though we have sown in spring, and grown on near the glass in single pots till transferred to the boxes. The best scarlet *Geranium* for boxes is *West Brighton Gem*. *Improved Raspail* and *Improved Vesuvius* are much in demand for brightening up gardens this season. The *Crimson Jacoby* also is in request.

Outdoor garden.—Just now the Thorns, Laburnums, and Lilacs are lovely in suburban and other gardens. To form good heads with long, drooping branches the young Thorns should be pruned back for a year or two till a good base has been secured, and then let them grow as they please. Laburnums and Almonds may be treated in a similar way. Lilacs and flowering shrubs generally should have what pruning is required as soon as the flowers fade. All tender plants used in the various forms of garden decoration may be planted now. The carpet beds, if any of these expensive features remain, will come in after the late Tulips or other late spring flowers, but special care should be given to the preparation of the beds. There is nothing equal as a top-dressing to the charred garden refuse which is obtained from the prunings and clearings of the garden. The sowing of Wallflowers and other hardy perennials and biennials must not be delayed any longer, or the plants will be weak and poor. Put stakes to all plants likely to require support early. Every kind of garden Pink should be grown, for there is a charm in variety in these fragrant flowers. The old florists' or lace Pinks are very sweet and beautiful. There are many beautiful things in flower in the rock-garden now that will attract attention.

Fruit garden.—The frosts have not done much harm so far as can be seen in our district. There will be plenty of most kinds of fruit if they stop on, or only a reasonable proportion remains, and the recent heavy rains have had a beneficial effect. There are a few curled leaves on Plums and blistered leaves on Peaches, but the energetic cultivator will know

how to deal with insects. Certainly there is a better promise of fruit than might have been expected, considering the character of the weather during the greater part of the month of May. The thinning of the young wood and the fruits on wall-trees must have attention. This refers more especially to Peaches and Apricots. The time for summer pruning of Peas and Apples is not yet. July is time enough for the consideration of that work. Of late years there has been a tendency to put off the summer pruning till the end of August or even later, but that has been found to be a mistake, and most cultivators are now regarding this necessary work in a reasonable spirit. Some kind of mulch to wall-trees seems a necessity. It need not be anything of a stimulating nature, but it should have the effect of keeping the moisture in the soil as a check upon deep rooting. A loose, freely-loosed surface will be better than nothing, but stone fruits do best in a firm soil, so the soil-stirring should be confined to the surface. The digging of fruit-tree borders should be given up if the roots are to remain near the surface.

Vegetable garden.—Sow Spinach of the round-leaved kinds on cool borders. The north borders come in useful now for Lettuces, Cauliflowers, Turnips, and Spinach. But the New Zealand Spinach must have the sunniest spot available. The practice of planting greens among Potatoes can only be recommended where land is scarce, but in some places it must be done among the early Potatoes. It does less harm when every alternate row of Potatoes is missed, as then the tops of the Potatoes can easily be turned aside and the greens given a chance. On the same principle, if economy in cropping the land is necessary, the double row or the bed system can be adopted where much Celery must be grown. Growing two rows of Celery in one trench is a common method of culture and answers very well, and the bed system, which is merely an extension of the double row system, enables the cultivator to turn out a lot of useful Celery for cooking from a small plot of land. Never use rank manure for Celery, and blend it well with the soil in the bottom of the trench. Keep the Tomatoes both indoors and outside free from side shoots, but leave all leaves entire as long as possible. It may be necessary when fruits are colouring to reduce foliage, but the fruits from plants which have been robbed of foliage are always poor in flavour. Mulch Vegetable Marrows and ridge Cucumbers with littery manure, and peg out the shoots to prevent shifting by the wind. Give liquid manure to Globe Artichokes to produce succulent heads. Thin all young crops of vegetables in good time, and keep the hoe going. E. HOUST.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

June 16th.—Planted more Canadian Wonder French Beans. We give these plenty of room, and all pods are gathered from Beans and Peas of all kinds as soon as fit for use. All Peas are mulched with littery manure on both sides of the rows; this is a great help in a dry season. Planted more Autumn Giant Cauliflowers; this and Veitch's Self-protecting Autumn Broccoli are very reliable. Finished planting sub-tropical plants; plants have been well hardened.

June 17th.—Put in a batch of cuttings of late-flowering *Chrysanthemums*; they will be rooted in a close frame. Strong leading shoots have been selected as cuttings. We find these plants useful for grouping; each plant will carry one good-sized flower. We have been thinning stone fruits on walls; many trees are too heavily laden. Covetousness brings its own punishment in weakened trees, which are more subject to insect attacks. We are using Tobacco-powder freely wherever insects are likely to appear or are appearing.

June 18th.—We are growing Asparagus on the French or row system, and are so satisfied with the result that we shall make no more beds. We cut all grass as it appears. The small stuff does for flavouring soups, and in about another week from this date cutting will

cess for this season, and all spare liquid from the manure-tank will be given to the plants, possibly supplemented with guano or some artificial.

June 10th.—Pegged down *Verbenas*, *Heliotropes*, *Ageratum*s, and *Potunias*. We like to do this before the stems get much into growth, as they are more pliable. Planted out more celery and sowed more Marrow Peas. This will be the last sowing of late Marrows. Outdoor Tomatoes in the open have been staked. When three bunches of fruit have been secured the leaders will be stopped, to concentrate growing force, as late fruits seldom ripen.

June 11th.—Rearranged conservatory and introduced some of the hardiest plants from the stove. A few of the large Palms have been plunged in sheltered spots outside in the grounds. India-rubbers and *Grevilleas* have been utilised in sub-tropical beds. Climbers in the conservatory are now a special feature. Oranges in pots and tubs have been placed outside on terrace. Zonal *Geraniums*, *Begonias*, and *Malmaison Carnations* are good features.

June 21st.—Now that the houses have been partially cleared attention is given to the young stuff in preparation for winter decoration. Among other things, a lot of *Club Mosses* are grown in pots and pans. The pretty little *Madeira Grass* (*Isoplepis gracilis*) is also useful. Seedling Ferns and young Ferns generally are grown in cold-frames, shaded. We find rather that frames do best for this work, as also for *Cyclamens* and *Primulas*. Earthed up *Potatoes* as they advance in growth.

BIRDS.

The Redpoll (*F. N.*).—This is a native of the northern parts of England. The nest is usually built on some low tree or dense bush, and is composed of Moss and dry Grasses, intermixed with the down from the catkins of the Willow. The docility and confidence of this little bird render it very pleasing as a feathered pet, although it has no natural song beyond a few sweet, twittering notes. Various seeds constitute the food of the Redpoll when at liberty. In captivity it may be fed on Canary-seed, Rape-seed, broken grits, with plenty of green food, and now and then a few grains of Hemp-seed.

Death of Canary (*G. R. Creswell*).—In this case death appears to have been due to inflammation of and internal hemorrhage from the lungs. The bird must have taken a severe chill, probably from exposure to a current of cold air. The sample of seed was very good—the best of its kind, so there was no fault in the feeding. The "fresh common sand" would not, however, be of much good for assisting the gizzard in the digestion of the food. Sharp grit is the proper thing to supply for this purpose, and without which no seed-eating bird can remain long in good health.—S. S. G.

—(*Alice Wethered*).—Yes; no doubt this bird has been partaking too freely of the egg-food supplied for the nesting hens. This kind of thing often happens during the breeding season. Only a little egg food should be given two or three times a week and discontinued after the birds have paired until the young ones are hatched. When there are young to feed the old birds are not so liable to take an undue allowance for themselves.—S. S. G.

POULTRY.

Death of chickens (*A. C.*).—You do not appear to be feeding your chickens judiciously. A diet of "boiled rice, mashed Potatoes, Cabbage," and so forth is not sufficiently nourishing, and the long spell of cold weather rendered it necessary to feed highly. They should have a thick, crumbly paste made of two parts of coarse Oatmeal and one part of Barley-meal, mixed with milk or water. Grits, crushed Wheat, or bruised Oats should form the last meal at night. In a cold hatching season chickens should have for the first three or four days hard-boiled egg minced small, also a little finely shredded underdone meat till they are about three weeks old. This stimulating diet should be given regularly, and when

chickens suffer from bad feathering, caused by the coldness of the season or from delicacy of constitution, bread soaked in ale is often given by poultry rearers. Aute' eggs are very good for young chickens early in the season before insects become plentiful.—S. S. G.

Death of hen (*Hen*).—You send no particulars whatever as to feeding and general treatment. The bird was exceedingly fat, and the liver was diseased. You appear to be supplying food to your fowls of too rich and stimulating a nature. Many deaths are brought about in the poultry yard through overfeeding or the use of unsuitable food. The free use of Maize is sure to lead to the formation of internal fat, and, as this accumulates, egg production ceases, and the hens fall a victim to disease. Let the diet of your hens be of the plainest and restricted in quantity for a time, otherwise you will probably sustain further losses. If any of your other hens show symptoms of liver complaint, which are a moping about, an irregular appetite, and a yellowish tinge on the face and wattles, give per bird every other day for a week or so one grain of calomel, mixed with the soft food, which should be given in a crumbly state. Supply plenty of fresh vegetables, and add some sulphate of iron to the drinking water after the course of medicine has been gone through. Give no more food at a time than will be eaten readily, and frequently make a change in the diet.—S. S. G.

LAW AND CUSTOM.

A gardener's testimonials.—Two months ago I took a situation as gardener. If I leave at the end of three months can I compel my employer to give me my characters, or how long has he the right to retain these? In one of his letters he stated that he would pay the cost of removing my goods to his place. Can he refuse to do this?—*Jack*.

—My last employer received references direct (that is, through the post) from previous employers. Can I claim these on leaving as my own property?—*O. F.*

[I suppose by your "characters" you mean certain written testimonials as to character given to you by your previous employers. If this be so, you could have demanded these from him as soon as he had engaged you, supposing that these testimonials had been given to yourself and had not been sent by the givers to your present employer. If these were given by them to him direct, they are not your property; but if given to you and handed by you to your employer, they are your property, and you may sue for them at once, whether you leave or stay. It is a foolish thing to send away or give away the actual testimonials; copies only should be sent or handed in, the originals only when specially required. If you have preserved the letter or can prove the undertaking to pay the cost of removal of your goods, you may sue your employer for such cost if he refuses to pay it. The action must be brought in the county court.—*K. C. T.*]

A nurseryman's notice.—In December last the tenant of a nursery ground engaged me to work for him upon a verbal agreement that a month's notice should be given by either party desiring to determine the engagement. The landlord is at present finding the tenant with money to pay wages, etc., and last Sunday morning some words passed between the landlord and myself, and he told me to take a week's wages and be gone. I declined, and told him he was not my employer, and he replied that if I remained on the place he would advance no more money, and my employer then said he should be unable to pay me. I then asked for a month's wages in lieu of a month's notice, but this was refused, and a week's wages was tendered in lieu of notice, so I took it and went. The landlord never paid me previously, and this transaction took place on a Sunday. Does it stand good, or can I recover the other three weeks' wages?—*J. G.*

[The verbal contract for a month's wages was hiding, and so you could have refused the week's wages tendered and have sued your employer (not the landlord) for breach of contract, and you could have claimed a month's wages in lieu of notice. And you might do this even yet, if it were clear that you did not accept the week's wages as sufficient compensation for the want of proper notice. Your proper course was to have refused to accept the week's wages, and then if you were ordered off you should have brought your action. On the facts stated, it seems to me that you accepted the week's wages, and so the matter is at an end. The fact that the disturbance and payment took place on a Sunday does not affect the legal aspect of the question.—*K. C. T.*]

CORRESPONDENCE.

Questions.—Queries and answers are inserted in *GARDENING* free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF *GARDENING*, 17, FURNIVAL-STREET, HOLBORN, LONDON, E.C. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as *GARDENING* has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Diosma ericoides (*A. E. Paton*).—The specimen sent is *Diosma ericoides*, a member of the *Rue* family, hence its very pronounced smell. It is a native of South Africa. Whether worth growing depends in your case upon yourself, for, though to a certain extent interesting, its ornamental features do not rank high.

Planting Rose (*J. J. Butterworth*).—Most nurserymen keep some climbing Roses, such as this, in pots, and, if so, you may obtain your Rose and plant at once, but if the specimen is growing in the open ground, and you desire to transplant it, you must wait till the autumn before carrying out this operation.

Tropaeolum Townsendii (*Helen Evans*).—Numerous inquiries have failed to trace any recent information concerning the *Tropaeolum* inquired about, while a search through various catalogues has resulted in the same way. It is more than probable that it has now completely died out, a fate that falls to the lot of many soft-wooded plants in a few years.

Clematis drooping (*Mrs. Annie Dyke*).—We should imagine your plant has been allowed to get dry at the roots, and, when this happens, no amount of watering will bring it back to a healthy condition. Unfortunately, too, Clematises that are grafted often suddenly die off, this by some being attributed to disease, doubtless brought about by the pernicious forcing adopted in their infancy. We should advise you to cut your plant down to the ground, and then, if the roots are all right, strong growths will break away from the bottom.

Climbers (*J. T.*).—The things most likely to suit you are *Colwa scandens*, *Lophospermum scandens*, or *Ivy-leaved Pelargonium*. Apart from these are the climbing *Nasturtium* and some Clematises or the Hop plant. It is more than likely that the *Ivy-leaved Pelargonium* would prove the most serviceable, inasmuch as by sinking the pots at the base of pillar the plants could be removed for the winter. If a hardy climber would suit you, then we suggest *Clematis Jackmannii*. For the window-box you should get *Campanula Mayli* (blue) or *C. isophylla alba* (white).

Plants for border (*Beginner*).—There are many things you may plant now, such as *Zionias*, *Phlox Drummondii*, *Verbenas*, *Tuberous Begonias*, white and yellow *Marguerites*, or any of the annual *Asters*, etc. You could also get a good display by planting such early-flowering *Chrysanthemums* as white and yellow *Deegantines*, *Lyon*, *Fiercy's Seedling*, *Marie Masse*, *Crimson Queen*, *Ivy Star*, *Quintus*, and *White Quintus*. To a collection of the latter could be added the Sweet-scented *Tobacco* (*Nicotiana affinis*) and some *Gladiolus* in mixture. *Mignonette*, too, is ever welcome when in flower.

Marshall Niel Rose (*J. G. T.*).—If the Rose is in the tub, and this can be moved bodily, the roots that may have got outside will not materially affect its future prosperity. If the plant, tub and all, can be removed, it will be quite safe in a sheltered place in the open, shortening back any of the longer shoots. If the tub will not permit of removal bodily with safety, you may almost ensure this by passing strong mats or sacks around and under the tub, and lacing all up tightly over the top of tub remove it in this way. A strong rope or wire round the tub would greatly help to keep it in position. Otherwise, if the tub comes to pieces, your plant may be sacrificed unless its removal be deferred for a time. We think, however, in the way suggested and by half pruning the Rose the work of removal may be done at once.

Oblong bed (*Beginner*).—A bed 7 feet by 2 feet certainly may be made gay at intervals, but not continuously, from March to November. Plants for March and April would include such *Trumpet Daffodilla princeps*, *Golden Spur*, *Emperor*, *Horsfield*, and the bed may be margined with *Narcissus nilour* and *Anemone apennina*. In May *Narcissus poeticus*, planted alternately with the trumpet sorts at 15 inches from margin, would come in, the other plants named to be in the margin proper. In June you may have a good show with single *Pyrethroms*, while for late June flowering *Delphiniums*. Amid these you may have *Gladiolus*, *Hyacinthus caudatus*, and *Lilium speciosum*, which with *Galliardias* and one or two select *Michaelmas Daisies* would give you some autumn bloom. By planting the bulbous things rather more deeply than usual some other things not deep rooting or with great tufts of leaves could be used.

Hybrid Teas for pot culture (*Paradu*).—The great value of the majority of these Roses is that they may be grown in what are practically cool-houses—i.e., in houses in which a little artificial heat is given at night or in cold, frosty weather. The four kinds you name are excellent, but *Esmeralda*, *Augusta Victoria* succeeds best where a rather high temperature can be given. *Caroline Testout* and *Belle Siebrecht* are two splendid kinds, and may well

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PLANTS AND FLOWERS.

INDOOR PLANTS.

PHLOXES FOR POTS.

We often read of some subject or other that it is now too late for propagating this season, and if the increase of the Phloxes was recommended in the usual way and without justification, the remark may equally apply here. The object of rooting some cuttings of the late-flowering Phloxes now is the desire to possess some greater variety in the greenhouse and conservatory from flowering plants other than the Chrysanthemum. It is probably twenty years ago since I took the above in hand in May and June, and so great was the success that for some years I had plenty of fine spikes of the decussata section long after the collection in the open ground had finished blooming. In other words, the plants came into flower with the Chrysanthemum. There is not much difficulty in the way. To begin with, when it is desired to secure late-flowering Phloxes in pots, from the middle to the end of May will suffice for the first batch, and onward through June for a successional lot of cuttings. Generally speaking, there is a hot bed in working at these times, and no propagating-house is half so good as this frame for increasing these Phloxes. Where a Cucumber or Melon-pit is at hand nothing could be better, as the frame at once dispenses with any idea of pots or the necessity for such in the propagation. All that is required is an inch of pure sand placed at the lower end of the frame, and the cuttings, made of the young tops from plants in the open, trimmed up as usual, should be gently thrust into the sand and well watered in. With light sprinklings almost daily, the cuttings, which must be of quite soft wood only, will form roots in about three weeks. If hard and woody they may remain unrooted for months. Immediately the cuttings are well rooted lift and put into 3-inch pots, using rich turfy loam with about a third of decayed manure and a nice bit of sand. In another month or less the plants will be ready for 7-inch pots, and in these they flower, each plant producing a solitary yet very fine head of bloom if the treatment has been good. The treatment may be summed up briefly, and may be likened to growing Chrysanthemums for large blooms. The Phlox, vigorous by nature and making large quantities of root fibres, must suffer no neglect. Firm pitting, rich soil, generous surfacing and after treatment, are the items calculated to produce fine panicles of bloom in October and early November from these plants, and this in convenient sized pots. The plants will be about 3 foot high, possibly less, and depending on the kind. Not only are these Phloxes admirable when so grown for the greenhouse, but for planting out and flowering the year following in the open border have much to recommend them. Indeed, in some instances they surpass the established ground clumps, and the flower heads of bloom produced are of the finest description. E. J.

CLIANTHUS PUNICEUS.

SELDOM does one see this attractive climber, but when growing in a cool greenhouse on the roof—or even a better situation for it, the back wall of a cool lean-to house—it is humming when in bloom. I say cool-house advisedly, for it is the simple conditions necessary to the Clianthus where success may be looked for, not needing a warm, close atmosphere, which engenders green-fly. The blossoms are borne in bunches, claw-shaped, colour earmine passing to crimson, and when seen hanging amid the clusters of abundant foliage are very beautiful. Many who attempt its culture fall into the mistaken notion that it needs heat to bloom it, hence they are never successful with it. Only during severe frost and snow does it require protection, and then, if in a house, just sufficient warmth in the pipes to dispel frost, or a mat covered over it is enough in most houses. If planted out-of-doors on a warm wall, it should be where a covering of some kind can be given it, as continuous snow and frost are harmful to it. It is admirably fitted for growing in a glass corridor, or, as stated, in a cool-house, and for this reason is sometimes seen on the back walls of late vineries, where little heat is needed. The Clianthus does best in a rich compost, and in potting one should be satisfied that it has ample drainage. Any nurseryman dealing in greenhouse climbing plants will be able to supply a Clianthus, and those who are short of creepers for a cool-house, particularly for a wall, cannot do better than plant this handsome subject. The Clianthus may be propagated from cuttings in a compost of peat and sand under a bell-glass or pit. Clianthus puniceus is very attractive also grown as a pillar plant in a cool conservatory. LEAHURST.

NOTES AND REPLIES.

Palm falling.—Would you kindly give me the reason of my Kentia Palm fading at the ends of the leaves? I water once a week. It is in a room with plenty of sun.—LAVAYS.

[Your Palm has evidently been allowed to get dry at the roots. Palms need a soil composed of two parts loam to one of leaf-mould and a little sand, a fairly close rather than a draughty structure, frequent syringing, and shading from all direct sunshine. No hard-and-fast line can be laid down when your Palm should be watered, as this is influenced by weather, position, and other particulars. It may, however, need water about once a week in winter, twice a week now, and perhaps in the height of summer every day will not be too much. The condition of the soil must be your guide in this respect. Water should be given to keep the soil fairly moist, and not at all soddened. The leaves may be washed with soapy water.]

Climbers for conservatory.—I shall be much obliged if you will kindly name about a dozen climbing plants suitable for covering the walls of a conservatory, where they would have to be potted up, as the floor is boarded? The conservatory opens to the south and west, and is not heated. I shall also be glad to know what size of pots should be used?—JEANIE GIRL.

[The following should suit you: Abutilon strictum, yellow, veined red; A. vexillatum,

viriegatum, yellow flowers, pretty variegated leaves; Clematis indivisa, white; Clianthus puniceus, salmon red; Coehra scamellus, purple; Habrothamnus aurantiacus, yellow; H. elegans, cherry red; Lonicera sempervirens minor, red and yellow; Passiflora Coustaree Elliot, white; P. Imperatrice Eugenie, violet-rose; Plumbago capensis, porcelain-blue; Solanum jasminoides, white; Tacsonia Van Volxemii, magenta-scarlet; Thibaudia acuminata, pinkish, wax-like. Pots from a foot to 14 inches in diameter will be needed to keep the plants in good condition, and as they get full of roots a little assistance during the growing season in the shape of liquid-manure or some of the concentrated manures that are now so much used will be of great service.]

Celsia cretica.—This is a most attractive plant when well grown, its long spikes of pale yellow flowers harmonising well with most things. When the plants are in a vigorous condition the spikes of bloom are 2 feet or more in length. Recently I was charmed with its value for winter and spring blooming. In this case it was used in a house, arranged with other spring-blooming plants, such as Freesia, Hyacinth, Primula obconica, P. sinensis, Arums, and a host of other bright showy plants, and its yellow spikes were very conspicuous. This Celsia is of the easiest culture and just suited for amateurs. Some grow it from cuttings, but this is not the best way, as seedlings are far more vigorous. The plants above referred to were raised in this way, the seed having been sown about the end of April. The seedlings when large enough were pricked off in the usual way, and as soon as they were strong enough transferred into small pots, and in early autumn potted into 5-inch and 6-inch pots and kept in cold pits as long as the weather permitted, when they were transferred to a cold-house and removed into the house above described when coming into bloom. This Celsia thrives best in a good, sandy loam.—P.

Striking cuttings of Malmaison Carnations.—At this time of the year, when the side growths are plentiful, it is well to thin them so that those remaining shall develop strongly for layers later on. These cuttings are often thrown away, which is waste, as they root readily. If a little bottom heat, such as a partly-spent hotbed, be available, we have a place that suits admirably. Failing this, I find no difficulty in rooting the small cuttings. They are pulled away from the older plants, and not touched with the knife, and are then dibbled thickly into shallow boxes, using a light compost of sifted leaf-mould and loam. Stencil them in a place where little air can reach them, and shade from bright sunshine. Sprinkle the cuttings daily as well as attend to watering the soil, which must not be allowed to get dry. A few of the outer leaves may turn brown, but so long as the inner portion of the cutting is green I do not trouble. They root and begin to make fresh leaves when each is potted separately, and they soon become established plants, and by the autumn will have passed the layers in size. Such miffy kinds as Nell Gwynne (the white Malmaison) and Mrs. Martin Smith are propagated in the manner

above described. I have known failures when the cuttings are put into a close propagating-lux, but seldom if into a frame or the more open atmosphere of a greenhouse.—H.

OUTDOOR PLANTS

NOTES FROM A DEVON GARDEN.

TO THE EDITOR OF "GARDENING ILLUSTRATED."

SIR,—We have not had twelve hours' rain in the whole of "the merry month of May," and we are in high summer, as understood in our corner of the world—S. Devon. To paraphrase, "Summer stands full grown, on the knees of Spring." It is the most perfect time of the year for a S. Devon gardener, for there is still some moisture in the earth, so the flowers bloom whilst they may. Another month, and only Carnations can stand the heat. I am writing now—9 p.m.—with a great bowl of Tea Roses in front of me, listening to the song of many birds, soft twilight creeping over the crimson sky, the rich scent of Lilac and Hawthorn coming in through the open windows. Spring lingers, for still one can find Primroses, and the woods are blue with the wild Hyacinths; but the Magnolias are in full leaf, and the glory has departed from the Rhododendrons. Only the late ones are left, and they seem out of place when the Roses come—truly queen of flowers. Everything seems fuller of bloom this year. I have never seen the "common" shrubs and trees, like Weigelas, Lilacs, Hawthorn, snowy Mespilus, Cherries, Ribes, etc., so loaded with bloom. The Roses look clean and healthy. The Banksian has been beautiful. It blooms here early in May. Sweetest of all Roses, the "type" rugosa, is in flower. Not even the old Cabbage can compare with it for "bouquet." The Liliams are both early and vigorous. *L. auratum* stands some 4 feet high, and the flower-buds can be seen. *L. Krameri* is enjoying the dry heat. I have seen several of mine with three flower-buds—a rather rare occurrence. They stand over 3 feet high. *L. Henryi* is "5 feet and still growing," whilst *speciosum* looks like the proverbial Cabbage. I have only tried two new Liliams this year—100 *L. Alexandra*, all up, strong and healthy, 100 *L. rubellum*, only three: both lots imported from Japan. Tulips have been glorious. Paeonies are covered with buds, the early "type" ones flowering well. Flag Irises are unusually fine; English and Spanish ones are thick with flower-buds.

My "blue garden" had out-grown its old quarters, so last autumn it had a real garden to itself, such a pretty sunk garden, nestled into the edge of the wood. Here *Myosotidium nobile* reigns, not quite supreme, but a glory in its own section—the Borageworts. It opened its first flower May 3rd, and looks like seeing June out—two plants with six flower-spikes. It is perfectly satisfying. If one tried, one could not make a plant with such a just balance of simple strength and beauty. If it never flowered it would be still beautiful because of its foliage. I grow it in pure sand, with leaf-mould, in partial shade. At the sunny end of the garden lives *Leschenaultia biloba major*, four plants, one about 14 feet high. Except in *Gentiana verna* and *Witsonia corymbosa*, there is no such blue, not even amongst the Scillas. It has the excellent habit of throwing out flowering shoots in succession all up the main stems, which look like Heath. It has not stood out last winter, but has to face next one. A far cry! *Witsonia corymbosa* has been outside all the winter without protection. In growth it suggests a small, narrow-leaved Palm. The flowers are an exquisite lilac, in short sprays, not unlike *Gentiana verna*, but not so large, neither has it a long tube. My plant lost its top growth in the bitter weather of February, so is now a little bush some 7 inches high, very much alive. *Gentiana verna* seems as if it were well established, for a patch, some foot square, has flowered for many weeks, and has spread. So has *Gentianella*. This has been covered with bloom. Both kinds are difficult to keep in our hot soil, whereas *Agapanthus* is quite hardy. I am very proud of *Meconopsis autumnalis*, for it is covering its decidedly tiny bush with

glory and flower-buds. I have not been able to hear of anyone growing it satisfactorily outside. *Solanum crispum* is in flower (not on a wall, though facing south). So is *Gerbera Jamesoni*, at its foot. *Clianthus puniceus* is very late this year, but is far finer for this, the plants being covered with bloom. I have a strong plant of *C. Dampieri*, but not flowering yet. I dare not trust this outside. Perhaps you may remember my saying a young 10 feet high tree of *Paulownia imperialis* started into bud about September. It has carried those buds all the winter, and to-day—the end of May—has opened the first flower! Is not this singular? Yesterday was an exciting day, for the first flower of *Incarvillea grandiflora* opened. Till then I feared it was *Incarvillea Delavayi*, of which I have 60 flowering plants. There are five strong plants with eight flower-heads. I still can hardly understand how I was allowed to buy them, for I bought them for a song at an auction as *grandiflora*. I fancy very few people have it yet. It is beautiful, though my flowers open with a clear yellow throat (inside), only becoming white with age, for yesterday's bloom is

severo winter, but *B. madagascariensis* was cut to the ground; it was in the open, not on a wall. It has broken all right. *Banksia quercifolia* looks as if it were really an Ilex, and is setting its quaint—what? Flowers—comes? I don't know what to call them, except the "things" that contain the seeds. *Acacia dealbata* (*Mimosa*) flowered as well as in the south; so did the rarer Olive-leaved one. The *Erythrina* are pushing up their new shoots, and *Ixia* and *Sparaxis* are beginning to flower. All these stand our winters without any protection. If only I could have a kind of shower-bath over about an acre of ground to grow cool-loving things! A semi-double crimson *Camellia*, grown as a bush about 5 feet high, is setting an unusual number of fruits. A. BAYLTON.

Dwarfish.

LILIUM TESTACEUM.

THIS is one of the handsomest of hybrid Lilies. The present illustration gives ample proof of what value a good Lily is to the garden, and in a case such as this, when the plant will grow and flower well, even in town areas, the result more than repays the years of patience and



The Sankeen Lily (*Lilium testaceum*).

now white about the edge near the lip, and doubtless fades white all down the tube. The colour is pure rose. After such a lovely novelty it is nothing to speak of *Eremurus*: still, it is my first bloom of *E. himalaicus*. I suppose a baby one, for it is only some 5 feet high, but the flower-head is about 18 inches now, when half opened. I have five heads of *E. Bungei*. The *Cistuses* are covered with flowers. *Carpenteria californica* has set a great many buds, whilst *Genista odorata*, the greenhouse kind, is pure deep yellow all over its 9 feet of growth. I find one great advantage in living in a waterless land. Cushion Irises are nearly as happy as in Asia Minor. The first flower of *Iris susiana* is nearly open this evening. A limeless soil, no protection of any kind, yet this is its second flowering. Several other Cushion Irises are in bud. The early *Calochorti* are in flower; *Ornithogalum arabicum* has its flower-head several inches above the ground; *Lonicera Hildebrandi* stood the winter nobly, a young plant in a 5-inch pot sunk in the open. It is now coming into leaf. *Burdeia Lindleyana*, *B. japonica*, *B. variabilis*, and *B. Colvillei* took no notice of the winter

waiting. Of the general appearance of the above plant the picture speaks more plainly than words, and one can only add a note as to the delicate colouring, which has been called "nankeen" by reason of the flush of red that pervades the delicate apricot in certain stages of the flower. The parents of this fine Lily have been suggested as *L. candidum* and *L. chalcidonicum*, and certainly the habit of the former is well seen in the hybrid, while the great reflex of the fully open flowers would probably be taken from the other kind. In stature the hybrid leans strongly to the beautiful Maltona Lily, and when established, rising to 6 feet or 7 feet high, it is a fine plant indeed. It is a Lily for everyone to grow, albeit it fails now and again. As to soil and position, the latter must be perfectly drained, and the soil a deep bed of loam made very sandy, and a slight addition of peat, if at hand. Good leaf-soil may be employed also, but not the third-rate article to which often the name of leaf-mould is given. As to soil, however, the plant is not fastidious, and in a raised position in strong, rather clayey loam I have seen it flourish perfectly. Manure

ould not be employed, and if the soil is good it is not wanted. It flowers in early July, or possibly in June now and then. E. J.

MY WILD GARDEN.

AFTER reading various accounts of "wild gardens" in your valuable paper, and seeing what had been done at a friend's place with ground formerly occupied by Nettles, it was an easy task to try to improve a naturally beautiful spot. There is a wide glen adjoining the house, above which rise the hills to the height of 1,500 feet, and through which runs a "burn." Along the steep sides of the glen are coverts for game, enclosed by fences to keep out the sheep and cattle. One of these I fixed on for a "wild garden." It was difficult of access, owing to its steepness and from being shut off by a little stream which runs into the burn below. The first thing (with the help of a son and daughter) was to make a little bridge over the streamlet, and a narrow path which runs along the steep side of the bank, coming down to the burn and back to the bridge. This path is very rough, with rocky steps here and there. Then two seats were made, and irregular borders dug out, banked up with mossy stones and filled with leaf-mould. I procured some alpine plants, but, alas! rabbits and slugs made short work of them; but other things are more fortunate. There are already Primroses, Violets, and Ferns, and I have planted quantities of Daffodils, white Pheasant's-eye Narcissus, white Foxgloves, London Pride, Saxifrage, and, best of all, Lily of the Valley, which are doing splendidly. Later on come great masses of yellow Broom, and Rowan-trees brighten the place in the autumn with their scarlet berries. My husband has had a wooden summer-house built, in which tools are to be kept and shelter afforded from the drenching storms we have in this hilly district. During the long frost of last winter a wild roe-deer found her way from the hills to this sheltered spot, and a few days later was found dead there. Black game come to sit in the Birch-trees, and this is the second spring that a sand-piper has hatched out her family near a large clump of Primroses. The place needs very little attention. Some salt is strewn on the paths to keep down weeds, the edges of the Grass are cut by a boy from the village, and a little hand-weeding is done among the rough borders. It does not look so well in summer, as the Grass grows so long and rank, but at this time of year, on a fine day, the sight of the shadows on the hills, the peaceful sound of the sheep and hanks, mixed with the rippling sound of the burn, and the scent of the flowers in the foreground, combine to make the "glen garden" delightful. Would you or any of your readers tell me of any hardy plants to flower in August that rabbits and pheasants would not eat? Leamark, N. B. CASTLECAIRNS.

much vigour, which results in the flowering period being of short duration. The names of a few striking kinds are Demon, dark maroon; Miss Roberts, yellow; The Bride, white; Victoria, white, edged crimson; Polly Eccles, fawn and crimson; Northern Star, red and buff; Aurora, amber; Amos Perry, maroon; Beauty's Eye, lilac and red; Phyllis, white, flaked crimson; Jack Sheppard, yellow, striped red; and Naomi Tighe, yellow and red.—H. S.

DAFFODILS AMONG BEECH-TREES.

The drift of Narcissus seen in the illustration is *N. poeticus ornatus*, and was planted two years ago—12,000 bulbs with 6,000 *N. p. Pheasant's-eye* further on, the whole covering about an acre. Though our hot, dry, sandstone soil is decidedly against such bulbs as Daffodils, still, with care, we succeed with them. Leaf-mould as a mulch, with bone-meal and basic slag as manure, is a great help,

beautiful blossoms on a most unsuitable habit of growth, and others possess blooms of poor quality on a charming tufted habit. The colours, too, are very varied, and one may desire to raise plants of ideal habit which develop flowers of distinct shades of colour, good in form, and with plenty of substance. The value of these plants is undoubtedly enhanced when they possess a robust constitution, and, with this, all or part of the good points just mentioned.

1. This is a very simple matter, and one which you may easily carry out. We would advise you first of all to definitely fix upon the plants you intend to cross-fertilise, observing the points previously considered, so that there may be good reason to expect advance in the resulting progeny. You would then be well advised to enter up the proposed crosses in a book set apart for the purpose, giving to each cross a number, and associating with the number wool of a certain colour, varying the colour in each instance, so that the respective



The Poet's Narcissus in a Beech wood. From a photograph by Mrs. A. L. Baydon, Oaklands, Dawlish, Devon.

and is neither expensive nor troublesome to apply. We do not know what disease means, and the plants increase freely, both by bulbs and seeds. They are not in Grass, but Ivy, "wood growths," and a perfect carpet of Primroses. A. B. Dawlish, Devon.

FERTILISING PANSIES.

I should feel very much obliged for a little advice through your paper on the cross-fertilisation of Pansies and Violas. 1. How could I cross-fertilise the plants so as to know accurately from which two a certain seedling came? 2. At what stage in the opening of the flower should fertilisation take place—when just open, or full blown?—G. N. HAWKLEY.

The majority of the sorts now catalogued by the specialists and others are the result of chance, and this is the reason why we do not see the advance in habit that is so desirable. Before commencing, it is essential that you should have a good representative collection of the better known and up-to-date sorts, and make yourself familiar with their peculiarities. The habits vary considerably; some have

colours may be identified with a particular cross. The small lengths of wool are used for tying round the flower-stalk of a blossom which has been fertilised, and in this way denote by their colour the cross which has taken place. By these means you should have little difficulty in accurately ascertaining from which two crosses a certain seedling came. As the seed-pods ripen and are gathered they should be placed in a small bag, and the letter numbered to correspond with the number associated with the particular cross. At the subsequent seed-sowing and planting out the labels should be numbered in like manner, and in this way the parentage of the seedlings determined.

2. As you propose to work in definite lines it is important that self-fertilisation of the flowers should be avoided. The only way to prevent this is to remove the pollen of the seed parent without injuring the pistil. Little instruments are made for the purpose just referred to. They are of bone, about 3/8 inches long, and less than a 1/4-inch wide, bluntly pointed at one end, and hollowed out a

little so that the pollen grains may be gathered from the anthers. Pollen may then be transferred freely from one flower to the other by the aid of a small camel-hair brush.—W. V. T.]

NOTES AND REPLIES.

Flowers in May and June.—Being a regular reader, I should be greatly obliged if you would kindly name a few flowers that I might raise from seed sown now that will bloom next May and June? I want to grow them on a south-west border for table and room decoration.—W. L.

[You ought to plant in the autumn Gladiolus The Bride, Spanish Irises, double Narcissus poeticus, Scilla campanulata, all of which would flower at the time you say, and be very suitable for room and table decoration. The above are all very cheap and easily grown. You could also sow Pansies, planting these out in the autumn, as also Iceland Poppies, Myosotis. Try also some Sweet Peas, raised in the early spring in pots, or sow a few in the autumn. You could also sow the Cornflower in the autumn, while many annuals, provided they escape the winter, would also be useful. If you want any light material to go with the above, sow the annual Gypsophila early in the spring.]

Carnations.—I enclose leaves of Marguerite Carnation seedlings, and shall be much obliged if you will please tell me whether there is anything the matter with them, and what is the remedy? I raised two separate lots of Carnations from seed last year, and both were affected with disease—I think rust, but I am very wishful to grow these flowers, and so I began again this spring with a fresh lot of seed. The plants are now in 3-inch pots, and have come on very well, and I shall be much disappointed if anything goes wrong with them now. I planted out a bed with last year's plants—now diseased. Can I remove these and replant with my new seedlings without infecting them also, by treating the soil in any way? Will you please tell me, also, how to treat the plants next autumn? I want to take layers from the best sorts. Can this be done in the bed where they flower? And can the old roots be left in their places through the winter to flower next year?—J. P. T.

[Your Carnations are evidently attacked by spot, to cure which no remedy has yet been found. If you wish to grow Carnations, you must never grow two years in the same soil. Either move to fresh quarters or clear away the old soil and substitute fresh. It is far best to increase by layers every year, throwing away the old plant. The Marguerite Carnation is an annual. A good plan, when you wish to increase Carnations and do not wish to layer the plants you have in the flower-garden, is to plant some in the reserve garden, cutting the flowers as wanted and layering as early in the season as you can, so as to get well-rooted layers to plant out in the autumn.]

Asters destroyed by insects.—Last year I had nearly all my Asters killed through an insect eating through the leaves, and in some cases eating the young plants altogether. I have just put out my plants, and I want, if possible, to prevent it this year. Can you advise me?—G. W. B.

[The only way to combat the pest is to render the plant more or less unpalatable to the destroyer. In the first place we suggest a free dusting of soot about the plants, particularly on the top surface and about the collar of the plant. This may probably check the foe. You may also syringe with soot-water, taking care to wet the entire plant. If this is not successful, then you may try Quassia, one application of which should be sufficient for ten days at least. Prepare the Quassia as follows: The Quassia-chips are to be had of the chemist or, preferably, the horticultural sundriesman. Take a 5-inch potful of the chips and place in any old saucepan or pot, and one gallon of rain-water, gently boiling the same until the Quassia-chips all sink to the bottom. This may take twenty or thirty minutes over a steady fire. Afterwards strain off the liquid and add at once 4 oz. of soft-soap, which dissolves in the hot water. Add a wine-glassful of paraffin, and whip the mixture into a froth. Now add two more gallons of rain-water, and one of the most cheap and efficacious insecticides is ready for use. Employ a syringe with the finest spray possible, and endeavour to reach all parts of the plant. This mixture is excellent against the attacks of thrip and red-spider.]

Plants for late autumn.—I have two borders planted out this summer with Geraniums, Fuchsias, Asters, French Marigolds, and I have also Sweet Peas and some wall trees. I want to know what I could put in or get ready to put in for late autumn flowering. Could you advise me? Beds about 16 yards long and 3 feet wide.—G. W. B.

[Seeing that some of the plants—Asters, Marigolds, Geraniums—you have already

planted flower on into the autumn, it is not easy to deal with the above—at least, in a satisfactory way. There are many good autumn-flowering subjects, and had all the other things been so early-flowering as the Sweet Peas it would be more easy to deal with the borders for late work. Probably the finest of all late-flowering plants is the Tuberous Begonia, and such as these could be grown in pots or boxes and transferred to the beds when the main flowering of the other occupants was completed. The Begonias may be still had in the dry tubers, and nothing transplants more readily. The transplanting, indeed, is the chief difficulty in the case. As for material, we may mention many Michaelmas Daisies, Pompon and Cactus Dahlias, Zinnias, Rudbeckias, early-flowering Chrysanthemums, etc., all of which would, however, have to be grown in pots for a long time, and cause a considerable amount of labour to keep them in condition prior to planting. Nor do we see that you can do much by sowing annuals, unless on the same lines of culture. What we imagine to be your best plan will be at once to sow Asters of the Comet section, with Zinnias, pinching these latter once when 8 inches high, to form a late-flowering batch. Sow, also, seeds of Mignouette, half-a-dozen seeds in a 5-inch pot only three parts full of soil. Sow, also, in the end of June seeds of *Alyssum maritimum* in pots, and with Begonias fill up the spaces as these become vacant or unsightly.]

Sweet Peas—planting out too early.—The present spring has shown the fallacy of planting out seedlings raised in pots too early. A capital lot of plants was raised in pots and nicely hardened off. The more genial weather experienced in the earliest days of April induced me to commence putting the seedlings into their flowering quarters. The young plants were then some 5 inches or 6 inches high. For a week or rather more all went well. Early morning frosts tried the plants severely, but they seemed to stand them, especially as the weather was fairly genial subsequently. It was in the last fortnight in April, however, that the more trying climatic conditions prevailed. The cold, cutting easterly winds were continuous and exceedingly boisterous for so late in the season, and during this time the plants looked anything but happy. My garden, being situated in a very open and exposed situation, felt the full force of the winds, and that some shelter might be afforded them boards and other contrivances were stood on edge to protect the plants. Some of them have quite a blotched appearance, and at the time of writing it seems almost hopeless to expect them to recover. I am hoping that with a change of the wind and some warm showers they may improve. These experiences prove how imprudent it is to place the young plants in their flowering quarters in open and exposed positions until quite late in April, or until the weather is more settled. In warm situations, where adequate protection from cold winds can be afforded the plants, earlier planting out may be carried out.—C.

CHRYSANTHEMUMS.

CHRYSANTHEMUMS OF A BUSHY HABIT.

DURING the earlier part of the present year numerous requests were made by readers of GARDENING ILLUSTRATED for information as to how to have Chrysanthemums of a bushy and free-flowering character of growth. Growers were told to pinch out the points of their plants—represented at that early period by a single stem. As a result of this treatment the plants would branch out into several new shoots, and there is every reason to believe they are now represented by specimens carrying several healthy shoots, some inches in length. In the replies we then gave it was recommended to pinch out the point of these lateral growths when they had attained a length of about 6 inches, and each succeeding 6 inches of growth were to be treated in a similar manner. Subsequent to each of these pinchings the plants would branch out into other growths, and in this way fine specimens would be developed. Just now some of the shoots that developed as the result of the first pinching are now ready to be treated in like manner.

It is a good plan to keep the plants rather at the roots for a few days after pinching; this treatment induces the new growths to develop quickly. For ordinary November displays we should be disposed to pinch the plants for the last time at the end of June, from the period allowing them to develop their growth in a natural manner, flowering the plants into the terminal buds, which are the last to develop on the plants. Just when the new shoots are forming, green-fly often gives trouble, but it is easily got rid of by dusting with Tobacco powder. Avoid finally potting and pinching the plants at the same time—at least a week should intervene between these operations. During the summer and early autumn give the plants plenty of room in the standing ground. A good open, sunny position is ideal for the purpose, and there should be sufficient room to enable the grower to examine his plants with comfort. Give each plant the support of a stake or Bamboo cane, and secure the latter with strained galvanised wire, as a check against strong winds. E. G.

EARLY-FLOWERING CHRYSANTHEMUMS.

SEASONABLE HINTS.

ALTHOUGH weather of late has not been all that the grower could desire, the plants have done fairly well. Early planting has been at a disadvantage this season, the cold and trying weather of last month keeping the plants back. The copious rains of the last few weeks have worked wonders, growth in consequence being rapid. The growths, however, are very brittle. In the neighbourhood of London on Saturday, June 7th last, a heavy storm, accompanied by hail, did considerable damage to many of the best plants, their brittle character making the growths susceptible to damage from the large hailstones which fell in large quantities for some time. Many plants were broken off, and presented a woebegone appearance after the storm had passed over. Given a spell of nice warm weather, the damaged plants will quickly produce numerous lateral shoots, and in this way the plants should be bushy specimens. In exposed situations late frosts are giving some trouble, although with plants which have been out for some weeks now there is no cause for alarm. The time has now arrived when the plants should have the support of a stake of some sort. Stout Hazel rods are the best, although the Bamboo canes, now so freely used, are strong and clean. The Bamboo canes, however, do not seem equal to the strain put upon them when the late summer and early autumn winds are troublesome. Do not insert the stakes too near the main stem of the plant, and when placing them in position see that they are well embedded in the soil. If this advice be disregarded, the weight of the plants later, together with the strength of the south-westerly gales, may cause many of them to topple over, and possibly snap off. Securely tie the main stem at its base—at least, a few inches above the level of the soil. Some of the shoots may be infested with green-fly, but this is easily eradicated by a dusting with Tobacco powder. Keep the hoe busy between the plants, thus aerating the soil, and thereby encouraging healthy root-action. Weeds, too, which are very plentiful just now, may also be kept under by the same weekly hoeing. Poor soil in wet weather should have an occasional sprinkling of some well-known and reliable fertiliser. E. G.

Chrysanthemums Avalanche and Vivand Morel.—These are two old favourites which I think amateurs especially should strive to grow when decoration is the main object. They have both excellent constitutions, and may be planted in the open during summer, lifted and potted in the autumn, and make a rare show on to the New Year. They are not particular as to soil, provided they get a little feeding, but care should be taken never to feed a plant when growing in the open until all the buds are set, as otherwise you get rank, useless growth and probably "blind" buds. The colour of Avalanche is a beautiful pearly white, and that of V. Morel rosy-pink. It is a large and beautiful flower, much prized a few years ago at an exhibition variety.—D. G. McIVER, Bridge of Weir, N.B.

ROSES.

ROSE TRIOMPHE DE RENNES.

WITHOUT doubt this is a charming Rose when one can grow it. Many years ago, before we had such fine yellows as Jean Pernet, Mme. Rose, etc., this Rose was thought much of, but somehow of late years it appears to have deteriorated. The best flowers I have ever seen of this variety were from a plant bodded upon an old Hybrid China named Vivid. A young shoot was selected near the base, and the buds inserted. The next summer all the young shoots were rubbed off this one growth, and handfuls of lovely creamy-yellow blossoms were cut from the resulting growths. Unfortunately, the Rose succumbed to the severe frosts that followed. I have also grown it most successfully upon the old Monthly Rose—in fact, Triomphe de Rennes, if grown outdoors, appears to require a foster stock in the form of an old-established Rose, such as the kinds named or the Yellow Banksian. Cultivated under glass, where it really is most successful, it yet remains a beauty. I should much like to see its culture revived. At present it appears to

reached, as we were informed some time ago that nothing further could be expected from the Hybrid Perpetual group. A thorough system of cross-fertilising the Hybrid Perpetual is capable of completely changing and improving the group in the same marvellous degree as in the case of the Hybrid Teas. Some will argue that Roses of the Lady Mary Fitzwilliam type should be banished, forgetting to what extent this wonderful Rose has changed the aspect of our collections during the last ten years. The important question will doubtless be raised how far hybridisation is responsible for want of hardiness in some of the Hybrid Teas, and this matter deserves special consideration. Since pergolas became the rage Rambler Roses have been largely grown. This, in part, is due to the distribution of Crimson Rambler. But the public desires something to tone down the garishness of the Crimson Rambler, and in some degree they have found the desired varieties among old-fashioned Roses, such as Felicité-Perpetue, Flora, Aimee Vibert, and among modern kinds, such as Aglain, Thalia, and Euphrosyne. The beautiful single Rose, Rosa multiflora, was employed to produce these

kinds. Moss Roses, too, are open to improvement, more especially those known as perpetual Mosses. I have never yet seen a Perpetual Moss worthy the name. Single Tea Roses are only in their infancy. I perhaps should say single Hybrid Teas. I cannot see why some magnificent singles rivaling R. gigantea are not possible with an ever-flowering characteristic hitherto wanting in most single Roses. Then, again, as to sports. Is there anything we can do to encourage these? Some of our most beautiful and popular Roses are sports. I notice a great tendency to sporting in hybridised Roses, also upon plants grown in very large numbers in one establishment. Mrs. W. J. Grant was not introduced many years before we received the splendid strong climbing form. The same remark applies to Kaiserin Augusta Victoria, and I believe there is already a climbing Liberty. The popular Lady Roberts is reputedly a sport from Anna Ollivier. Another important question arises regarding the climbing forms of certain Roses, and that is, whether it be possible to obtain, as it were, intermediate forms. I had last season many plants of climbing Mrs. W. J. Grant run back,



Rose Triomphe de Rennes. From a photograph by F. Mason Good, Winchfield.

have dropped out of most lists. I believe an own-root plant in a good border in a warm-house would be a good method of cultivating it, or insert some buds upon a Gloire de Dijon or any good Rose that happens to be growing under glass in a convenient spot. There is another old Rose I should much like to see revived named Smith's Yellow. It is almost identical in its erratic behaviour with the Rose under notice, but would well repay looking after under glass. So many lovely Tea and Noisette Roses are practically greenhouse kinds. They, however, deserve any special treatment one can afford them, if only to be regaled with their beauty in early spring.

ROSA.

THE COMING ROSE CONFERENCE.

AS the date approaches for the Rose Conference, which will be held at Holland House under the auspices of the Royal Horticultural Society, those who are interested in Rose growing naturally have their thoughts directed to the event, and perhaps some may speculate as to the outcome of such a gathering. Undoubtedly the advance of the Hybrid Tea will be the main topic, with perhaps that of the Rambler group. We shall probably be told that improvement in the Hybrid Teas has been

three, and others similar, and now we are receiving lovely single forms from it, such as Leuchtstern. I am convinced the more we employ R. multiflora for cross-fertilising the better will it be for our gardens. But, unfortunately, in this group we have not yet obtained a habit of second flowering. R. Wichuriana, too, has made great advance, thanks mainly to our American friends. This group will doubtless be still further improved. The latest hybrids produce really beautiful Tea-like blossoms, but it is questionable whether such kinds are really improvements. I think I would prefer the type in its procumbent form, with a variation in its colouring and without the departure from the single blossom to the double. We have plenty of the latter in the fast-growing Teas and Noisettes. R. canina, our hardy willing, appears to me to be much neglected. In the variety Una, a cross between R. canina and a Tea Rose, lovers of single varieties will find a very excellent introduction. There are several species well worth the hybridist's attention, such as R. setigera, R. lutea, and its copper form, R. levigata, which already has given us the lovely R. sinica Anemone, the pretty Scotch Roses, more especially the single forms, R. alba, and a host of others all capable of giving some fine

as it is termed, but such plants were much stronger than the original dwarf type. I have had the same happen with Climbing Niphotos, Climbing Perle des Jardins, and Climbing Devoniansis.

The question of Roses on their own roots should be taken up in a manner worthy of the subject, and not be dubbed the "dream of journalists," which a well-known Rose grower has thought fit to call it. As the journal of the Royal Horticultural Society has such a wide circulation, some unusual cultural hints should be of much benefit, and especially if gardeners who have charge of large collections of Roses gave their experience. Taking climbers, the public should be warned that patience is required before the beauty of such can be fully seen. So many individuals desire to see a house wall, a pergola, a pillar, or an arch covered in twelve months—an impossible feat for a Rose. Another interesting subject that a gathering of Rose growers could give some useful information upon is the retarding of Tea Roses by growing them upon north borders, also the protection of same by heeling in under north walls. Roses for market, too, should be discussed. Fragrance in Roses appears to require a definition, at least, the various degrees of fragrance. Our senses tell us there is a difference,

but we are at a loss how to define it. I think encouragement should be given to the cultivation of some of the lovely old varieties of the Hybrid Chinese groups, that were the embodiment of hardiness, vigour, and free blossoming whilst they lasted. And, lastly, there are the ever present subjects of insect pests and fungoid diseases that seem to baffle the experts. I refer more especially to canker in *Marechal Niel*. I should gladly welcome opinion on this important subject, and also on another scourge—namely, red rust. Mildew outdoors seems to huddle us, and probably will do so until we obtain a mildew-proof race of Roses. I think if some of these questions were treated in a manner that one would expect from such a conference, they would be of more value than long botanical dissertations concerning the Rose. However interesting this subject may be to a few, the culture would appeal to the many. ROSA.

NOTES AND REPLIES.

Briers budded last summer.—Last year I budded a number of Brier stocks with some very good Rose buds, and they have just commenced to grow. Can you give me the reason for being so backward? The dwarf ones are at least a foot high. I find that my father has been pinching all the Brier growths off close to the wood, and he says this is right. I say no, and that at least an inch or two to draw up the sapright to him is best. Please say if this is the reason of the lateness?—R. B. H.

[We are not surprised to learn that your luhked Briers are so backward. It is a general complaint, and attributable to the exceedingly cold spring we have had. Now that more genial weather has set in the buds will grow very fast. The pinching of the Brier growths would not retard the buds, but we prefer to leave an inch or two upon three or four of the Brier growths that break out beyond where the bud is inserted more particularly to strengthen the Brier and assist it to make roots. Sometimes the buds inserted in the Briers refuse to break owing to the germ having been pulled out at time of budding. The bark unites with the Brier and is alive, but if, unfortunately, the germ was injured, you cannot expect the buds to start into growth. You must not, however, be in a hurry to cut them back, certainly not for another month. Unless they break by that time we fear there is not much chance that they will do so. Where there is any doubt concerning such Briers it is advisable to retain one or two young shoots on the stem for rebudding should the others fail.]

Rose Marechal Niel in cold greenhouse.—I should be obliged if you could give me any advice about a *Marechal Niel* Rose growing under glass in a cold greenhouse (Glimmer). It has been planted two years, but has never made much growth. This year nearly all the buds have shrivelled and dropped off before blooming.—A. M. D.

[As the plant has never made much growth since it was planted, we should say the fault lies either at the root or in the unsuitable condition of the border. This beautiful Rose will succeed well enough in a cold greenhouse, provided a well-prepared border is made and a healthy plant put into it. So many of the plants sold are reared in strong heat and under most unnatural conditions that it would be a marvel if they succeeded when given totally different treatment. The very best kind of plant for a cold-house is the dwarf or half standard cultivated in the open ground. Let a young, vigorous specimen be planted in October or early November in a well-drained border, and success is practically assured. Of course, canker will sooner or later lay hold of the plant, but if it is not overcropped or excessively manured with artificial such a tree should last for many years. When buds shrivel and drop off something is wrong with the roots. Possibly you have given too much water or the soil has become water-logged. Again, frost may have entered and injured the embryo buds. When Roses are grown in cold-houses they should be retarded as much as possible by affording abundance of air, so that growth is not excited too early. If this happens, and severe frosts cannot be kept out, the young growths are consequently injured. Thick mats or similar material will keep out a lot of frost, and this should always be attended to when the new growths have grown an inch or so.]

Rose Marechal Niel with long growth.—I have a *Marechal Niel* Rose in my greenhouse, purchased this year. It has finished blooming. It has a long stem, which is useless for the first

plenty of leaves on the remaining 7 feet. Ought it to be re-potted and cut back? It is now in an 8-inch pot. Kindly tell me what soil and size of pot you advise? Also, would it be better out-of-doors for the summer?—P. X. H.

[Your plant should be re-potted at once. A small tub would be the best for it, as being a climber one cannot re-pot such plants every year, neither do they require it, provided a fairly large pot or tub is used. Failing the latter a No. 6 or 14 inch pot would be the best size to re-pot the plant into. Give ample drainage to either pot or tub, 4 inches to 6 inches in depth being none too much, and the plant should stand upon two or three bricks or inverted pots, so that water may pass away freely, and at same time air enter the soil. The best compost is two-thirds pasture loam and one-third cow-manure, if possible a twelve-month old, so that it will easily separate and thus incorporate more efficiently with the loam. A 5-inch potful of bone-dust could with advantage be added to a barrowful of soil, and also a little sharp sand. Take care that all is thoroughly well mixed together. See that the compost is not too wet, and if such is the case keep it in an open shed for a day or two. We should not advise you to cut back the plant, but in order to make it break into new growth near the base slightly bend the long growth to the right or left. The greenhouse would be the best place for the Rose, avoiding a draught as much as possible. If you can afford it plenty of heat and syringe twice a day, during the summer some fine new shoots should appear that will give you the good flowers next spring.]

GARDEN PESTS AND FRIENDS.

Hair-worms.—Can you kindly tell me in GARDENING what the little worm or insect is which I enclose? I find them after heavy rain, hanging on to the leaves of plants, and warbling about. Are they harmful to the plants?—C. HARRIS.

[The worm you send is one of the hair-worms belonging to the genus *Mermai*. These worms lay their eggs in the ground, and when the young ones are hatched they obtain access to some insect, in which they live until they are mature. They then quit their host and lay their eggs in the ground. They are perfectly harmless in every way. They sometimes appear in showery weather in large numbers, and may be found crawling about plants.]

Flies on Apple-trees.—What is the enclosed fly, of which quantities have suddenly appeared on my young Apple-trees? And what remedy should I use? The country people here (Surrey) call them Apple-eaters, and say they are always fatal to the crop. Is Paris-green a good thing to use?—R. S. H.

[The flies of which you send specimens, and which you find on your Apple-trees, will not injure them in any way, and can have no effect on the crop. They are very nearly allied to the flies commonly known as St. Mark's flies, and belong to the same genus; their scientific name is *Bilio hortolanus*. Their grubs are to some extent injurious in gardens, as they feed on the roots of various plants, and may sometimes be found in considerable numbers together. As a rule, these flies do not fly well, and are generally found crawling over plants and trees. They usually make their appearance in large numbers. It is of no use trying to kill them with any insecticide, as they would simply fly away as soon as you began to use it.—G. S. S.]

Plague of woodlice.—Would you kindly give me your advice re the most effectual way to destroy woodlice, of which in my garden I have an enormous number, which are doing a lot of damage to the seedlings, nipping them down to the ground, also eating away the stems of the larger plants? I catch as many as I can every evening, but they breed so fast I am afraid it is a hopeless job to keep them under in that way.—A. E.

[One of the best ways of destroying woodlice is to pour boiling water over them if you can find out where they congregate. They are fond of hiding under bricks, slates, tiles, pieces of board, etc. Lay some of these about and lift them every morning. They may also be poisoned by boiling small pieces of Potato in water in which arsenic has been boiled. Phosphorus paste spread on bread-and-butter has also been recommended. Another way is to fold long strips of paper in half lengthwise, and smear one side with treacle and beer, laying them about in the haunts of the woodlice. No insecticide has any effect on them, their skins being so hard.]

The winter moth (*E. C. Storer*).—The fact that the female winter moth occasionally carries the branches of the trees by the male while pairing is well known and is often mentioned in print, and it accounts for trees being to a certain extent infested, even though "sticky banding" had been in every way thoroughly well carried out, but it does not account, as you say it does, "for the ineffectual nature of greased hands," for the number of wingless females caught on such bands is a truly astonishing. I have seen hands which were a complete mass of moths. To all appearance, none of the band was visible. The point that should always be attended to when trees are banded is to see that the bands are not got so covered with moths that they are unable to cross them on their dead bodies. I should advise you to procure some book dealing with insect pests.—G. S. S.

Maggots in Pears.—I send herewith a couple of Pears and should be glad if you will inform me through your columns of a remedy for the disease? In 1901 the trees bore a heavy crop of good, sound fruit. I then, in 1901, manured with good stable-manure, and last year the disease appeared. I gave, in the autumn, a heavy dressing of Kainit, thinking to destroy grubs, but this year the disease is worse—not a sound Pear. The trees are in a small orchard, rough Grass all over, and not large enough to feed down with cattle.—K. W. N.

[Your Pears are attacked by the grubs of the "Pear gum midge" (*Diplosis pyramis*). The fly is quite small, not measuring more than $\frac{1}{8}$ inch across the wings. It is much like a small gnat in general appearance, though it belongs to quite a different family. It lays its eggs in the opening blossoms. The grubs are sent to hatch in the course of four days, and immediately make their way to the core of the future fruit and begin to feed. Naturally the fruit so attacked never comes to perfection. When full grown the grubs leave the Pear falling to the ground if the fruit is still hanging on the trees, or merely crawling out of them if they are on the ground. They then bury themselves an inch or so below the surface, and become chrysalides, from which the flies spring early the next spring. The trees should be well shaken, so as to cause many of the affected Pears to fall as possible, or, on small trees, they may be gathered and burnt or buried deeply in the ground. A heavy dressing of Kainit (about $\frac{1}{2}$ a ton per acre) applied under the trees in July or August has been found very efficient in destroying this pest. The removal of the surface soil to the depth of 2 inches would have the same effect, but the earth taken away must be burnt deeply or burnt, so as to destroy the chrysalides.]

The Pear midge (*H. H. and W. J. Brown*).—Your Pears are attacked by the grubs of the Pear midge. The grubs have now left the fruit, and have buried themselves in the soil, where they will become chrysalides. Had you opened one of the Pears earlier in the season you would have found several little grubs in each. The parent is a small gnath-like insect, about 1-10th of an inch in length, and measuring hardly $\frac{1}{8}$ inch across the wings. The best means of destroying this insect is to pick off and burn the infested Pears as soon as the attack is noticed, and afterwards to give the soil on to which the grubs have fallen when they left the fruit a dressing of Kainit, at the rate of $\frac{1}{2}$ oz. per square yard. This should be done now. If the ground is at all caked on the surface, break it up lightly first and then the dressing in. The grubs will not be more than an inch or so below the surface, so that later on the ground was dug and the surface soil turned well down the flies next spring would not be able to make their way to the open air.

The Rose maggot.—This maggot is very annoying to the Rose grower, boring into the best buds, and destroying many a cherished hope of fine flowers. There seems to be no possibility of escape from it; every year it makes its appearance, and if not destroyed in the spring as it comes to life scarcely a perfect flower will be obtained, especially early in the season. At the time of pruning, every bit of the prunings, with the pups, if any remain, should be carefully gathered up and burnt. As soon as the shoots begin to push, and the leaves expand, the larks will make their appearance, they may easily be detected by the web they spin, coiling themselves up in the young leaves.

here they must be looked for with care and destroyed, going over the trees once a week, raking them with the fingers; for, if allowed to remain, as soon as the buds make their appearance they will spoil them. In confined and over-sheltered Rose gardens this insect much more prevalent and destructive than in the extensive open grounds. The more exposed situations appear to be uncongenial to this and her insects that infest the Rose.

ORCHIDS.

THE QUEEN'S ORCHID.

Among all the Orchids grown in British gardens there is none so chaste and graceful, and so beautiful, and none so delightfully noble as is the *Odontoglossum crispum* of Welby, or the *O. Alexandrie* of Bateman. The latter author illustrated two of the first varieties introduced in his "Monograph of *Odontoglossums*"—viz., Blunt's and Weir's varieties, the one having spotted perianth segments (plate XIV), and the other white ones (plate XIX). *O. crispum* was discovered in 1863 by Mr. Weir, when collecting for the Royal Horticultural Society, at an elevation of 7,000 feet to 8,000 feet, in the damp and shady woods behind the city of Santa Fé de Bogota, in the province of New Granada. Mr. Blunt, one of Messrs. Low's collectors, also found the plant at about the same time in the same locality, and Dr. Triana collected it with the plant growing on the trunks of large and shady trees a few leagues from Santa Fé de Bogota, and also in Pacho, a noted district from whence numerous splendid varieties have since been obtained. By a curious coincidence, in the early days, no less than three collectors sailed from Europe for Bogota in the same ship, and all three brought home plants of this Queen of Orchids. Weir, before mentioned, Blunt, who collected for Messrs. Veitch, of Clapton, and a representative of Messrs. Van der Veken, of Brussels.

The *Odontoglossum* is now-a-days are seen in the or four days' journey from Pacho, the villages of San Juan and El Ortiz being working centres; at the latter place they may be hired to cut down trees and collect the plants. In the dense forests here the trees are clothed with trailing Lichen and other epiphytes, as well as the *Odontoglossums*, and the whole place is dripping with moisture, and the traveller who rides on a mule or walks through these woods primeval is soon drenched through and through. *O. crispum*, *O. Complanatum*, and *O. odoratum* here grow together, and these are the usual natural hybrids between them. At 8,000 feet, between Buenavista and San Juan, in dense forest, the plants exist—often washed up and hidden by the trailing Lichen. Moving camp for a month or two, and lots of hard work in tree-cutting, it is possible to collect ten or twelve thousand plants, and pack them in baskets or crates so that the men can carry them out to the edge of the forest. They are then to be carried on bullocks or mules to Pacho, where wooden cases for them can be obtained, and then these are carried on mules to the Magdalena River, where they are put on board a steamboat for the coast, and shipment for England.

The infinite variety of individuals differing in size, form, and time of growth and flowering, and in the most delicate shades of colour and markings, is in *O. crispum* most remarkable, and there are hundreds of named variations in English gardens. In Belgian nurseries, as at Bruges, Mortebeke, and elsewhere, you can see this plant growing by the acre, and the eye takes in thousands of plants at a glance, all in the highest state of health and beauty. Baron

Schroeder, Mr. Thompson, Mr. Crawslay, and other private growers possess the finest of forms, and thousands are still imported by trade cultivators year by year.

It has always been a matter of regret to botanists and horticulturists that Bateman's dedication of this beautiful plant to the Princess (Alexandra) of Wales, then newly arrived in England, had to give way to Lindley's earlier name of *O. crispum*, and as the fact is insuperable, the best way out of the difficulty is to call the plant the Queen's Orchid for the future. The popular dedication of such a charming plant to H.M. The Queen is peculiarly appropriate, seeing that both came to this country at about the same time, and both have by their grace and beauty endeared themselves so much to the British people. F. W. BRIDGEE.

Imported Orchids in New Zealand.

—For many years I have been a constant reader of *GARDENING ILLUSTRATED*. I have perused many interesting accounts of rather more than ordinary experience in the culture and importation of cool-house Orchids in its columns, which have spurred me on to import for myself. In October, 1901, I received from Mexico a consignment of about fifty plants of various species, including *Laelias*, *Odontoglossums*, *Epidendrums*, *Stanhopeas*, etc. After unpacking, I allowed them to lie on very



Odontoglossum crispum.

nearly dry Sphagnum for about a fortnight. I then potted them up. Soon afterwards they commenced to grow like weeds, and in the following January one of them, *Epidendrum Brassavola*, was in full bloom. I was so surprised with the success of my first attempt at Orchid-growing that I thought I would like to let you know of my experience. Many amateurs in New Zealand, and also in Australia, will, I am sure, learn with pleasure how easy it is to establish a collection of these beautifully quaint plants. I have not had one failure; on the contrary, every plant is putting on vigorous growth. The Orchid-pan seems to suit them. I was afraid to put them on blocks or in baskets on account of the long periods of heat and consequent aridity of the atmosphere experienced in our colony. To show you the specimen that bloomed within three months after its importation from Mexico, I herewith enclose you a photograph of it. I have no doubt whatever that Orchids could be sent to New Zealand from England with equally gratifying results. Assuming this to be the case, the account of my first venture with Orchids will be interesting to growers and importers at home, as well as to the numerous amateur growers in the colonies. My plants are grown in an ordinary cool-house, no heat.—F. J. W. FRANK, Wellington, New Zealand, April 24th, 1902.

Using insecticides. I wish to point out the best way in which manufacturers' instructions are often given. I hold in my

hand a bottle of insecticide, with written instructions: "For red-spider and centipillar." "Half-a-pint of the mixture to 2 gallons of water, or three tablespoonfuls to the pint." According to Whitaker, 1 tablespoonful is 4 drachms, and forty tablespoonfuls go to the pint. Half-a-pint to 2 gallons = 1 to 32. Three tablespoonfuls to the pint = 3 to 40, or say 1 to 13, instead of 1 to 32 as before. The same errors were through all the instructions of this insecticide, and blunders of this sort are by no means confined to this particular concoction, and such blunders are most trying.—FRANK WYNNE.

TREES AND SHRUBS.

RHODODENDRONS FROM SEED.

I HAVE lately heard of a gentleman who obtained from seed a great number of *Rhododendrons*, which have flourished well in his place, which is specially adapted for them. Could I raise them in the same way, do you think, with any chance of success, as they do specially well here, and the plants are dear to buy? There were formerly, I hear, very beautiful ones here, which were removed on the death of the owner. There are still some good ones, and plenty of common ones, but I should like a variety. I have seen a lovely full yellow one, which was removed from here at that time, and I should greatly like to have one of that colour. I ordered a yellow one last autumn, and took great care of it, but it is turning out pale pink? Can you give me the name of a good yellow? Also of a full rose with darker markings which blossoms at the time (very like a *Pelargonium*)? I have a lovely pure rose-coloured one, very like an *Azalea*, which blossoms early in March, and is charming; but I should like one similar to bloom now. The one I refer to, however, has no markings whatever. I should also like the name of a very dark coral-red one, and a large white. If I tried seeds, what is the time to sow? Should I sow under glass? In what compost? Would the ripened seeds of my own be of use? If I bought seeds, where is the best place to get them? Does it take many years for seedlings to flower?—E. A. R. W.

[We do not know a hardy *Rhododendron* of the section to which you refer with full yellow blossoms. The only hardy ones at all approaching that tint is a Himalayan species, *R. campylocarpum*, whose flowers are of a primrose hue, and *R. Smithii aureum*, a hybrid kind of weak growth but with golden-yellow blossoms. It is regarded as a hybrid between a *Rhododendron* and an *Azalea*, but is very rare in cultivation, and almost impossible to obtain from nurseries. As the plants commonly known as *Azaleas* are by botanists now called *Rhododendrons*, might not the yellow one to which you refer have been an *Azalea*? A good rose-coloured variety, with a large *Pelargonium*-like blotch, is *Lady Falmouth*, but the most striking of this class is the blush tinted *Princess William of Wurtemberg*, in which all the segments are blotched with maroon. Of self pinks without spotting, a delightful flower (which was very much in evidence at the recent Temple Show) is *Pink Pearl*, but it is still quoted at a high price. Another good self pink variety is *Sylph*. Of dark reds, either *Ascot Brilliant* or *Atroroseum* would suit you. *Helena Schitner* is a good white. There is no reason why you should not raise seedlings yourself, and you may also obtain your own crosses. To do this it is simply necessary to transfer the pollen from one flower to the stigma of another. You will find it necessary to wait for a day or two after the flower has expanded before the pollen has developed sufficiently to be removed, and about the same space of time is needed for the stigma to acquire its glutinous character. Whether the flowers are artificially fertilised, or set of their own accord, or by insect agency, the results are the same—that is, the flower drops and the seed-pod commences to swell. It ripens, as a rule, towards the end of the summer, and when you suspect it is near that stage a sharp look-out must be kept, as the pods often burst with but little warning, and when this happens the seed, from its minute character, is blown away and lost. Two courses are open in dealing with seed-pods when nearly ready to burst, the first being to pick them and place in a dry sunny spot, and the second to enclose them in a piece of fine gauze, so that when they burst the seed is retained. This last has one advantage, as by so doing there is no danger of picking before the seed is fully matured. The seed may be sown at once or kept till the following spring, but being so minute it is a good plan to sow as soon as possible. When very large quantities are grown seed is often sown in beds, but in your

case the better way will be to sow it under glass. It will only need the protection of an ordinary garden frame, as the principal object of the glass protection is to maintain an even state of moisture. Clean, well-drained pans are very suitable for sowing the seed, the drainage being supplied by a layer of broken crocks in the bottom of each pan. Then take some good sandy peat (if necessary mix some silver-sand with it), and pass it through a sieve with a $\frac{1}{4}$ -inch mesh. The rough portions that will not go through the sieve should be laid over the crocks in the pan, on which place the sifted soil, which must be pressed down firmly and level. On this sow the seed, not too thick, and cover with a slight sprinkling of the same soil sifted much finer. All that is necessary is to place in a frame, water when necessary, and keep fairly close and shaded from the sun. The seed will come up in the course of the summer, and when the young plants get crowded they must be transplanted into other pans, using the same kind of soil and prepared in the same way. In any watering of the seed-pans or minute plants a fine rose is very necessary. The next shift may be out-of-doors, for which you require a nice moist peaty spot, in which they will soon become established. Your own seed will probably be more satisfactory than any you can buy. It will take five years at least for the seedlings to flower so that their merits can be properly determined.

P. S.—Since the above was written we have been looking over a large collection of Rhododendrons, and the finest of all the kinds with flowers spotted like a Pelargonium was Sappho, a bluish-tinted bloom with a blackish-maroon blotch.]

Oytisus Adamsi.—I have in my garden a Laburnum which bears both pink and yellow blossoms, specimens of which I am sending you with this. The tree has very little foliage, and on several branches the bloom has both colours on one spray. It is growing in a border with red and pink Hawthorn and pale yellow Laburnum. Kindly give me any information in your power as to the cause of this in one of the earliest numbers of your journal, and oblige—X. Y. Z. and Inquirax.

[The flowers sent are of this very curious Laburnum. It is supposed to have originated by grafting the purple Oytisus purpureus upon the common Laburnum, a graft hybrid being the result.]

FRUIT.

CHERRY GUIGNE D'ANNONAY.

This fine small Cherry was raised in 1860 by M. Al. Jacquement and Bonnefont, Annonay, and named Guigne marbrée précoce. The fruit is regularly heart-shaped, bright red, changing to dark purple, flesh very tender, juicy, sweet, and of excellent quality. It ripens in the open air early in June. It does well in pots, as also in the open air, trees on walls growing and bearing freely. The fruit also sets well, on some trees we lately saw the fruit hanging in large clusters. It is certainly the earliest Cherry we have, and on this account, and also its many good qualities, it deserves extended cultivation.

PEACH STONES SPLITTING.

I HAVE twenty-four trees of Amsden June Peach, and about one-third of the fruit has got split stones. Would you kindly tell me the cause of the stones splitting so much? I have enclosed fruit, hoping you will be able to tell me what will stop the splitting for next year.—W. P.

[Some kinds of Peaches are more addicted to stone-splitting than others, though it happens sometimes in a variety not commonly given to that falling. To imperfect fertilisation of the flowers may be traced the origin of some such cases, and where this is so there is no remedy that can be applied that will benefit the present crop. The vigour of the tree affects the quality

of the difficulty, because stone splitting is not an outcome of indifferent health; indeed, the reverse is more likely to be the case. When Peaches are flowering it is never safe to trust to chance in the setting, for without being fertilised with their own pollen or with that of other flowers by the aid of a camel's-hair pencil, rabbit's tail, or something of a similar character, the fruit may swell away for a while, even to ripening, and then drop from premature softening accelerated by the unsound stone. In this condition the fruit sometimes falls and appears ripe, but an examination shows that it is soft only on one side, the other being congested and hard. It is among the early sorts that these troubles most frequently occur.

In too rich borders some Peaches drop when nearing the ripening period, and if they remain



An early Cherry, Guigne d'Annonay, growing in a pot in the gardens at Gunnersbury House.

until they can be gathered they invariably ripen some time before the remainder of the crop is ready, which the expert grower at once recognises as a symptom of stone-splitting. Freshly slacked lime applied in quantity sufficient to whiten the surface is a good remedy in such cases, giving it once or twice during the growing season. With trees that are over-luxuriant, root-pruning, lifting, and placing the roots nearer the surface correct more than the one evil, bringing with it the lessened tendencies to splitting of the stone. Overhead shade from other trees hinders proper ripening of the wood, and without this neither perfect setting nor stoning can be assured. Excesses of root moisture or drought are both inimical to the progress of the tree's growth in summer, and should be as far as possible avoided, as also should strong doses of animal or artificial manure, because they stimulate an excess of vigour which is undesirable. With the com-

monly new border and healthy trees clear wood is all-sufficient. It is for older trees in borders fully occupied with roots and carrying heavy loads that feeding is necessary. Lime, however, may be given in small quantity with advantage to Peaches, as this assists the formation of the seed-shell or stone. Unripe wood caused from overhead shade, imperfect fertilisation of the flowers, or a absence of lime in sufficient quantity may, however, give the clue for the failure complained of, and for two of them, at any rate, steps may be immediately taken to correct it for another year. Carefully lifting the trees and replanting will correct grossness, the autumn, when the leaves begin to fall, being the most suitable time. Another take that is often made is neglecting the watering of the borders and syringing of the trees after the crop is cleared.]

NOTES AND REPLIES

Black Currants failing.—Can you say how Black Currant bushes blossom well, and just as the fruit is about to set the bunches wither off? These bushes have done this for three years in succession. There are no long rows between Raspberries and Gooseberries which both fruit well. The bushes have plenty of young wood, plenty of young wood, the old being cut out. They are very healthy, and get an annual mulch of stable-manure. The soil is very good and moist.—A. L. L.

[Your Black Currant bushes are overrun with green-fly, and there is far too much old wood in them according to the samples sent. Cut out all the old wood from the base of the bushes and allow the young wood to take its place. Black Currants bear on the wood formed the previous year, and that sent is in some cases two and three years old.]

Thinning Apples and Pears.—The great wealth of blossom on these trees gives hopes of well-filled fruit stores, but whether the hope will be realised remains to be seen. Some trees are regular in their bearing, others give biennial crops. These are the trees that need thinning of their fruits, for when such heavy crops are carried the trees become so severely taxed that a year's rest is necessary to recover their lost energy. On large trees, such as orchard standards, or in large or small gardens where labour is scarce, fruit thinning often goes unheeded. Advice in such matters is none the less valuable because of this, for while there are some who cannot give this attention to their trees, there are others who would do so if they were reminded that such a work was remunerative. Finer fruits individually and greater regularity of crop would be more universal were thinning of crowded fruits carried out in early summer. This applies to all choices, such as well as Apples and Pears. The frost, however, and cold winds of the past spring have in many a case told against bounteous crops on open-air trees, and some even on walls, but little better. Trees of a stature allowed for this thinning of the fruit should be given this attention where it is practicable. Thinning both of Apples and Pears applies to all kinds, though the larger-fruited kinds are those which probably repay the better for it. Much good may be done as regards the late Codlin or summer and autumn Apples, gathering a portion of the crop for early use, and the earlier this is carried out, once they have attained to suitable size, the better. W. S.

VEGETABLES.

AUTUMN GIANT CAULIFLOWER.

A WRITER in a daily paper told its readers late as May 23rd to sow Autumn Giant Cauliflower seed to secure September cutting. Were such advice adopted few heads would be ready for cutting from plants so raised earlier than Christmas. Really, those who sow September Cauliflowers should already have strong plants to put out now, for it is essential to have good heads then, that the plants become strong ere hot, dry weather sets in. Cauliflowers for early cutting can hardly be well done, as plants that have free growth and luxuriant leafage heart in the earliest. Early cutters of these vegetables during August, when fine white heads form a strong feature in the collection, usually sow seed under glass early in March, and thus have strong plants to put out early in May. A sowing made in a similar way, but in a cold-frame or under a hand-

GARDEN WORK.

Conservatory.—Rearrange often, and remove all non-effective plants to other houses. Make the most of the best specimens by placing in conspicuous positions—elevated, if necessary. *Rhynchospermum jasmoides* is a sweet thing when well done. It will flower early in the stove, later in the conservatory, and I have seen it growing against a warm wall in the south. But it is happiest under glass in an intermediate temperature, where it soon makes a good specimen on a globular or any other shaped trellis. If the climbers are well selected and kept within bounds they will be both useful and beautiful now. *Lapagerias* want a bed of peat well-drained, in a cool house in a shady position. The same position will suit *Clianthus puniceus*, which is subject to red-spit if exposed to hot sunshine where the syringe cannot be used freely. I have occasionally seen this plant well done in rather small pots, and it is then very novel and attractive. *Cantua dependens* is another rather uncommon plant which, when well done, leaves a feeling of satisfaction with the grower. Let the plant make its growth in the intermediate-house and ripen in a lower temperature. Roses planted out under glass are rather difficult to keep clean in a mixed collection. The vaporiser will kill all insects belonging to the aphid tribe, but there are often difficulties in the way of vaporising large houses, especially if joined to the dwelling-house. Therefore, it is generally necessary in the case of Roses to use washes or dry powders for the destruction of insects. I prefer Tobacco-powder, where it can be conveniently used. Green-fly very frequently is in the hearts of Trumpet and other Lilies, surrounding the embryo flower-buds. Where washes cannot penetrate a little Tobacco-powder dropped in among the foliage effectually settles flies without doing any harm to the flower-buds, but the important thing is to be in time, and next day to wash it out with the dead with the syringe. See that plants growing in the borders are well supplied with water. All plants in bud, and when the flowers are expanding, will benefit from liquid-manure. But liquid-manure should not be given to plants when the halls are very dry, as it is a wasteful method.

Stove.—In most gardens a few *Oreobids* are grown, and the time to place in now baskets or to repot is just as they are starting into growth. Even when plants are doing well, it is well to overhaul them. See to the drainage. Pick away some of the old soil or dead roots, if any, and make up with fibrous peat and Sphagnum Moss, the latter chopped fine. A few bits of charcoal help to keep the mass sweet. Though *Orchids* require a very open compost it should be pressed in firmly. The roots are strong enough to force their way through a close mass, if only it is composed of fibrous materials, and besides, the Sphagnum and the peat compressed retain the moisture long enough to nourish the roots till a further supply is given. What *Orchids* dislike is a close pasty mass of inert stuff into which the roots will not enter. Light shade must be used when the sun is bright, but remove it as early as possible in the afternoon when the sun has lost its power of doing injury. If the house is not too heavily shaded it is not easy to have the atmosphere too humid inside during the season of growth in bright weather. We cannot altogether do without fire-heat at night, but when the thermometer will remain above 60 degs. all night fire-heat is not required.

Young Grape-Vines.—June is a good month for planting young Vines propagated the same season. If raised on turves the turves can be moved entire as soon as the roots are working through the sides and placed in the border, surrounded with good soil and watered with warm water to settle them in position. It may be necessary to shade lightly for a few days till the roots get to work. When that is evident remove the shade and maintain a moist growing atmosphere, and by the end of the summer the young Vines will have reached the top, and if not stopped will be half-way down the other side. I have seen a crop of Grapes taken the following season when money-making regard-

less of the Vines was the object, but in the long run it does not pay. Better cut the Vines back when the leaves are ripe, and take up a strong cane next season. This would not prevent one bunch being taken the following season to prove the varieties. Those who want quality will plant *Hamburga* and *Muscate*; those who prefer bulk and weight will grow *Alicante* and *Gros Colman*. To get the growth of young Vines made early, warmth and moisture are necessary. It is wonderful what a stimulating effect a bed of gently fermenting leaves has upon the growth of young Vines.

Exposing Peaches to the sunshine.

—When thinning Peaches and Nectarines, as far as possible leave the fruits on the upper side of the trellis, or if the trees are in pots then have the fruits exposed to strong light by keeping the trees and their wood reasonably thin and uncrowded. I believe there is money in Rivers' Nectarine if a house or houses can be given up to it. A friend of ours grows good crops in pots, and afterwards fills the house with *Chrysanthemums*. There is not so much profit in *Chrysanthemums* as there was a few years ago; not that there is any falling-off in the demand for cut-flowers, but the number of growers is steadily increasing and the price comes down, except it may be for a few special kinds.

Feeding Tomatoes.—There are various ways of doing this, the cheapest, and, I think, the best, is to raulch as soon as the bottom trusses are set with good manure from the stables or elsewhere.

Window gardening.—Tuberous *Begonias* are coming on now, but the *Pelargoniums* will soon be going out, and will then, of course, be placed outside. Any plants not contributing something to the general effect may now be placed outside. Double and single *Petunias* are bright, but are soon drawn up weakly. The best window plant is the Ivy-leaved *Geranium*, and windows filled with a good collection of the best Ivy *Geraniums* would be very attractive.

Outdoor garden.—This is a late season, but since the wind veered round to the south and the warm air circulated, vegetation has moved rapidly. The bedding-out is now finished, even the sub-tropical plants are in their allotted places. *Cannas*, especially the dwarf large-flowered varieties, are lovely plants, but they must have good soil and a sheltered position. The Tuberous *Begonia* is making headway, but it has not yet ousted the *Geranium*—probably never will, as the *Geranium* will flower freely under difficult conditions, and the *Begonia* will not. At any rate, there has been a very large run on scarlet *Geraniums*. There has always been, and I expect always will be, a craving for brightness in the garden in our climate. Though there may be brightness in the garden without *Geraniums* or *Calceolarias*, *Panicles*, *Carnations*, *Roses*, *Pinks*, and many other plants, if only brought back to the garden in sufficient numbers, will give us colour enough and yield abundance of long-stalked flowers for cutting. *Pyrethrums*, both single and double, are lovely now. A patch of *Anchusa italica*, with its tall, slender stems loaded with sky-blue flowers, attracts attention, though the flowers are not lasting enough for cutting. The German *Iris* will do because the buds open in water. *Violas* and the large-flowered *Pansies* were never brighter with us than they are at this moment, and one regrets the necessity for their removal to make room for the summer flowers. Any plants which require stakes should have attention. Guard the *Dahlias* from slugs.

Fruit garden.—The lesson that everyone learns ament fruit culture sooner or later is never keep old trees. It is possible to improve old trees if not too far gone by rich top-dressings, but when all is done, the young trees from eight or nine up to twenty years old pay the best, and if on the Paradise stock on an average soil no tree will pay for its keep at the end of twenty years, and may require replacing earlier. Another matter that forces itself upon one's attention is never plant a young tree of the same kind on the site from which an old tree has been removed without changing a good proportion of the soil and

Capital plants to put out now for if still another sowing be made sows, then should there be from to put out where to remain in July, from heads during November and These last may well follow after Potatoes, or other early crops, the merely pointed or deeply hood over-planting, but not otherwise disturbed. late cutting large plants and heads desirable; also, such plants are hardier those grown more freely and gross. It to over-estimate the importance in men of a good supply of autumn Cauli- Late in the year and after the heat of is over caterpillars give little trouble, are they are seen a washing from a can slightly brackish or salt water often to cleanse them of these pests. To keep beds white and firm it is well, so soon as the partly formed, to break down a few of the leaves over them, and thus protect sunshine or storm. A. D.

NOTES AND REPLIES.

Asparagus and other Kales.—Were I to name the very best Kale for late sowing, I should say Asparagus Kale. In my opinion like the past one, late Kales or have been most valuable, seeing the Cabbage is late in coming in. Where a large supply of vegetables is needed, then it is always safe if he has a patch of purple Broccoli or Asparagus Kale. This may be had well into June. I prefer it to Cabbage from a flavour point of view. Asparagus Kale is of the simplest culture. It is in the early part of June, and plant out during the first half of August, 18 inches each way. In this way it does not suffer from frost damage, from the stumps not being too large and coarse. The old Ragged Jack is still a tender and highly flavoured Kale. For those who are in very exposed places and want a very hardy kind and do not mind the colour, the Delaware is to be recommended. I have never seen it killed, and it is a most profitable and very tender.—J. CROOK.

Cucumbers.—Where it is desired to plant Cucumbers in frames arrangements will very soon have to be made for their reception. It is, however, advisable not to be in too great a hurry, as it is wiser to wait a little rather than risk should be run. I have seen healthy Cucumbers plants got into frames out-of-doors—houses where almost unlimited heat could be had on—the first week in May, and when the soil of the bed had subsided and cold nights had they were entirely crippled. From the middle to the end of May is, as a general rule, the best time for frame Cucumbers, as by that time the sun has greater power. Many, in company with myself, do not attempt to use the frames in this way before the end of the month, when it is that they are cleared of bedding, etc., and if planted then one may experience cutting fruit in July, more particularly if the frames, as they should be, are placed in a south aspect. There are other ways of growing Cucumbers without utilising frames or devoting a house entirely to them. I have seen the planting of them in boxes and pots in houses where mixed collections of plants are raised. It is, I am aware, generally believed that the most of necessity devote a house exclusively to their culture, keeping the place very warm, humid state. This, of course, is a capital whera fruit is wanted to be cut freely, but as there are very many who cannot do this, because they only require to grow for their own consumption, and have to grow a mixed collection of plants, it will be found that if they are planted in large boxes or small beds of fermenting material, the plants kept as far away as possible from the sides of ventilators, useful fruit may be obtained throughout the season. This has been my experience, and those who cannot make it convenient to plant either in frames or give up a house to Cucumbers will find this mode the best answer.—TOWNSMAN.

As many of the most interesting notes and replies in "GARDENING" from the very beginning have been from its readers, we offer each week a copy of the volume of either "STOVE and GREENHOUSE PLANTS," or "THE ENGLISH FLOWER GARDEN," to the sender of the most useful or interesting letter or short article published in the current week's issue which will be marked.

clearing out every bit of old root which might in the autumn form a store-house for fungus. There is likely to be a good crop of Apples from what I see of the trees near me, but only a sprinkling of Plums and other fruits. Early Strawberries suffered from the frost. Most of the early blossoms in sunny positions were blackened by the frost, but the later trusses have come up well. Peaches and Apricots should be thinned where the crop is heavy. Plums, Pears, and Apples, where the trees are of a manageable size, should have all the small and deformed fruits removed. It is of no use leaving the deformed fruits on trees, even when the crop is likely to be a light one.

Vegetable garden.—A dripping June, according to the old adage, puts things in tune. It gives an opportunity of getting out the winter greens and Celery without much watering, swells out the Peas, and gives a crispness and flavour to Lettuces and other salad plants and Cauliflowers that are absent in dry, hot weather. It is true there are drawbacks: the weeds are getting troublesome, especially when the hoe is laid aside for a time when the bedding-out is in operation, but we wanted the rain and were glad to see it. In staking Peas do not crowd the lines of sticks too closely together at the top. Give the Peas a chance to remain inside the sticks and they will do better. Neither is it wise to have the rows too near each other. Isolate the late Peas especially, and they will bear better, and there will be less mihew. The presence of mihew is owing to a check from drought, and a shallow, badly-worked soil, and possibly also in some cases to thick sowing. The other day I saw a man sowing Canadian Wonder Beans, and when I remarked he was putting them in thick, he said he could thin them. But why waste the seeds? If the thinning is delayed the crop is injured. French Beans should not be nearer to each other than 6 inches. This gives them a chance for full development to bear a full crop, and when the Beans are gathered frequently there is a constant succession. Tomatoes in cool-house will require frequent attention. E. HOBDAV.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

June 23rd.—Have discontinued cutting Asparagus, except it may be a stray haul or two for some special occasion; shall feed as much as possible for a month or so now. We are trying to fetch up arrears of work, as during bedding-out other work stands still. The turf on the lawns has been benefited by a light top-dressing of basic slag and nitrate of soda, and the Grass grows very fast. Second early Peas will only be sown now. Huntingtonian has been a favourite for succeeding the late Marrows.

June 24th.—Finished potting specimen Chrysanthemums. We do not shift into large pots until the roots have filled the previous pots, for the sake of getting the work done by any special time. Pricked off Cinerarias and Primulas. Liquid manure is given to Roses in dry positions, and the surface has been mulched with manure, the latter being covered afterwards with soil and pressed down to keep the birds from pulling it about. Runners of Strawberries are being looked after.

June 25th.—Moved a few of the hardiest Palms from the conservatory to sheltered positions on lawn. Orange-trees in tubs are also placed outside. This annual outing does them good. The creepers have been regulated and a few plants brought from the stove to ease matters there. Camellias in pots have been placed on a cool-shaded in a shady spot. Rhododendrons, Dentinas, and other plants which have been forced have been placed outside to ripen and rest ready for next season.

June 26th.—Planted more Broccoli and winter greens. I believe in early planting on very soil. Top-dressed Cucumbers in houses. Very little air is given and only the lightest possible shading, as if the plants are right at the roots they will stand a little sunshine. As soon as a Cucumber plant drops its leaves in every gleam of sunshine it is time to pull it up and replant. They are tall ones.

fight on some Peach-trees, and Tobacco-powder is still in use.

June 27th.—Thinned various kinds of fruit on wall trees. Fishing-nets only are used, and are not much trouble nor yet much expense, as we should have to keep nets for covering fruit-trees and Strawberries. Of course, they wear out and have to be replaced, but the annual cost is not much. As Pelargoniums go out of flower they are placed outside in the sunshine to ripen growth ready for cutting down. Air is left on all night on most of the plant and fruit-houses.

June 28th.—Good fruit of Early Rivers Nectarine has been gathered from pots in cool orchard-houses. This is a valuable kind. Attention is being given to the pricking out of hilly plants sown in boxes in cold-frames. Weeds have given a lot of trouble. This puzzles us somewhat. So far as is possible no weed is permitted to seed, yet every season a crop comes up. Seeds are scattered by the wind. Shifted on Zonal Geraniums for flowering in winter. Sowed more Lettuces.

LAW AND CUSTOM.

A garden fence.—The fence between my garden and my neighbour's garden consists of about 34 feet of White Thorn and Privet, growing on the top of a bank some 24 feet high, making a total height of 6 feet. My neighbour wants me to cut the fence down to 34 feet in height, but I am not willing. Can he do this on giving me notice? The hedge is a party hedge. Is there any legal limit to a hedge between gardens?—S.WANSEA.

[There is no legal limit to the height of either a party fence or a boundary fence (of live or growing wood) between gardens. You say this is a party fence, but are you correct? Or do you mean that it is a boundary fence dividing the gardens? If it belongs to you your neighbour cannot touch it, no matter how high it may grow, so long as it does not naturally overhang his ground.—K. C. T.]

The Market Gardeners' Compensation Act.—I took a lease of this house and garden as a private tenant. I have since gone in for raising flowers for sale, and, as I contemplate erecting more glass, I wish to come under the Market Gardeners' Act. Will the landlord's sanction in writing be sufficient? Or must I get the lease endorsed? 2. Does the Act lay down any definite scheme of compensation for improvement (at the expiration of the tenancy)? And, if so, what? Or does it merely enact that the whole matter of compensation shall be referred to arbitration?—BROWNE.

[1. If you obtain the written consent of your landlord previous to commencing to erect the glass-houses it will scarcely be sufficient, as the holding is not cultivated as a market-garden. To raise flowers for sale is not to cultivate a market-garden. You should get from your landlord written permission to erect glass-houses and to remove them on the termination of your tenancy. It would be well to have this permission endorsed on your lease, although this is not strictly necessary. 2. The Act does not prescribe any specific compensation—the measure of compensation is to be the value of the improvement to an incoming tenant of the holding, and if the landlord and tenant do not agree as to this, the difference between them is to be referred to arbitration. For the reasons already given, I think your holding is not one to which the Act applies.—K. C. T.]

United Horticultural Benefit and Provident Society.—The monthly committee meeting of this society was held at the Caledonian Hotel, Aisleby-terrace, Strand, on Monday, 19th inst., Mr. C. H. Curtis in the chair. The minutes of the last meeting were read and signed. Four new members were elected, making a total of fifty-seven this year. The death certificate of the late Mr. J. N. Forbes was produced, and the amount standing to his credit in the ledger (£4 1s. 6d.) was directed to be paid to his nominee. Three members were reported on the Sick Fund. The amount of sick pay for the month was £9 12s.

Photographs of Gardens, Plants, or Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

The Prize Winners this week are: 1, Mr. J. Soloy, Netherleigh, Tibberton Road, Great Malvern, for Cistus Jenkinsii grown in a window; 2, Mrs. T. Norman, Holly Hill, Ditchingham, Norfolk.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in GARDENING free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of GARDENING, 17, Pall Mall-street, Holborn, London, E.C. Letters on business should be sent to the PRINTER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being variegated and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Silene pendula (Hugh).—This is the name of the flower you send. There are several varieties of this fine biennial. The compact varieties, which form compact, rounded heads 6 to 8 inches high, are mostly used for spring bedding. To obtain good plants for spring sowing, seed should be sown in the reserve garden in autumn, afterwards transplanting the seedlings to permanent beds. Flowers appear from May to August, according to the season of sowing.

Iris not opening (Constant Reader).—The failure of the Iris flowers to open is due, no doubt, to the want of roots, those on the piece you send having perished. We would advise you to lift the plants, clearing out the soil, in which there seems to be too much manure in contact with the roots, and replant in good loamy soil, to which all has been added some sand if it is very heavy. Cut off all the decayed pieces of the old plants. See reply to "Joumal" in our last issue, page 215.

Prolonging the bloom of Fuchsias (M. C. L.).—When they become somewhat tall, and, as they frequently happens in the south, infested with insects, it is a good plan to cut them close down; when this is done, especially if they get a good watering where needed and a top-dressing of some good rotten manure, they soon push up strong, clean shoots, and flower again abundantly. In some southern gardens this practice is repeated with success several times during the season.

Raising Phyllocactuses (John Allan).—In a good sunny spot your Phyllocactus pods should soon ripen, and when this stage is reached they quickly begin to shrivel and it is then a good time to gather them. As you have not many, the better way will be to open them and pick out the seeds, which should be sown in clean, well-ventilated pans in a mixture of loam, leaf-mould, brick rubble, and silver sand. When sown, they should be covered to the depth of a quarter of an inch with some of the same material sifted fine, and then placed in the warmest part of the greenhouse, or even warmer, if you have such a structure. The soil should be kept moist, but, of course, overwatering must be guarded against. When large enough, the young plants must be potted singly into small pots, using the same kind of compost, and afterwards shifted into larger pots as they require it.

Alpine Auriculas (Woodroff).—Practically any of the large number of Alpine Auriculas in commerce should do very well outdoors in suitable soil on a moderately shaded border, and where the plants are mulched with fine loam, leaf-mould, brick rubble, and silver sand, and highly protected from frost, snow, and heavy rains in the winter, and especially whilst in bloom. But it would not be possible to name a few as better to this purpose than others, for the reason that most of them are grown in pots under glass, though cool, and real test of hardiness is thus not applied. Much depends on what you may regard as an alpine, for all hardy border varieties, few of which are named and are easily raised by the amateur from seeds, are alpine, too, but are not florists' named alpine. Either you should purchase from a florist strong plants of border varieties in pots, or else purchase a packet of seed and sow at once, and thus raise scores of plants.

Laced Pinks (Woodroff, Snickett).—One of the best coloured laced Pinks is Derby Bay, pink ground, with bright red edge. Bolard is one of the finest heavy laced white grounds. Mrs. Darke (claret-red edge), Barry Hooper (reddish-purple edge), Favourite (rosy-red edge), and Lady Claren (red edge) make up a capital selection. As to hardiness, Pinks vary in places, something depending on whether position be high or low, dry or humid, also as to nature of soil, as the Pink which likes plenty of excess of peat, (in the soil, as the Pink which likes plenty of mortar sittings, are all injurious to Pinks, especially near towns. A planting in a piece of young shoot about 3 inches long, pinched out, then inserted into sandy soil as cutting. A cutting is a similar shoot cut off with a knife, but a little longer, the base close beneath a leaf joint, and two or three of the lower leaves cut off. The time for propagation is just as bloom is going off. Set with small stick into sandy soil under a north wall, and cover with handlight.

Violets not flowering (H. Edwards).—You do not say what variety you refer to, and, as there is a great difference. Princess of Wales, for example, is very shy flowering, and La France in some districts is inclined to the same way, but in some is not. Violet plants at 4s. per dozen should be full of flower-buds, but the plants will not flower after themselves year by year, even though the 4s. price was paid for them. It is only by annual propagation that good flowering clumps are obtained each year, as when we speak of propagation we have in mind the cutting system, as opposed to rudely pulling another year's



plants as are well high worn out by a prolonged flowering. The best and freest types of Viola for winter and early spring flowering are those belonging to Marie Louise, Vespadina, Victoria, etc. You give no idea of the condition your plants are in, but at this season we can only urge you to match them with short manure, and so obtain a good growth for affording runners in the early autumn for propagation. The latter subject is hardly reasonable now, but it is so important a matter, and so many of our correspondents laid with their Violas, that we shall in due course deal with the subject fully. If you possess the single variety Princess of Wales, and find after treatment that it will not flower, you had best discard it.

FRUIT.

Warts on Vine leaves (Seely Park and E. W.). The warts with which the Vine-leaves are affected are only small green excrescences that form on the backs of the foliage, a sort of extravasation of the sap through the leaf. They hurt the leaves, no doubt, as affecting respiration, and are the result of some ill health in the Vine. The trouble is often caused by a too close, warm atmosphere, saturated with moisture, and Vines badly affected take a long time to recover.

Injured Vine-leaves (Gros Colman).—There is very indication that your Vines have grown well, if the leaf you send is a sample of the whole. Its condition, however, when it reached us was such that it afforded but little clue to the cause of your trouble. As far as we can judge, the injury to the foliage comes from the scald, probably accentuated by some atmospheric influence. Some growers damp the floors of glass-houses with liquid-manure, diluted so as to give off ammoniacal vapours, which are by many Grape-growers considered favourable for leaf absorption. We have proved this season that this needs care, otherwise injury may follow. This is more likely to happen if, after the ventilators have remained closed for some hours, the inmates are exposed to sunshine without ample provision for the escape of these gases, bottled up, so to speak, during the hours of confinement. Sulphur on the hot-water pipes, too, has a similar effect on Vines should the pipes be well heated and the air of the house remain unchanched before sunrise, or, rather, before it touches the house. If these prove the cause in your case, the remedy will be obvious—namely, closer attention to morning ventilation. It is "catchy" weather it is not wise to close down the ventilators while there is a prospect of an alternating with cloud.

VEGETABLES.

Cesspool contents for a garden (Inyornanus).—In summer, such crops as Cauliflowers, Calabages, Peas, Broccolis, Scarlet Runners, etc., will take with advantage a good deal of diluted sewage, such as you refer to. It is also useful for Strawberry-beds from about the middle of April until the fruit has set, and in the winter pour it over the roots of fruit trees, including Currants, Raspberries, etc. It will be found valuable for Asparagus-beds after cutting has ceased, giving it well diluted.

Feeding Asparagus (M. C. L.).—The feeding of Asparagus should begin immediately the cutting is stopped. This may be met by occasional soakings of liquid-manure or by sprinkling at the rate of 2 oz. to the square yard of superphosphate and salt. This manure means to suit the Asparagus well; indeed, there are few crops it does not suit. The better the stems of the Asparagus are nourished the finer the produce will be next season, and where growing in a very exposed place in any position where the stems are likely to fall about these should be supported in some way. A few Pea stakes thrust into the bed at the time cutting is relinquished for the season is a good protection, and a stout stake at intervals of 8 feet, with a line of tar string all round, is an excellent support. Seed-bearing is weakening, and if time can be spared a little of this should be renewed by taking the side branches off with a knife. Anything, in short, that can be done now to ease the plants and enrich the beds where they are growing will be well repaid by the increased size and earliness of the crop next season.

SHORT REPLIES.

Peter.—The only way to clear your greenhouse of green-fly is to fumigate it.—Seddon.—In such a house as yours it is impossible to have any plants in flower during the summer, with the exception of a few late-flowering Chrysanthemums. You must in the autumn, put up Hyacinths, Tulips, etc., which will come in in the early spring.—White Pink.—Yes, they can be left in the ground, but we doubt very much if you will get much bloom next year. It is far better to lift them, dry them off, and replant early in the autumn, and even then the early-flowering Tulips will not bloom so well as newly-purchased bulbs.—W. Fred.—We know of no cheap book dealing with the subject you refer to.—R. A. P.—1, You have done quite right. The Acazia will very likely root, and thus be on its own roots in time. 2, You need not trouble about the Acazia. This splitting is common. You will find a number of suckers spring from the bottom of the stem which has flowered, and very likely the flowering stem will form two heads.—Miss H. Hobbs.—The only thing you can do is to syringe them with some insecticide.—S. Lytle.—Your letter was attended to, and an answer was given in our issue of May 3, p. 136, under the heading "Names of plants."—H. Temper.—Yes, it is, as far as we can judge, the branch of a Pear, but what variety is possible to say without fruit.—S. H. L.—In all probability the wood is too thick. You ought to cut out all the wood that has flowered, and thus allow plenty of room for the young growth that is formed.—R. L.—Not a gardening query. Your best plan will be to consult a solicitor.—A. Rejoice Reader for Many Years.—You cannot do better than make a hedge of Yew. Jolly would have been better, but you object to any plant that has prickles.—Arthur P. Davison.—See reply to Mrs. Moore Dyke, in our issue of June 14, p. 211, re "Clematis dropping."—Sturm.—See reply to "S. J. A." re "Peach-trees casting their fruit," in our issue of June 14, p. 210.—F. W. Daria.—No doubt the result of the cold, unreasonable weather we are having. With warmer days and nights the flowers will come all right.—J. A. P.—Any of the Londonallydianes would answer.—Pink.—The Carnation you refer to will break from the bottom in due course. If you do not want it to flower, pluck out the

point, and thus encourage the plant to break away.—St. Asaph.—Apply to Mr. J. Pinches, 3, Crown-buildings, Crown-street, Camberwell, S.E.—Inquirer.—Your Rose is the old China.—Amateur.—Sow your Forget-me-not at once. Godetia is not hardy, and this you must sow in the early spring—say, April. You could sow a pinch of Godetia now, and, if the autumn was fine, it would come into bloom late.—A. H. P. M.—1, The plants that rabbits will not eat are very few in fact, there are none that they will not attack. 2, Apply to Messrs. Morgan and Thompson, Ipswich.—A. M. D.—1, Please send some specimens of the shoots of the Chrysanthemums to which you refer, and then we will be better able to assist you. 2, Yes, anis are injurious in the garden. 3, The only thing you can do is to syringe the Roses often with some well tried insecticide.—Jus. J. Pilling.—Keep the sawdust-mixture out of the garden, as it will only breed fungus, and is of no value whatever.—Jack.—The pot is all right. No doubt it was dirty when you potted up your plants, hence the trouble.—R. B.—Your Grapes are what is known as "scabbed." See note in our issue of June 7, p. 198.—Veece.—If you want fine-folaged plants, any of the small Palms, Dracaenas, Aspidistra, Ficus, Ferns, and Asparagus. If flowering plants, try Fuchsia, Pelargonium (Zonal), Hydrangeas, Begonias, Cactus, with, in the early spring, Primulas (Chinese), Hyacinths, Tulips, and Daffodils in pots.—E. H.—See reply to "Seely Park," re "Warts on Vine-leaves." We can find no traces of red-spider on the leaves you send.—F. B. B.—Your Peach-trees are suffering from what is known as "hister." See reply to "Major," in our issue of May 17, p. 164.—Jarkob's.—Lift the Aubrietia, pull it to pieces, and plant in the reserve garden. It will come in well for planting out in the autumn to flower next spring.—F. Thomas.—We have never heard of Horseradish being used in the way you suggest.—Carlo, Chorley.—We fear the only remedy is the one you suggest, as it takes a long time for the material you speak of to soak into the wood.—F. N. Hortley.—Tilted Pansies can be grown successfully when the garden soil has been treated to a liberal dressing of really good animal manure. From the nature of your query, we are at a loss to understand whether your garden soil is deficient in this respect. Any of the artificial manures applied carefully will assist the growth considerably.—Fred Bateson.—Dne, no doubt, to the unseasonable weather we are having.—Alf Pamphillia.—The only thing you can do is to wait and see if you get any fruit.—K. E.—See reply to "J. W. T." re "Renaking Lily of the Valley bed," in our issue of May 31, p. 185.—E. Simmer (S. C. R.).—See reply to "S. C. R.," in our issue of June 7, p. 197, re "Trespassing cats."—Stefano.—The recipe we gave was 1 peck of lime,

1 peck of soot, 6 lb of sulphur, boiled together for two hours; when cool, use 4 pint to 4 gallons of water (preferably soft water). Other query next week.—J. D.—Quite impossible to assign a reason without further information.—Chilton Rectory.—Your gardener is quite right. It is next to impossible to clear out mealy-bug, unless by burning the heavily-infested plants, and then continually washing those left with some insecticide. You must thoroughly repaint the house as well.—Mrs. H. Hulton.—In your district you had better plant Ceanothus Veitchianus against a wall, and even then it will need slight protection in the winter.

NAMES OF PLANTS AND FRUITS.

** Any communications respecting plants or fruits sent to name should always accompany the parcel, which should be addressed to the Editor of GARDENING ILLUSTRATED, 17, Finsbury-street, Holborn, London, E.C. A number should also be fruitfully affixed to each specimen of flowers or fruit sent for naming. No more than four kinds of fruits or flowers for naming should be sent at one time. Names of plants.—K. K. D.—1, Staphylea colchica; 2, Send when in bloom.—P. L. Smith.—1, Poppy Anemone, single form; 2, Saxifraga cespitosa; 3, Arabis alliiata; 4, Send in flower.—W. Lewis.—1, The Throatwort (Trachelium coruleum); 2, Petris sp., please send fertile fronds; 3, Cyperus alternifolius; 4, Adiantum punctatum.—G. M. D.—Staphylea colchica.—J. P. T.—1, Arthlasarthes (Trassula) rosea.—Crafton.—1, Arthlasarthes (Trassula) rosea; 2, Helianthemum vulgare; 3, Phlox thurkiana; 4, Baptisae Caeonium.—Inquirer.—Quite impossible to name from such poor, badly-packed specimens.—M. E. Nolle.—Polygonum historica.—Co. Cook.—Double Rhododendron ponticum.—J. W. Merle.—Mespilus Saubli.—M.—2, Specimen too dried up; 3, Saxifraga cespitosa; 4, Saxifraga Wallacet.—Ann.—1, Gardenia-flowered Daffodil (Narcissus ponticum fl. pl.); 2, Eupatorium riparium; 3, Curculigo recurvata.—E. S. Hughes.—The Balaoric Sandwort (Armaria balcarica)—R. T. A.—1, Please send better specimen; 2, Saxifraga granulata fl. pl.; 3, Ceanothus montana; 4, Mexican Orange-flower (Choisya ternata); 5, Saxifraga labei; 6, Saxifraga cespitosa; 7, Gazania splendens. Kindly read rule as to naming plants.—J. P. T.—Clematis, probably Mme. Van Houtte, a languid form.

Catalogue received.—Mt. J. Kingsmill, Sharon, R.Ion.—List of New Daffodils.

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GARDEN & PLANT PHOTOGRAPHS, 1902.

THE EDITOR OF GARDENING ILLUSTRATED announces Photographic Competition for the season of 1902.

Class 1.—SMALL GARDENS.—A prize of FIVE GUINEAS and a SECOND PRIZE of THREE GUINEAS for the best ten photographs or sketches of picturesque small gardens, including town and villa gardens, rectory, farmhouse, or cottage gardens.

Class 2.—FLOWERS AND SHRUBS OF THE OPEN AIR.—A prize of FIVE GUINEAS and a SECOND PRIZE of THREE GUINEAS to the sender of the best series of not less than twelve photographs of the above. These may include wild plants or bushes, or any plant, flower, or shrub grown in the open air, including also half-hardy plants put out for the summer, and either single specimens or groups, or the effects resulting therefrom, in beds or borders. Shoots also of rare or beautiful plants photographed in the house may be included in this class.

Class 3.—INDOOR FLOWERS AND PLANTS.—A prize of FIVE GUINEAS and a SECOND PRIZE of THREE GUINEAS for the best series of indoor plants—greenhouse, stove plants, Orchids, or any other plant not of the open air—either single shoots, plants, or specimens, or the effects resulting from good grouping or other arrangements of such plants separately or in association with others. Ferns or groups of Ferns in houses may be included in this class.

Class 4.—BEST GARDEN FRUITS AND VEGETABLES.—A prize of FIVE GUINEAS and a SECOND PRIZE of TWO GUINEAS for not less than twelve photographs of the best kinds of garden fruits and vegetables, Grapes, Peaches, Apples, Pears, Plums, Cherries, or any other fruit grown in Britain, to be shown singly or on the branches. Overcrowding, as in dishes or shows, should be avoided. The aim should be to show well the form of each kind, and as far as may be life-size. The object of this is to get good representations of the best garden fruits and vegetables under the old names, though we do not want to exclude real novelties when they are such.

Class 5.—GENERAL SUBJECTS.—A prize of FIVE GUINEAS will be awarded for the best twelve photographs of any garden subject not included in the previous classes, such as water gardens, waterside effects, rock gardens, picturesque effects in gardens, vases, cut flowers, table decorations, and pretty garden structures.

All competitors not winning a prize will for each photograph chosen receive the sum of half a guinea. In order to give ample time to prepare good photographs the competition will be kept open until November 29th, 1902.

WHAT TO AVOID.—Cut flowers or plants should not be arranged in vases with patterns on them. Backgrounds should be plain, so as not to come into competition with flowers. Figures of men or women, barrows, watering-pots, rakes, hoes, rollers, and other implements, iron rods, wire, or iron supports of any kind, labels, and all like objects should be omitted from the photographs. Dwarf flowers are ineffective when taken directly from above. The camera should be brought low down for such. All photographs should be mounted singly, and not several on a card. They should not be mounted on cards with thick backs, and the photographs should not be less in size than 5 inches by 4 inches. The subject should not be overcrowded. The following are the rules to be observed by all competitors:—

FIRST.—The photographs may be of objects in the possession of either the sender or others; but the sender whose they are obtained in the usual way, and whose the copyright of which is open to question must be sent. There is no limit as to number, and no fee to pay. The Editor is to have the right of engraving and publishing any of the chosen photographs. The photographs may be printed on any good paper that shows the subjects clearly. Plain types and bromides should not be sent, but those so authorized and printing out papers are preferred for engraving. All photographs should be properly toned.

SECOND.—The name and address of the sender, together with the name and description of the objects shown, should be plainly written in ink on the back of each photograph. Care should be taken to avoid the ink being seen on the face of the photograph. This is very important.

THIRD.—All communications relating to the competition must be addressed to the Editor, 11, Furnival Street, Holborn, London, E.C., and the class for which the photographs are intended should be marked on the parcel, which must also be labelled "Photographic Competition." Unsuccessful competitors who wish their photographs returned must enclose sufficient postage stamps for that purpose.



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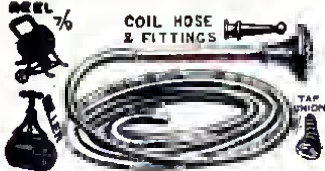
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GARDENING ILLUSTRATED.

1, 1916.—VOL. XXIV.

Founded by W. Robinson, Author of "The English Flower Garden."

JUNE 28, 1902

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FRUIT.

PRUNING FRUIT-TREES.

Pruning of espaliers, or, indeed, any other restricted fruit-trees, summer pruning is very important, from which control it gives the cultivator the trees. Should the bottom of the trees show any signs of weakness, then unpinned for a season or two, such more closely and assiduously the overgrowing parts, to direct the flow of the weaker parts. By pinching the top shoots of trees the flow of sap may be led in any direction. Pinching a shoot the flow, whilst leaving it unpinned, keeps the flow in that direction. The art of summer pinching is deserving of close study, not only in its application to trees generally, but the best mode of treating particular trees should be separately noted. There is too much variation in the growth of fruit-trees to permit all to be treated alike without in some cases causing serious injury to the health of the trees; for whilst a vigorous grower must be repressed, it may be necessary to leave the weakly one untouched, or by further means to encourage growth. Pinching, quite as much as root-pruning, enables the grower to power to be repressed, and in a natural and less hurtful way, because the tree can be given gradually and at the right time. In most cases summer pruning is delayed, often till the young shoots are 1 foot or more long and are getting firm at the base, and perhaps they are cut back to three or four buds. But during the time of this rapid growth the roots have felt the stimulus of so much foliage; and as in the case of cultivation is carried on almost up to the trunk of the trees, the roots have no time to strike downwards; and as this is year after year, the system of the tree out of order and refuses to bear fruit or fruit, and of course when that condition is reached the only remedy is to lift, root, and replant. But if the growth has been attended to earlier, a regular steady root system would have been carried on in proportion to the growth, for there is always a reciprocity of action between roots and trunk, and when the latter are encouraged or repressed to extend themselves, the roots, to the heavy demand made upon them, must extend into the moist subsoil; and when that is done nothing but watery unripe wood can be produced till the tree is lifted out of the soil, and its roots brought back to the surface. In the meantime a root or two is lost, and there is a possibility of the roots being trimmed in too much, and the tree will require a year or two to recover. In dealing with a well-balanced tree, the most reasonable way of proceeding would be to commence pinching when the longest shoot had grown 7 inches or 8 inches, and then cut them back to five or six buds, going on at intervals of three or four days till all were pinched or shortened back. In this way no undue pressure would

be played on the roots, and the tree would be maintained in a healthy and vigorous state through both roots and branches; the sap that ran to waste in watery spray would be directed into forming fruit-buds, and an early fruit-bearing habit formed that would tend still further to check any undue development of useless wood.

GOOSEBERRIES—PRUNING.

TO THE EDITOR OF "GARDENING ILLUSTRATED."
SIR,—For the last two or three years I have been pruning my bushes according to instructions in Mr. E. Holyday's book, "Fruit Culture for Profit," thinning out during June a lot of the young wood, both with the object of helping the ripening fruit and improving the shape of my trees—towards the latter purpose removing entirely much of the wood that has not an upward tendency. I think insufficient attention was paid to my bushes in their early training to give a sufficiently long stem on which the tree should stand, the result being that as the bushes get older many of the boughs hang about too near the ground. This I am endeavouring to improve by now removing a certain quantity of the lower portions and encouraging the young wood only that gives promise of a straight, upward growth. At the same time I thin out, where possible, the inner shoots, so as to aim at giving each bush in time the cup-shape form. So far my attention seems to have been successful as regards the size of fruit, but I have no doubt that another year I may lose in quantity by taking away wholesale a rather large quantity of the older wood, which seems absolutely necessary to ensure upright and more slightly growth. The kinds I grow are Industry, Keepsake, Whitesmith, and Crown Bob. I cannot help thinking that this treatment promises well for the future, while, at the same time, doing this in June I believe one deals a very severe blow to the insect tribes, as on the pieces cut off are often to be found caterpillars' eggs. I should like to hear your readers' opinion on this course, and also whether anyone can say if by any special rule in cutting back young growth—*i.e.*, leaving two or more leaves—fruit-buds are formed as in other fruits for another year? Or should the young shoots be cut off close to the branch they spring from? In the removal of some of the young shoots this might be useful knowledge. CLOS.

NOTES AND REPLIES.

Protecting orchard fruit.—I should feel greatly obliged if you or any of your readers could inform me the means adopted in the fruit-growing districts of keeping the birds off? I have 4 acres of Cherry orchard, with a large number of trees just in their prime, mostly planted twenty-five to thirty-five years since, and year after year the trees before the fruit is quite ripe. When I was a boy I have known the crop sold standing for £16 and £20. The fruiterer who bought them gathered and retailed them at 4s. to 6s. per lb. Since the introduction of so much foreign fruit it is a difficult matter to get anyone to buy the

crop standing, as the risk is: Who shall have the fruit—the purchaser or the birds? The fruit, if allowed to mature, is of a large size and exceptional quality. The orchard in question is situated in the Midlands. I have known the birds commence on a tree as soon as a light of a morning and strip it by 10 o'clock the same morning. CONSTANT READER.

Cordon Gosseberries.—I have some Gosseberry-trees three and four years old, grown as single upright cordons. They are 3 feet to 4 feet high, and bear fine fruit, but I do not know how to prune them. They are making strong lateral shoots every few inches. When should I cut them off, and how many eyes should I leave? I should be glad to know your opinion of growing Gosseberries in this way. JOHN PIR.

The great object of the grower of cordon Gosseberries must be to stock the stems full of fruiting buds. This is done by allowing the leader only to grow freely, whilst all side-shoots are pinched back to about three leaf-buds after they have made half a dozen leaves. As the outer of the three buds will push new growth later, such new growth should also be kept hard-pinned through the summer. This pinching not only keeps the fruiting-buds close home but the base buds swell up and bloom strongly the first spring. Winter pruning is limited to shortening back any growths that may tend to make the cordons bushy or branching. One advantage of growing Gosseberries as cordons is that by covering up the plants with fishing-nets the fruits can be protected from birds, and thus hang for a long time.

Peach leaves blistered.—I will feel obliged if you will tell me what is wrong with my Peach-trees, some twigs of which I enclose. They are growing in an open border, south aspect, in Cork. Leaves have been more or less curled in some way every year since planted six years ago.—K. P. B.

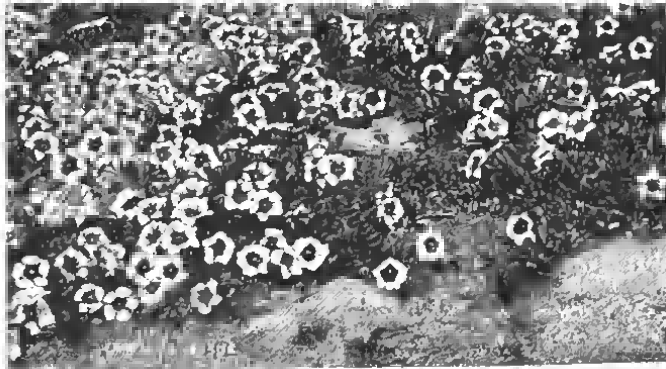
Many are the inquiries what best to do to prevent blister in Peach leaves. These are questions which it is difficult to answer, as sometimes under the most careful treatment, together with the use of night coverings, the trees are not always exempt from injury, though, of course, they suffer much less than others that have not received protection. So long as the foliage is dry, east winds and cold, frosty nights have less injurious effects. The one great thing is to watch that insects do not get the upper hand and cripple free development of growth. To guard against this the trees should be looked over almost daily, and any leaf which shows the least sign of curling may be taken as having some green fly behind it or on its under-side. The grower, with the aid of a Tobacco-dust distributor, should gently press the affected leaf between the thumb and finger, and after crushing the fly apply a little Tobacco-powder, the moisture from the insect causing it to adhere to the foliage, thus spring wetting it for the purpose. A good protection early in the season is a double thickness of Strawberry nets arranged loosely about 18 inches from the wall. This screens the trees from winds during the day and frost at night at the same time. Growth is not weakened by the exclusion of light and air, which is sometimes the case when thick blinds are not used carefully. See, also, reply to "Florence Betty" in our issue of May 10, UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

PLANTS AND FLOWERS.

OUTDOOR PLANTS

THE CHOICER GENTIANS (GENTIANA).

ALPINE and mountain pasture plants of classic beauty and variety, some herbaceous, some



Gentianella (*Gentiana acaulis*).

evergreen herbs, some annual plants. Beautiful as the Gentians are on the mountains of Europe—and it is not easy to describe their beauty at its best, as, say, of a plateau of acres of the Vernal Gentian on the Austrian Alps, or of the Bavarian Gentian along the side of an alpine streamlet—I think I was even more struck with the beauty of the American, fringed, and other Gentians which do not seem easy of cultivation in Britain. There is no serious difficulty as to the culture of the best European kinds, save, perhaps, bavarica, but the American kinds are more liable to perish in some of our soils. Gentians are not all worthy of cultivation on the rock garden. I never could see any beauty, from that point of view,



Smaller Cross-wort Gentian (*G. decumbens alba*).

in the tall and stately Gentians of the Alps, such as *G. lutea*, and some of the annual kinds are of no value for the garden.

If any plants justify the formation of a good rock garden, it is these; and, therefore, we should seek to get their best effect from an artistic point of view by, if possible, grouping them in a natural way. There will be no difficulty in this as regards some kinds, particularly Gentianella, which is very effective on some soils, and in its various forms might be treated well when sufficiently increased. The Willow Gentian leads also to good effect among the bushes in the rock garden, and

is readily increased. One or two good kinds, well grown and grouped, will be better than a dozen dotty examples of ill-grown kinds, however rare or curious.

GENTIANA ACAULIS (Gentianella).—This plant is too well known to need description, and happily, while among the most beautiful of the Gentians, it is easily cultivated, except on dry

very well in "battered" walls, and it flowered freely thereon. My friend, M. Francisque Morel, of Lyons, tells me that the form of this fine plant, which is cultivated in British gardens, is unknown on the Savoy Mountains and those near. I think it is an Italian form, but there are other handsome plants among its allies on those mountains and others near which are well worth the attention of rock



Cross-wort Gentian (*G. cruciata*).

gardeners. As the old plant we have is so easily grown in Britain, there is no reason why these should not be equally so. I think they would all do grown on walls in the way described in the first part of this book—that is to say, on "battered" walls against earth banks, with the stones so set that they will catch all the rainfall.

According to M. Correvois, there are four or even five well-marked forms of *G. acaulis*:—

GENTIANA A. ANHUSTIFOLIA.—A stoloniferous plant, emitting underground runners. Flowers

soils. In some places edgings are made of it, and where the plant does well, it should be used in every garden to some extent in this way. It is at home on the rock garden, where there is moist loam into which it can root. It may be successfully grown in pots, and that would be worth the trouble where the plant would not succeed in the open air from a very dry soil or any other cause. It is sometimes sold in Covent Garden in pots when in flower



Swallow-wort Gentian (*G. asclepiadica*).

in spring, and is readily propagated by division, and also by seeds; but these are so small and so slow in germinating that its propagation in this way is never worth the trouble. It is abundant in many parts of the Alps and Pyrenees. I have grown this plant

large, handsome, of a fine deep sky-blue colour, and spotted on the throat with brightly green. This is the handsomest species. It flowers in May and June, and is found on the calcareous parts of the Alps at an altitude of 3,000 feet to 4,000 feet.

G. A. CLERUS.—The flowers of this are of a fine dark lilac colour and have no green spots on the throat. The plant blooms in May and June, and is found on calcareous rocks of the Alps and the Jura range at an altitude of 1,000 feet to 5,000 feet.

G. A. KOCHIANA.—Flowers of a violet-blue

G. BAVARICA (Bavarian Gentian).—In size this resembles the vernal Gentian, but has smaller Box-like leaves of a yellowish-green, all its tiny stems being thickly clothed with foliage, forming close, dense little tufts, from which spring flowers of the most lovely blue, which seems occasionally flushed with a slight tinge of purplish-crimson.

be grown in well drained pots, using the same compost. In all cases it should be kept rather dry in winter. Young plants flower freely when only 2 inches or 3 inches high.

M. Correvon says it is a difficult one to grow, so that its culture is almost impossible. The seedlings of it which he raised in his alpine garden only yielded flowers in the proportion of hardly 3 per cent. A heavy, compact soil, which is almost clayey, and full



The Vernal Gentian (*G. verna*).

The plant is a native of the high Alps of Europe, and in 1868 I saw it in great abundance near the monastery of the Simplon. *G. verna* occurs abundantly in the same place; but, while it is found on ground not overflowed by water, *G. bavaria* is in bloom in very boggy spots, where some diminutive rill has left its course and spread out over the Grass, not covering it, but saturating it so that, when walked upon, the water bubbles up around. The best thing to do with it is to plant it near the margin of a rill, taking care to let no Carices, Couch Grass, Cotton Grass, or other straggling growing subjects get near the spot, or they would soon cover and destroy the plant.



Marsh Gentian (*G. pneumonanthe*).

It may also be grown in pots, plunged in sand during the summer; sandy loam to be the soil used, the plants to have repeated and abundant waterings from early spring till the heavy autumnal rains set in, or be half plunged in water, with free exposure to light.

exposure to the sun are the conditions which appear to suit it.

G. CRISTATA (Fringed Gentian).—A singularly beautiful plant, frequenting wet ground and river sides, something about 1 foot in height, with the loveliest fringed deep indigo-blue flowers we ever saw. It is an annual or biennial plant, very beautiful for the bog garden, if we could get it established in our country from seed. It grows in moist woods and pastures,

colour, marked on the throat with spots of blackish-green colour; in May and June. Common in pastures on the granitic Alps.

G. A. ALPINA.—Leaves small, of a brightly green colour, glistening, curving inwards and pubescent, forming rosettes which incurve at about the middle part of their length. It blooms in May and June. Found on the granitic Alps at an altitude of 10,000 feet to 9,000 feet; also on the Pyrenees and the Sierra Nevada. The two last-named species require a compost of one-third crushed granite, one-third peat soil, and one-third vegetable loam, and should be planted on a framework half exposed to the sun.

G. A. DINARICA (Beck.).—This is a form of *G. acaulis* with broad, thick leaves and erect, slender, almost cylindrical flowers of a dark blue colour. Found on the Alps of Southern and Eastern Austria.

G. ANDREWSII (Blind Gentian).—The kinds of Gentian which attract so much attention for their beauty on European mountains open their flowers wide when the sun shines. This does not do so, having closed tubes each about an inch long, in clusters, and of a deep dark blue. Then, instead of spreading low and mantling the ground with rosettes of leaves like *G. verna*, the shoots grow erect and 1 foot or more high. It is handsome, and grows quite freely in a sandy peat, but has been hitherto so little grown that experiences of its likes and dislikes are not yet obtainable. The flowers are closely set in clusters near the tops of the shoots. A native of moist rich soil in North America, flowering in autumn, and increased by division and by seed.

G. ASCLEPIADEA (Swallow-wort Gentian).—A true herbaceous plant—i.e., dying down every year, thus keeping out of danger in winter time, and easily cultivated in almost any soil. It grows erect, with shoots almost willow-like, and from 15 inches to 2 feet high, according to the nature of the soil; bearing numerous large purplish-blue flowers, arranged in handsome spikes. Little need be said of its culture, as it is not fastidious, but in a deep sandy loam or peat it will grow twice as large as in a stiff clay. In a wild state it inhabits Pine woods. In consequence of its tall habit, this species is best adapted for the bushy parts of the rock garden, or in the borders near at hand. It is a native of European mountain woods, and is readily propagated by division of the root.

the summer; sandy loam to be the soil used, the plants to have repeated and abundant waterings from early spring till the heavy autumnal rains set in, or be half plunged in water, with free exposure to light.

G. CRISTATA.—A rare and beautiful species, with flexuose, almost simple, stems about



Crested Gentian (*G. septentrionalis*).

1 foot high, bearing large, solitary, azure-blue, deeply fringed flowers, each from 1 inch to 1½ inches long; leaves roughish at the edges. It is a native of the Alpine regions of Central and Southern Europe, and the Caucasus, in dry pastures, and requires to be planted in a mixture of rich fibrous loam and broken limestone, in the fissures of rockwork; or it may

and also near rivers and streams, and has a wide range in N. America and Canada.

G. CRUCIATA (Cross-wort Gentian).—This species has erect, spreading leaves, arranged at right angles or cross-like on simple ascending stems, which are from 6 inches to 1 foot in height. The flowers are blue, and produced in whorls. It is a native of dry pastures in

Central and Southern Europe and Siberia, and has a four-angled creeping root, or rhizome, split into connate lamellae of four, and fibrous or hairy at the top. In growing this plant, fibrous loam should be plentifully mixed with small pieces of broken limestone.

G. DECEMBENS. (Smaller Cross-wort Gentian).—Stem erect, 12 inches to 16 inches high. Flowers numerous, of a fine blue colour, and borne in terminal spikes. Blooms from June to August. Native of Siberia, at an altitude of 2,000 feet to 3,000 feet. There is a good white form of this. Syn. *G. alscendens*.

G. GRANI.—A vigorous-growing species, forming dense tufts or carpets a foot high, with bent, ascending stems, and ornate, lance-shaped, blunt leaves, closely set. Flowers each nearly 2 inches long, in very large heads of a brilliant blue colour. Native of alpine districts in the Caucasus and Armenia. Grows well in rich, moist loam, and is easily increased by division or from seed.

G. KERMANS. One of the most beautiful of the Himalayan Gentians, and one of the easiest to cultivate. In the south of Scotland it does well, but then alpine Indian plants find there a congenial home. Near London, on a north aspect, it has flowered well. The compost on which it grows is a rich peaty mixture, and it receives copious waterings during the summer months. It forms a tuft, or rosette, of smooth leaves about 3 inches long, from the base of which rises the flower-stalk, and from the upper joints short stalks bearing single flowers, each an inch broad and of the brightest azure blue, in July and August. Himalayas.

G. PERMOVENSIS (Marsh Gentian). A British perennial, scarcely less beautiful than any alpine Gentian, with tubular flowers, an inch and a half or more long, of a beautiful blue within, with five greenish belts without, the lobes of the mouth short and spreading; on stems 6 inches to a foot high. A native of boggy heaths and moist pastures, and in cultivation requiring moist pent. It is not recorded from Scotland or Ireland, though not rare in some parts of England. Few plants are more worthy of a place on the rock garden, and where the plant occurs wild it might well be guarded against extermination.

G. RENSAEII (Pyrenean Gentian). Somewhat like the Vernal Gentian in size, but with narrow, sharp-pointed leaves and dark violet almost stalkless flowers, the flat portion at the flower being formed of five oral lobes, with a triangular appendage between each nearly as long as the lobes. It requires much the same treatment as *G. verna*, flowering in early summer, and is well worthy of a place in the choice rock garden, though not of such a vivid hue as *G. verna*.

G. SEPTENTRINA (Crested Gentian).—A lovely plant, bearing on stems 6 inches to 12 inches high flowers in clusters, widening towards the mouth, of a beautiful blue and white inside, greenish-brown outside, having between each of the larger segments of the flowers one smaller and finely cut. A native of the Caucasus, and one of the best for cultivation on the rock garden, thriving well in moist sandy peat. Division.

G. VERNA (Vernal Gentian).—The type of all that is beautiful in alpine vegetation. It covers the ground with rosettes of small leathery leaves, often spreading into tufts from 3 inches to 5 inches in diameter, and producing in spring, flowers that even the botanist calls "beautiful bright blue," though botanical books are usually above taking any notice of colour at all. Sometimes the blooms barely rise above the leaves, and at other times are borne on stems 2 inches or 3 inches high. A few things are essential to success in its cultivation, and far from difficult to secure. They are good, deep, gritty loam on a level spot, perfect drainage, abundance of water during the dry months, and full exposure to the sun. Grit or broken limestone may be advantageously mingled with the soil, but if there be plenty of sand, they are not essential; a few pieces half buried on the surface of the ground will help to prevent evaporation and guard the plant till it has taken root and begun to spread about. It is so dwarf that, if weeds be allowed to grow around, they soon injure it. In moist districts, where there is a good deep, sandy

loam, it may be grown on the front edge of a border carefully surrounded by half-plunged stones. It may also be grown in pots or boxes of loam, with plenty of rough sand, well drained and plunged in beds of sand, exposed to the sun, and well watered from the first dry days of March onwards till the moist autumn days return. In all cases good, well-rooted specimens should be secured to begin with, as failure often occurs from half-dead plants that would have little chance of surviving, even if favoured with the air of their native wilds. In a wild state this plant is abundant over mountain pastures on the Alps of Southern and Central Europe, and those of like latitudes in Asia.

SOIL FOR RAISING PANSY SEED.

TO THE EDITOR OF "GARDENING ILLUSTRATED."

SIR,—Passing some waste ground on which rubbish is being deposited, I (six or seven weeks back) observed a small mound on which there was a luxuriant crop of Grass, and on pulling up a handful of the latter I found the material below to be largely composed of mortar rubbish and some dark material which may have come from ash-pit or sewer in the locality. Thinking, on account of the fine crop of Grass, the stuff would be good to sow some Pansy seed on, I thereon procured a barrowful of it and made up a small bed a few inches deep, making at the same time a similar sized bed of fine sand, with a very little quantity of garden soil in it. On these two small beds I sowed some Pansy seed from the same package, covered each sowing with some fine sittings of the same soil in which the seed was sown, watered and otherwise treated each bed up to the present in the same manner. On the bed largely composed of the mortar refuse I have fifty fifty plants to ten on the other, the plants on the mortar bed appearing quite ten days before those on the other. About thirty-five years ago, when passing a large heap of mortar, mortar refuse, etc., I observed a small wild Pansy growing on the heap. I took it home, put it into a jam jar, even without a hole in the bottom, and placed it on an upstairs window-sill looking almost due south, not then knowing which aspect was best. The bloom that came on it pleased me so much that I took to rearing flowers. The jam jar was my first garden and the wild Pansy my first flower.

Belfast. ANDREW MAIZE.

NOTES AND REPLIES.

What is a herbaceous plant?—Will you kindly tell me what you call herbaceous plants, as I have heard several talk about it? One says all plants that die down completely in the winter are true herbaceous plants. Is that so? According to that, such as the Hollyhock would not be, as in my garden it has green leaves all the year. Again, do bulbs come in under that or not? The person I referred to above said that plants that did not die down were not herbaceous. T. TROSK.

[In garden language the meaning is perennials that die down every year, but you will remember that all such definitions are artificial, as in nature there are no hard-and-fast lines.]

Slugs in garden.—In reply to your correspondent, "H. C. F. D.," as a slug-infested garden, I have been recommended and have tried with great success a very simple and cheap remedy. Pure an orange, so as to keep the two halves as complete as possible, lay the peel mouth downwards on the beds infested by slugs, which creep inside and are easily gathered and destroyed in the morning. Woodlice and ants are also attracted by the odour and shelter. —AN OLD READER.

Hollyhocks.—It is now generally agreed that to avoid the dread disease which attacks Hollyhocks one should plant them out in well-prepared ground instead of, as is often the case, putting them into soil that is practically worn out. I have observed that where failures mostly have occurred it has been on impoverished land. But another preventive measure is to always have at hand a few young plants, so that if disease should assert itself one may soon uproot the offenders and replace both soil and plants at the proper time. To have Hollyhocks for another year one should sow seed from now until the end of July in boxes of fairly light soil, or on a warm border where the plants may receive a slight protection in the winter, planting them out in the desired places next March, previously prepared for the

ground by digging in during the winter some good cow manure. A succession of plants, young and healthy, is, I maintain, better than seeking to retain old stock, which is more liable to disease, and is of less value, from a flowering-point of view, than young plants.—WOODBASTWICK.

Two good early June hardy white flowers.—I often think were some of our hardy flowers occupants of the greenhouse, they would be more frequently seen in gardens. But because they may be had at a very small cost they are not valued so much. The two kinds I am about to mention are amongst the very best white flowers for the open border and to cut from. The first is *Aquilegia vulgaris*, single white. Nothing can be more lovely than a large mass of this. I have a group of it, the plants about 2 feet high, and a mass of bloom. This kind is grown for massing on the Grass. So free is it that it seeds most abundantly and thrives in any soil or situation. It grows and blooms abundantly in a gravel path. Beautiful as this is I consider *Narcissus poeticus plenus*, or Garden-flowered, equally good. I know this is largely grown as a cut-flower for market. But in few gardens can one find it. Surely it is so from its expensiveness, seeing how cheap bulbs may be bought. Neither is it difficult to cultivate, given a good soil and an open position. With me it blooms equally well in borders and in the Grass, and I often have a in bloom at Midsommer Day in a shady border and in the Grass. —J. CROOK.

Foxgloves.—These look well as a back-ground to mixed borders, associated with Larkspurs, Dahlias, Hollyhocks, and other tall-growing plants. Instead of only the ordinary purple and white kinds there can now be found flowers with rose, lilac, pink, and bluish exteriors, the blossoms large and of fine form, and the throat or lip very handsomely spotted. It is in this rich, bold spotting that the beauty of the Foxglove so much consists. The small brown spots characteristic of our wild Foxgloves have been converted into large, rich, dark blotches and spottings, and when these markings are in combination with pure white tubes the effect is strikingly beautiful. Foxgloves are now getting into full bloom, and in the case of extra strong plants there is first the massive centre or main spike, and then a number of side growths come forth later. Those who do not require to save seed should cut out the centre spike as soon as it gets shabby, and the side shoots will be considerably benefited thereby, especially if good supply of water be given at the roots in dry weather. In the case of the best varieties a side shoot will supply an abundance of seed. If the seed be sown early in spring the plants will become strong for planting out in autumn, and will flower the following June.

Double Wallflowers.—It is fair to judge of the merits of the German strain of double Wallflowers by the group of these plants shown recently at the Drill Hall, and of their kind, they were very fine. Certainly there is little prospect that they ever will supersede in public esteem the beautiful small forms of which now we have so many, and which, when in bloom, are so sweetly perfumed. The German Wallflowers seldom branch, and chiefly produce one somewhat massive spike of double flowers on a stout woody stem that is fairly well clothed with leafage. But even in bloom the plants are very stiff and formal, and as a group at the Drill Hall I have never seen anything so plants more so. How much in seeing these German varieties one deplores the absence from gardens of the fine old yellow, red, and black perennial double Wallflowers. The great wealth of variety in the singles, however, gives some compensation. —A. D.

Photographs of Gardens, Plants, or Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

The Prize Winners this week are: 1. Mrs. Kennet Were, Cotlands, Sidmouth, for *Magnolia Soulangeana*; 2. Mr. J. Armstrong, Cemetery Road, Linthorpe, Middlesborough, for border of seedling Polyanthuses.

FERNS.

ADIANTUM TENERUM VAR. FARLEYENSE.

Will you kindly tell me how best to grow this Fern? I have a plant of it, but I cannot succeed with it. I grow it in peat and silver-sand. I have been told to grow it in loam and some manure mixed with it.—J. A. SIMPSON.

[At one time, when Ferns were invariably grown under green glass and heavy shading, this Fern was of no service outside the stove, and much of its beauty was lost, as it is only when exposed to the light that the young fronds take on the lovely rosy-pink hue. Another advantage in growing it fully exposed to the light is that the fronds will last well when cut. Plants grown from single crowns are by far the best, and as fertile fronds are never produced it must be increased by division. It is always best to divide young plants. If done before the pots get too full of roots the divisions will soon start into growth. Where old plants are to be had they may be broken up so as to secure some good roots with each division, and then be divided again after they have begun to grow; or some of the crowns may be taken off and all the fronds cut away. If put into Sphagnum Moss, peat, and sand, and kept close, they will soon start

FERNS AND SUNSHINE.

Ferns dislike bright sunshine, thriving best where the atmosphere is constantly moist and the light of a subdued description. At the same time, it must be admitted that Ferns are often subjected to treatment which is far from being in accordance with their nature and requirements. Many growers either heavily shade their Ferns during a great portion of the day, or create dense perpetual shade by damping the glass with a mixture of some kind, not appearing to realise the fact that Ferns, like other plants, require a certain amount of light to build up their tissues; and that when unduly deprived of its influence the foliage cannot well attain its due amount of healthy vigour. There are some species which will thrive in very shaded positions; others, again, such as the generality of the Adiantums, require a considerable amount of light, and are even benefited when they catch at some part of the day a portion of the sun's rays. Many of our most beautiful stove species, such as the Gold and Silver Gymnogrammas, seldom retain their vigour and beauty long unless placed in a very light position. Those who would wish to form a correct idea of the requirements of the Fern tribe in this respect should visit their native haunts. There they will see at a glance

An ugly wall made beautiful.—A small conservatory opening into drawing-room had an angle which seemed past decoration, as no plant stands seemed to fit. Finally, the wall was covered with zinc to prevent the house wall being injured by damp. Wire netting of medium mesh was fastened in front of this so loosely as to admit of Moss to about $\frac{3}{4}$ inch in depth to be tucked through the interstices in the mesh. Into this Moss, Ferns of the smaller kinds, Sedums, Begonias, etc., were tucked, no earth being allowed with them, and being syringed in summer twice daily have grown and seeded, and have even received additions from the outside world, such as Wild Strawberry, Speedwell, etc., which have apparently made their entrance through the open door of the conservatory, and found a congenial home. The space is now a many-shaded mass of cool green, varied later on by the pale pink flowers of the Begonias and the quaint lavender bunches of the Sedum. This plant wall has grown in beauty for the last ten years, and shows no sign of failure. M. I. IRVING, *Tiverton, Devon.*

ROOM AND WINDOW.

FLORAL DECORATION.

TO THE EDITOR OF "GARDENING ILLUSTRATED."

SIR.—I feel so much in sympathy with "S. W. F." on the subject of floral decoration, that I am moved to reply to his charming article in last week's issue of GARDENING ILLUSTRATED. The opening remarks refer, I think, to an article of mine written about this time last year, fresh from the impressions of some barbarous judging. "S. W. F." is doubtless speaking from experience when taking exception to my expression of doubt as to the existence of any very fervent love of flowers in the breast of the Rose exhibitor. I, too, speak from experience, and apparently our experiences differ.

Exhibitors as a body are not "powerless to make any alteration" they please in the rules and regulations, and so long as they elect to exhibit Roses like pin-cushions, so long must they be regarded, I think, with suspicion as to their real love of natural beauty. I do not remember making any statement implying that "the admirer of the champion bloom at the National Rose Show necessarily ignores the charm of the blossom-laden sprays of our garden Roses," but I plead guilty to being an "individual of limited intelligence." When I have the good fortune to meet one of unlimited intelligence the case shall be put to him for a decision. S. S.

FLOWERS IN VASES.

PERHAPS there is no operation in gardening which is performed with less taste, as a rule, than the arrangement of flowers in vases. We generally see a host of different kinds of flowers packed as close as they can be got together, great care being taken that the whole shall present an even surface when placed in the vaso, and the object appearing to be to get as many different kinds of flowers into one receptacle as is possible. Now, to properly enjoy a vase of flowers, one kind, or at most two, should only be used. Take a handful of flosses or Gladioli or Dahlias, and place them in a vase, and they are effective; place them together and one destroys the effect of the other. The single Rose bloom, with a few leaves and buds, placed lightly in a small vase or glass, will afford ten times more pleasure than a handful of different kinds of flowers crammed into the same receptacle. The eye, as a rule, can only enjoy one object at a time, and this should be kept in view when arranging flowers in vases. We do not say, of course, that a few Fern fronds or light Grasses may not be used with advantage, provided they are tastefully disposed.

Rhodanthe Manglesi.—This Rhodanthe was not one time regarded as a difficult plant to grow, but our market growers now-a-days do not look upon it in that light, as the numbers that are to be seen exposed for sale in the streets of London will testify. Like Mignonne, the Rhodanthe is very impatient of being



Adiantum tenerum var. Farleyense.

away, and may be potted singly after they have made a few fronds.

Soil.—The best compost for putting in fibrous loam, some horse-manure, which has been well dried, and some sand. If the manure is heavy some peat may be added, but if otherwise it is unnecessary. Good drainage is important, and when potting the plants they should be put fairly well down but not buried too deeply. The fresh soil may just cover the crowns, and should be pressed moderately firm. Great care as to watering is necessary. Newly-potted plants, or those with few fronds, will not require much, while healthy pieces with large fronds and the pots full of roots will take an abundant supply. Letting the plants get dry is a sure cause of failure. Weak liquid-manure, too, is beneficial when the pots are well filled with roots. This Fern should never be grown under the shade of other plants or crowded in any way. Stand it up on an inverted pot or hang it from the roof, with plenty of air circulating round it, in a temperature of 60 degs. or 70 degs. It is not so much heat that is required as a regular temperature, and where it cannot be sustained it is better to keep the plants on the cool side. If large specimens are wanted pot on from time to time, taking care that this is done before the plants get too much pot-bound.]

that every plant receives a large share of filtered light; they will note that in every case, although the plant is well sheltered from the glare of a hot sun, it invariably turns towards the light; and in most cases it will be found that either the morning or evening sun reaches it. If the grower takes Nature for his guide in this matter he cannot err. Whether his plants be grown in a glass structure or in the open air the same rules will apply. A slight shade of tiffany, to be applied only when needed, is all that is required; and if the structure has a north aspect, but little artificial shade will be required. The plants will get a maximum of light without being subjected to the dryness which is apt to prevail in a structure so situated as to be exposed to the summer's sun. These remarks apply equally well to the construction of Ferneries in the open air. Choose, if possible, a situation where the plants are completely screened from the noontday sun, but where they are at no time densely shaded. The north side of a wall or building, or a situation in the immediate neighbourhood of tall trees, where the early morning sun, as well as its departing rays, penetrate—where the atmosphere is at all times cool and moist—is just the place in which Ferns thrive, and attain a luxuriant development.

disturbed at the roots, so that it is sown in the flowering pots, which is the regulation 4½-inch or 5-inch pot. The soil is pressed down firmly, and in doing so it must be borne in mind that the seed is to be sown on the top and then covered with soil, so that sufficient space must be left for watering. Good drainage must be ensured, for though the roots are very impatient of stagnant moisture, they at the same time quickly suffer if allowed to become too dry. A free circulation of air around the plants when growing is very necessary, for mildew is liable to attack the foliage, which is soon permanently injured. Besides *Rhodanthe Manglesi* and its white variety there are other forms, as *atro-sanguineum* and *maculatum*.

ROSES.

HINTS TO EXHIBITORS.

How disappointing that Roses are so late. At the time of writing I could not cut a bloom from outdoors, save Scotch Roses, Rugosa, Austrian Briers, and the like. And yet on the Devonshire coast I hear Roses were never finer in bloom, and the flowers wonderfully good. If the rain would cease and the sun shine out, Roses would be fine this year, the foliage being so healthy and the buds promising well. One cannot give liquid-manure in such weather as we are having, and yet the bulbs, perhaps, require a little help where exhibiting is carried out. A teaspoonful per plant of guano will effect a marked change. This may be repeated in a fortnight, but should not be given when buds show colour. Another good, safe artificial mixture is nitrate of potash and phosphate of potash. Mix both together, and give each plant a teaspoonful at once, and again in a fortnight, hoeing it into the soil. In localities where there has been little rain these two ingredients may be given in liquid form at the rate of 1 oz. each to 1 gallon of water, only before applying this stimulant give the plants a good watering with clear water. Amateurs are often over-anxious about feeding their Roses, and probably more harm than good is done by the reckless use of artificial manures. I have seen plants killed outright by the excessive use of such.

Disbudding must be done at once, but the work should be carried out by a trustworthy individual. I believe in disbudding at the earliest possible moment, for a great strain is put upon a plant when it is producing its flowers and seeds, so that if we reduce the number it follows that those left must receive the double share of nutriment. But the art of disbudding lies more in knowing which kinds to dishud and which to leave alone. Generally speaking, all Tea Roses of large size and double flowers pay for disbudding, not merely by reducing the buds to one per shoot, but also in pinching in the young growths which start from the axils of each leaf. As the season so far is a wet one, a plant will be able to perfect more buds than would be the case when the weather is hot and dry. Great care is necessary in disbudding Roses that produce very double flowers. Sometimes the centre bud is quite deformed, and it is better to remove it and reserve one of the side buds. Roses, such as *Captain Christy*, *Victor Verdier*, and, in fact, most of the latter race, should have the centre buds removed, for they most frequently come malformed. Before removing buds make sure that those about to be retained are perfect as far as can be judged from outward appearance, and also see that no maggots are lurking in them. Maiden buds budded last year yield, as a rule, the best blooms, but they are rather later than cut backs. By disbudding these very early, magnificent flowers are produced. If the ground is in good condition these young plants will be better without artificial aid in the shape of manures.

Protecting the blooms has now become quite a business, and it is a necessary aid to successful competition. There are several protectors in the market, but any ingenious man could make one. A cone-shaped frame of wire, covered with strong canvas steeped in oil and painted a light green or white outside, makes a capital protector. Stout deal stakes firmly set in the ground, with holes at varying

distances, enable the grower to raise or lower the shade at will. Heavy dews are bad for Rose blooms, and rains also, but they cannot have too much air and sunshine. It is necessary to shade from the latter certain blooms when they appear too forward, and some very dark Roses are benefited by shading, otherwise I prefer not to shade only when the flowers are liable to injury by rain and dews. A severe thunderstorm and gales of wind are very trying to the exhibitor, and the protectors must be secured thoroughly or more harm is done than if the flowers were unprotected. It is very necessary for the exhibitor to support the growths of slender varieties grown as dwarfs of such as *Marie Baumann* and most of the Teas, or the weight of their beautiful blooms will bend the growth to the ground. On the day prior to the show the most promising half-open flowers should have their centres tied with a piece of soft wool or Raffia. I much prefer the wool, as it is more easily removed. The outer row of petals should not be tied up, only the heart of the flower. In many instances this tying will improve the flower. Thin varieties, such as *Victor Hugo*, *Fisher Holmes*, need tying most. In tying make the first turn of an ordinary knot and then repeat it; this will prevent the wool from slipping off. The ties are kept on the bloom until the last moment at the show, but when in the show tent it is often found necessary to loosen the tie before the hour of judging. A really first-rate exhibitor knows to the minute how long a bloom will take to grow to its most perfect phase of beauty. Do not tie blooms when damp with rain or dew, but wait until sun and air have dried them.

STAGING THE BLOOMS.—A great point is to have a good tube. The labour of wiring or tying a stick on the stem of each flower is known no more by the use of these tubes. It is half the battle in winning prizes to be able to stage the blooms well. Nothing can teach the novice better than an hour's experience at a good Rose show. The standard of excellence should also be observed. What is known as a three-point flower is the one to aim at in producing. Form stands first, then colour. I would advise all exhibitors to have plenty of spare blooms with them. It is surprising how a bloom will grow in a single night. What appears a grand flower when cut in the evening is often past its best at time of judging, so that plenty of young flowers should be taken to the show. For this purpose a travelling box for spares is necessary. I have found the best to be as follows: 4 feet long, 2 feet wide, 15 inches deep, made of ½-inch wood. Zinc tubes are tacked on to the bottom. Those tubes are 6 inches deep and 1½ inches in diameter. They will hold comfortably three blooms each, and the box will take about thirty-six tubes, so that over one hundred flowers may be taken in one box. I would rather take all my Roses in such a box than attempt to carry them in a shallow show box on a hot day. The greater quantity of water and cooler interior would be all in one's favour. The flowers could then be selected on the show ground and transferred to the show-box. For competing at the National Rose Society's exhibition it is necessary to have boxes of specified dimensions, which the secretary will give on application. As to the

TIME OF CUTTING, if one is near the show ground I should cut before four o'clock the same morning, but the flowers must be marked overnight, which they would be if tied as advised. Any old bloom looks lovely when bathed in dew, and unless marked we are apt to be deceived. If living a long distance from the show, of course the flowers must be cut overnight. After six at night is a good time to cut. Teas may even be cut in the morning of the day prior to the show should the weather appear threatening, or if one has a large flower that the sun would compel to expand, such a bloom may be preserved in a cool cellar for two or three days. I have used some Tea blooms two or three times in one week by thus keeping them cool.

ROSA.

Rose Fortune's Yellow.—Can any of your readers kindly inform me whether the *Rose Fortune's Yellow* (or *Jaune de Fortune*) flowers twice?—FRANCES.

NOTES AND REPLIES.

Rose Mercedes (Rugosa).—This beautiful new *Rugosa* will be very welcome, for its buds and open flowers are almost as shapely as a *Tea Rose*, and the colour also resembles an old favourite in that group—*Souvenir d'un Ami*—excepting that there is more white and silvery shading. It is large for a *Rugosa*, and its blossoms are double and sweetly scented. The growth is vigorous, which makes this *Rose* and all the tribe so very valuable. It is very gratifying to find raisers are obtaining such distinct breaks in this valuable group. There is another kind—*Conrad F. Meyer*—that one would imagine to be a *Hybrid Perpetual* if the growth were not examined. It is of a beautiful silvery-rose colour, and exquisitely perfumed.—ROSA.

Rose Beaute Inconstante (Tea).—This is a many coloured *Rose* of splendid growth. It is really a remarkable variety, producing various coloured flowers from satiny-pink to bright red and even deep orange red; all these shades appear on the same bush. The last colour is the one most admired. Under glass this tint seems to predominate, and as the plant becomes older the colours and variegations outdoors are very curious. It is a very free bloomer, and a *Rose* everyone should possess, if only for its novelty. The growth is very strong, but yet not extra vigorous. The raiser, *Monsieur Pernet-Ducher*, informs me that it resulted from a cross between an unnamed seedling *Noisette* and *Mme. Falcet*. The seedling *Noisette* was raised from an old variety, *Earl of Eldon*, and its colour was something in the way of *Beaute Inconstante*. This latter is sweetly fragrant. The reddish wood and foliage are very beautiful in June, when the foliage is in the tender stage in which all *Roses* are interesting.—ROSA.

Roses and the frost.—Considerable damage was done to *Roses* by the exceptional frosts we experienced in mid-May. Growths which had reached a length of about 6 inches are quite blackened in many cases, and the leaves have the appearance of being burned. The flower-buds, too, are quite worthless. I have gone over my trees and cut away all such damaged shoots as it is useless to expect them to recover. Far better let the plants put forth other shoots even if the blooms come late. Dwarf plants are the worst hit: the standards seem to pass through without damage. The Teas and *Hybrid Teas*, as may be expected, are those which cannot stand frost with impunity. At least, the former class is known to be tender, and I fear the latter is almost equally so. Both classes are quicker in growth than are the so-called *Hybrid Perpetuals*, and will, therefore, soon make up for the loss of a few shoots when we get warmer weather.—H.

Pruning free-growing Roses after flowering.—Many of the quick-growing climbing *Roses* are amongst the most ornamental climbing plants. When used where they can ramble at will, such as amongst the branches of thinly-clad trees, over large arches, or for covering fences, then they may often be allowed to go untouched for years, and when grown thus they are really the most beautiful. It often happens that many growers have not accommodation of this kind where they may let them grow, and are obliged to restrict them. Then arises the question when to prune or cut them back. If the young shoots are pruned away in winter or spring, then the summer following there is comparatively no bloom, and if allowed to go they get out of bounds, and reducing of some sort has to be resorted to. I have them growing under both conditions, and in no place are they more lovely than in a *Dundee Rambler* growing up amongst the branches of a large dead Holly, 20 feet high. Others are growing on low arches that formerly went over the old meat. The space is small, and I have to keep some within bounds. Cutting them back to the same height every year makes them look hedge-like. About every three or four years I cut them moderately low down just as they go out of bloom, and then they soon break, throwing out strong shoots. In other years they are reduced immediately after flowering, and in this way I have a good bloom on the growing wood every year.—J. CROOK.

TREES AND SHRUBS.

RHODODENDRON KEWENSE.

This, a plant of which growing in the dell at Kew we figure to-day, was raised in the temperate house at Kew in 1875 by the late Mr. Sinder from a cross between *R. Griffithianum* and *R. Hookeri*. Of the numerous plants raised, none bloomed until the spring of 1888, since which time they have flowered every year, and as a rule, with great freedom. At first grown in the temperate house, they were afterwards planted outside in a peat bed, where they could be protected by a canvas covering during hard weather. For many years they have at Kew been growing in the *Rhododendron* dell, with no other protection than a naturally sheltered position such as this affords. Many of the flowers measure between 4 inches and 5 inches across. Although the whole of the plants came from a single pod of seed, they vary a

SOME GOOD HARDY DAPHNES.

Most lovers of plants are familiar with the somewhat tender indoor *Daphne indica* or *odora*. While this is so, it is strange how few people are acquainted with the lovely hardy kinds, and even in gardens where hardy trees and shrubs are grown largely one seldom meets with *Daphnes*. I believe that many would grow these hardy kinds were they brought to their notice. It is no uncommon thing to see in gardens many coarse-growing shrubs in small beds and on the outside of borders, in positions they are totally unfitted for from their rapid growth, needing much cutting in to keep them within bounds, where such low-growing subjects as these *Daphnes* would be quite at home, giving no trouble in this way. Few things would be more enjoyable planted near the windows of dwelling rooms than a bed of mixed kinds, or single plants may be mixed with other shrubs and hardy plants. The centre may be formed of *D. Mezereum*, with such kinds

most vigorously in the Bagshot Nurseries. In this garden, where the soil is heavy, I find it needs some light soil mixed with the staple. The most common kind is *Laureola* (or *Spurge Laurel*). This grows rapidly in any free soil, forming large masses. The variety *pontica* is somewhat like the above, but blooms a month after that kind. I have a plant of this kind growing in the rock garden, and in a shady position facing north. Here it thrives well. During the last half of April and through May it is a mass of bloom, and although the flowers are not very showy at a distance, when brought close to the light they are attractive, being an ash-like white, and when in bloom this fills the air with its delicious perfume.

Where *Daphnes* thrive few things are more appreciated for cutting. I have now on my table a spray of *D. Laureola pontica*, and it scents the room. As a low-growing kind nothing can be more lovely than *D. Cneorum*, its deep pink-coloured flowers at the tips



Rhododendron kewense in the dell in the Royal Gardens, Kew. From a photograph by G. A. Champlin.

good deal in the colour of the flowers. Some on first opening are white, with a pale rose tinge, becoming almost pure white after a few days; others are of a more decided rose; whilst the richest coloured of all has buds of a rich rosy crimson and the flowers of a deep soft rose, which never loses its rich warm tint. All the forms are beautiful, and the different hue of the one only serves to bring out more vividly the loveliness of its neighbour.

When its parentage is considered, the hardiness of *Rhododendron kewense* is remarkable. Little appears to be known of *R. Hookeri*, and we have not heard of its being grown outdoors in the London district. *R. Griffithianum*, too, can only be grown at Kew as a cool greenhouse plant, yet there are plants of *R. kewense* that have been grown without any artificial protection in the dell at Kew for many years, and have withstood, consequently, amongst others, the winter of 1894-5 without any injury.

as *Fioniana*, *Laureola* (*Spurge Laurel*), and its variety *pontica*. The lovely *Cneorum* would make a glorious piece of colour if used as an edging to the bed. In this way the blooming season would extend over a long period. The *Mezereum* often is seen in flower early in January in sheltered spots, continuing many months. I have often observed how well this thrives in farmhouse and cottage gardens, showing it does not like being disturbed. Neither is it fastidious as to soil. I have seen very large plants growing on the light soils around *Ablershot* blooming most profusely, and in some cottage gardens in our villages in West Dorset it does equally well, although the soil is of a vastly different character. There are several kinds differing slightly in colour, and a double white kind, which I could never get to grow in North Hants, and have never seen a good plant of. *D. Fioniana* is a slender upright grower with purplish flowers. This used to thrive well in North Hants, and grow

of the shoots forming quite a cushion when it does well during spring, and again in autumn it is valuable. This thrives best in a light soil. In a garden in North Hants it grew rapidly. I used it in the hardy plant border in conjunction with evergreen *Camlytufts*, *Lithospermums*, etc. With me it grows from 12 inches to 15 inches high, forming masses from 2 feet to 3 feet across, and when seen in bloom is not easily forgotten. In the Bagshot soil it used to be quite at home, although it may be grown in a dry, sandy loam. In the rock garden all of the *Daphnes*, especially the low-growing kinds, may be used with the best results.

Forde Abbey, Chard. J. Crook.

Mespilus Smithi (syn. *M. grandiflora*). — Some specimens of this sent to us for name remind us of this tree, which is well worth growing, although it is not very common in English gardens. The pure white flowers are

in fine contrast to the dark green abundant leafage. M. Smithi is one of the best of holly trees, the full rounded head presenting a fine mass of foliage, while the graceful branches touch the turf. It is quite as beautiful as the common Medlar, picturesque in aspect, free flowering, and in every way a tree for the outskirts of the lawn.

GARDEN PESTS AND FRIENDS.

THE WINTER MOTIL.

I would be obliged if you would inform me the name of the insect enclosed, and the best means of destroying it? I have over an acre of orchard, which is planted chiefly with Apple-trees. The trees have a beautiful bloom, with every prospect of a heavy crop of fruit. I am afraid this insect has spoiled expectations of any thing like a good crop.—A. JONES.

[The insect attacking your fruit-trees is the caterpillar of the Northern Winter moth (Chimantohis boreata). The females of this species, as well as those of the winter moth, which is very closely allied to it, have only very rudimentary wings, or sometimes none at all, so that they are quite unable to fly. The chrysalides of these insects are formed in the ground. When the female moths emerge, the only way they have of reaching the young buds to lay their eggs is by crawling up the stems, so that the object of the fruit grower is to prevent them from doing so, and it is for this reason that sticky bands are put round the stems so as to catch the moths if they try to cross them. These bands should be put into position early in October, as the moths in some seasons begin then to leave the chrysalides. The sticky material should not be put direct on to the trunk of the tree, as it so clogs the bark as to injure the tree. The bark should be scraped rather smooth, then a strip of paper, known as grease-proof paper by hattermen, should be fastened round the stem about 1 foot or so from the ground; the ends should be made to overlap well, and the strip should be tied top and bottom so that the moths cannot creep underneath, and should then be thickly smeared with cart grease. This material is found to last longer in a sticky condition than any other. The bands should be examined every now and then, so that if the grease has lost its virtue or has become so clogged by the number of moths caught on it that it is no longer of any use, a fresh coating of grease should be applied to it. The bands should be kept in working order until the middle of January. In the case of espaliers or trees that are supported in any way, the supports must be banded as well as the stems. In spite of all precautions some moths manage to gain access to the buds; they are probably carried there by the males when pairing. The caterpillars are hatched soon after the leaf buds open. As soon as any are noticed, the trees should be sprayed with one of the following mixtures: A solution of paraffin emulsion, or 4 lb. of Paris-green (dough in a paste) dissolved in 75 gallons of water, to which add the same amount of lime as Paris green, bulk for bulk. Keep this mixture very thoroughly stirred, as the Paris-green is very heavy, and soon sinks to the bottom. It should be applied to the leaves as a very fine spray; the leaves only just require to be wetted and not to drip. Spraying should not be carried out while the trees are in blossom, and it must always be remembered that Paris-green is a rank poison.—G. S. S.]

NOTES AND REPLIES

Wireworm destroying Carnations.—Will you kindly advise me in your next as to the following: Several of my choice Carnations and Pinks (such as Uriah Pike, Germania, Baby Castle, Miss A. Campbell, Mrs. Pettler, Mrs. Muir, etc.) are drooping now they are coming into flower, and this morning, upon examining some of the roots, I found them infested with small, active, whitish worms (young wireworms?) that have been eating up the insides of the plants. The soil is turfy loam that was a meadow before the house where I live was built, and before planting last February I had some well-decayed manure worked in. Is it responsible for the worms attacking the roots? The plants do not lack for moisture. There is a heap of old lime outside my garden, left by the builders when this house was built about two years ago, and I have spread some of it round the plants, hoping, with the help of watering, to drive the worms away from the roots. Would this do any good?—U. WILLIAMS.

[Your Carnations have been attacked by wireworm, which was in the soil of the meadow

you refer to. We fear there is little chance of your getting rid of the pest so long as the Carnations are growing. The best way would be to give the soil a good coating of gas-lime, fork it into the ground and let it be fallow for a year, frequently stirring it up with a fork. You might, in the meantime, put slices of Carrot on the end of pointed sticks. Place these slices a few inches under ground, and examine them daily. You will find the wireworms in the Carrot slices, when they may be easily destroyed.]

Insects on Apple-tree leaves.—I send you a box containing some leaves, the trees of which are infested with the insects you will see on the specimen leaves. Will you kindly let me know what I am to do to eradicate the pest? There is little fruit on the trees, which are young plants.—S. R. RAY.

[The insect attacking your Apple-trees is one of the many species of aphides. The larger insect was the grub of one of the "three-winged flies." These grubs feed on the aphides and kill enormous quantities of them. The best way of destroying the aphides is to spray the leaves with a solution of paraffin emulsion. Be sure that the insecticide reaches the under-sides of the leaves where the aphides are. It does not much matter whether the upper surface is wetted or not. A good look-out should be kept in the spring for the pests, and the trees should be sprayed as soon as any can be seen again later if required.—G. S. S.]

Beetles on Rose-leaves.—I have noticed several of the little green beetles I enclose on my Rose-bushes, and shall be glad if you will tell me whether they do harm or good?—PARK EAU.

[The little green beetles you find on your Rose bushes belong to that very destructive family of beetles, the weevils. They are sometimes known as the "green leaf weevils;" their scientific name is *Phyllotus maculicornis*. They feed on the leaves of the plants that they infest, and unless in large numbers do but little harm. At times, however, when very abundant, they have been known to almost entirely strip a tree of its foliage. I do not know of any way of destroying them but picking them off by hand or sinking them off on to a newly tarred or painted board or sheet. This operation should be performed on a dull morning, as the weevils are then less likely to fly away when disturbed than if the sun is shining.—G. S. S.]

Insects on Apple and Pear-trees.—I enclose some insects principally infesting the Pear-trees, but also Apples, and numbers on the Pear. They are, you will see, male and female, the one has a red body, and the other black. What are these, their habits, and best method of prevention and making clearance of the pest?—WILKINSON.

[The flies you find infesting your fruit-trees and Pears are very common at this time of year, and often occur in large numbers together. They are perfectly harmless, and will not injure your trees or plants in any way. Their grubs, however, feed on the roots of plants, and are sometimes the cause of injury to them. These flies are very near relatives of the thus commonly known as St. Mark's flies, on account of their generally making their appearance about St. Mark's Day. They, however, are a different species, but belong to the same genus. The flies you send are *Bibio hortulanus*. They will all probably disappear in a day or two. They seem to be particularly common this year. The black individuals are males.—G. S. S.]

Worms in the garden.—A friend living in a neighbouring town has a small garden entirely surrounded by a brick wall, and after sunset it is simply alive with enormous worms, the ground being absolutely covered with them. Am I right in thinking they are injurious to the garden, where things certainly do not flourish, and whether there is any good way of getting rid of them?—K. A. MARSHALL.

[I do not think that worms are in any way injurious in gardens, except when they draw young seedlings into their burrows, which is not often. Darwin proved that they were of the greatest service in many ways by burying dead leaves and other vegetable matter, by bringing up fresh soil to the surface, and ventilating the soil. Many persons wish to banish them from gardens on account of the worm casts that are so abundant on lawns, especially in the autumn; but the casts when dry will soon break up when the lawn is swept and the fresh fine soil is beneficial to the grass. If the garden in question is freely visited by thrushes, blackbirds, etc., I should certainly not interfere with the worms in any way; but if the garden is in a town, it is quite possible that

they have increased in undue proportion, as their numbers have not been kept in check by their natural enemies, in which case it would be well to reduce them without trying to exterminate them. Watering with lime-water in wet weather when the worms are near the surface will bring them out of their burrows, when they should be collected. To make the lime-water, pour 10 gallons of water on 5 lb. of freshly slaked lime, stir it well two or three times, then let it settle, and use the clear water.—G. S. S.]

INDOOR PLANTS.

FORCING DAFFODILS.

It may seem at first sight somewhat out of place to call attention to Daffodils at a time when the latest species have hardly begun to flower, and a few of the Narcissus poeticus, both single and double, are still lingering in shady places in our gardens; but all true Daffodil growers know that this is just the right season for lifting the bulbs. I prefer to take mine up about the third week in June, but this year the bulbs will scarcely have ripened before the early part of July. Some growers take them up when the leaves are only partly withered, but it is best to wait until they are almost, if not quite, brown and shrivelled. The great thing is to lift the bulbs before the fresh root growth begins; this appears to commence as soon as the leaves are thoroughly exhausted, and it is, of course, quite evident that if the new root growth has proceeded far before the bulbs are taken up and dried, these bulbs must be the weaker to the loss of this growth. After being lifted the bulbs should be laid out on layers of newspaper or brown paper in a dry outhouse (not in the sun). They may be divided if they separate easily, or can be left until the leaves and roots are quite dried, when these can be removed, and the bulbs separated and placed in bags or boxes with the names of the kinds affixed. They may be planted fresh at any time during the autumn, and fair flowers of the later sorts may be obtained from bulbs planted in January, or even in February, but to get really good results and a proper development and multiplication of the bulbs, they should not be put in later than August or early in September. I usually plant as many of mine as I can plant early in August. The foregoing remarks apply, of course, more particularly to the general cultivation of Daffodils, but they have an especial bearing upon the subject of the article, for all.

Hyacinths and Forsyth have a much better chance of success if planted early and brought on in as cool an atmosphere as possible. Nothing is more spring-like or refreshing than a few specimen glasses of these beautiful spring flowers in the earlier weeks of the year. I have only a small coal greenhouse, and cannot spare much space for bulbs, but I manage to obtain a continuous series of blooms from about February 1st until the antelope species begin to flower, and these, of course, almost last to June. Had I possessed a warmer house as well as a cool one, I might have had Daffodils in my room for nearly five months without a break. There is, however, this advantage in your patiently slight forcing in a cool house—viz., that the bulbs do not appear to suffer much, whereas, if strongly forced, they are not worth much afterwards. In my case, forcing does not do bulbs any good, and it is, therefore, best to use the cheaper sorts, which are quite as useful for all practical purposes. For indoor (as well as outdoor culture) the bulbs should be planted in August or not later than the beginning of September. They should be put into pots or fairly deep boxes, and these should be placed out-of-doors on a hard bottom (gravel or ashes, not earth), and covered with a thick layer of ashes or Cocoa-nut-lime; either of these will do, but the latter is very much cleaner for use with pots that may have to come into the house. The ordinary rule for planting Daffodils is to cover them with soil to the depth of one and a half times their own length from collar to base. This I have always followed with very good results; but Daffodils for forcing should not be covered with more than half an inch to an inch of soil. When the bulbs begin to sprout vigorously it

may be taken for granted that the pots or boxes are full of roots, and they may then be removed into a cool greenhouse either in succession or altogether. If the sorts have been planted for succession they may all be brought in at once. Almost all the species may be grown in pots and forced more or less readily, with the exception of the Pheasant's-eye Narcissus and the double form commonly called the Gardenia-flowered Narcissus, and certain sorts, perhaps, that will not flourish except in Grass, as moschatus of Hawth, pallidus praecox, etc. The following list, however, may be found useful, the bulbs in each section are placed in the order of succession:—*Yellow Trumpets*: Golden Spur, spurius, ohrallaris, King and Queen of Spain, maximus, Emperor. *Bicolor Trumpets*: princeps, Horstiehl, Empress, Victoria, grandis. *Incomparabilis*: Queen Bess, Sir Watkin, Stella. *Barri vars.*: Barri conspicuus, Flora Wilson. *Leedsii vars.*: Minnie Hume, Mrs. Langtry. *Barbidgei vars.*: John Bain, Barbidgei, Ellen Barr. The variety ornatus of Narcissus poeticus will force well, and the Jonquils, also, can be grown in pots. Almost all the above can be obtained at a very low rate, and the expenditure of a few

and it is, of course, well known that many species can be grown in rooms in bowls filled with water and fine gravel, or with a damp mixture of Cocoa-nut fibre and charcoal. The regular growers are unable to issue their catalogues, as a rule, before August, and, therefore, those who have not their own stocks to lift from should send in their orders as soon as possible after they have received them.

W. W. FOWLER.

Peppert Rectory, Henley-on-Thames.

NOTES AND REPLIES.

Fuchsia fulgens.—You were asked, I noticed, a question some time ago about *Fuchsia fulgens*. Your querist may be interested to know that if cuttings of it be struck in the summer, given a 3-inch pot to winter in, kept near the glass, and not too liberally supplied with water, they are pretty certain to flower the year following. I had one of such last year, hardly a foot high when it showed flower buds, in a 4-inch pot, and the twelve or fifteen long scarlet blossoms had a good effect, hanging down on the ample foliage of the plants. If large, old plants of this *Fuchsia* be

Pottebakker, Keizerkroon, crimson and gold, Crimson King, Ophir d'Or, yellow, Rose Gris-de-la, piak, and Artus, deep scarlet. These are single. Of doubles you can grow Duc Van Thol, deep crimson, very full, La Candeur, white, Rex Rubrorum, bright scarlet, Yellow Tournesol. Treat in the same way as Hyacinths in pots.]

VEGETABLES.

TEMPERATURE FLUCTUATION AND ITS INFLUENCE.*

PERHAPS at no time could the influence of the alternate cold and mild weather be so easily discerned in vegetation generally as this year. Those accustomed to plant their Potatoes early, so as to have them off the ground in readiness for something else, are the greatest sufferers. Potatoes planted late, and which did not appear above the ground line while frosty mornings were the rule, escaped. The craze, however, with most growers to have the home-grown tuber at the earliest date places many in an awkward position when frost has cut off the tender tops. The influence of shelter, either from walls, hedges, or trees, has been very marked this spring. In my case it has not been the south border, so often looked upon as that affording the first crop, that is best; east and west aspects have been distinctly advantageous. On a west border, sheltered somewhat by trees and a lofty wall, Potatoes were almost unharmed, while on a south border, and a more open site, they were hopelessly damaged by the prevailing May frosts. The extreme cold caused much loss of early sown seeds, especially those of a tender nature, and even hardy kinds gave a poor return from first sowings. Even the Spinach suffered this year. Peas came up very irregularly from the effects of chill, and quite a long chapter could be written bearing on the effects of the cold. The change from extreme cold to mild weather, accompanied by rain, was even more striking, nothing, perhaps, showing this more plainly than the mowing machine, or the daily cutting of Asparagus. The cutting of this spring vegetable has revealed a wonderful range of difference from day to day, the produce of some mornings being quite two-thirds more or less than on others. This was not only the case in the earlier part of the season, but in June, when the temperature declined so rapidly, the growth of Asparagus became as sensitive as the thermometer itself: indeed, there would seem to be almost the same graduation in its rise and fall. Flower garden planting has never been carried out under better conditions than this year—that is, in those cases where late planting necessarily follows winter and spring bedding—as the ground was thoroughly moistened by the frequent showers and the steady rise of temperature combined to make the conditions very suitable compared with some years, when so much time is spent on watering and with so little return. S.

NOTES AND REPLIES.

Tomatoes in pots.—I have twenty-four nice strong plants about 10 inches high in 6-inch pots. I want to grow these in my greenhouse. My house is only 8 feet by 6 feet, span-roof. It gets the sun all day from all quarters. Never having grown Tomatoes before, a few hints will be useful. What size pots shall I now put them into? Do you recommend wire or stakes for training?—LORIE APPLE.

[Pot-culture throughout the season has advantages, not the least being that all available warmth from the sun strikes the roots as well as the leaves. Pots not less than 10 inches across may be used, and into these you ought to shift your plants at once. If smaller it is difficult to water the plants often enough when in full growth, unless the roots have soil heaped to run into. Allow enough room for the plants—quite 15 inches apart—and they should be trained single stemmed, not too far from the glass. Pinch out all the shoots that spring from the axils of the leaves. Air may be given in abundance. A close, damp atmosphere is most detrimental at any time, and is sure to bring diseases. Good stout stakes answer well for training them to.]

Coleworts.—Make a sowing forthwith of the Rosette in shallow drills, 12 inches or 15 inches apart. Sow firmly, as if the plants



Empress Daffodil forced. From a photograph by Mrs. Stuart Rickman, Arborfield Grange, Berks.

shillings will be amply repaid. The clearest species is Victoria, but this is almost the best species for forcing, and it is being so largely grown that the price is rapidly diminishing. Another Daffodil that might have been mentioned is J. B. M. Camm, one of the most beautiful of all, a Trumpet Daffodil with a white perianth and sulphur trumpet, changing to pure white; but this and others I have omitted as being too expensive. I have had no experience in growing smaller kinds of Daffodils, but I understand that the following may be had in bloom in January: N. minimus, minor, nanus, and cyclamineus, and that the White Hoop Petticoat Narcissus (*Corchularia monophylla*), if potted in almost pure loam; well kept moist, may be had in bloom shortly after Christmas. I have seen the beautiful little Narcissus triandrus albus (Angel's Tears) flourishing in a pot in a greenhouse, although this might hardly be expected from its natural habitat.

In conclusion, it may be well to say that a greenhouse is not a necessity. Provided the bulbs are well started out of doors, they will come on well in a room if kept near the light.

placed out-of-doors in the summer, they will generally form flower-buds at the points of their shoots if the site be sunny and warm.—IRISH READER.

Brugmansia arborea.—I should be much obliged for any directions for growing *Brugmansia arborea* well? I have had one in the heated greenhouse for several years, and it has not bloomed before, but is doing so now. It is a yard high. What sized pot should it be in? I have seen a picture of one growing in the garden in Gloucestershire. Would it do outside so far north as this?—FLORA.

[Your best plan, if you have room, will be to plant it out in a cool greenhouse, using some good loamy soil, leaf-mould, and rotten manure, giving plenty of drainage. After blooming the plant should be pruned every year. Allow it to get dry at the root before pruning it. Whilst in flower doses of either liquid-manure or some artificial stimulant should be given.]

Early single and double Tulips.—Will you kindly give me the names of some early forcing single and double Tulips as grown by the market gardener for the London market? There are lovely yellows, pinks, and crimsons on firm, erect stalks, and they last a long time in water. Do they require any particular treatment?—F. H. P.

[You cannot do better than get white

have to remain long in the seed-bed they get spindly. Plants from this batch, if set out as soon as fit, will form nice firm heads towards early winter, and they can be set out fairly close, 12 inches to 14 inches apart being sufficient. A later sowing, made about the middle of July, should come in useful for filling ground that may have been cleared of early Potatoes or Broad Beans. Keep the seedlings dusted occasionally with wood-ashes and a little slaked lime. This will generally drive away the fleas that often attack the Cabbage tribe during hot weather, though, up to the present, summer weather is certainly conspicuous by its absence.—J. M. B.

Vegetables at the Drill Hall.—An effort is now being made to induce the council of the Royal Horticultural Society to extend its patronage to vegetables in the same wide degree as it does to plants, flowers, and fruits, by having at least one of its many fortnightly meetings each year at the Westminster Drill Hall, James-street, devoted to a special vegetable exhibition. At present, at any of the society's numerous shows and meetings vegetables are rarely seen, and even then are rather endured than encouraged. That is not fair towards a section of garden products that is of the highest importance to the entire community. Generally, in all good gardens vegetable culture takes a foremost rank, and in connection with local or provincial shows vegetables get material space and encouragement, and always prove most attractive. It is hoped that the council will be induced to give to vegetables that space and encouragement they merit by having special exhibitions of them alternately in July for summer, and in October for autumn kinds.—A. D.

Summer treatment of Asparagus for forcing.—I am convinced that the major part of the failures with forced Asparagus arises from the bad treatment in summer. The best roots, I consider, are those from five to ten years of age, and then, if they have been well cared for, they are in their greatest vigour. Everyone who needs roots for forcing should sow seed every year in proportion to his needs. When the plants are strong enough to cut from, this should not be too severe, and that which has to be forced the following winter should not be cut from, allowing all the growths to remain to strengthen the roots. In this way good crowns are formed. Aided to this, the strong growths should be protected from the wind. Asparagus is much benefited by giving it either liquid-manure-water or two or three applications of a quickly soluble manure in wet weather. I am convinced that the earlier the growth ripens the more easily can Asparagus be forced. It is essential to have good roots.—J. CROOK.

Preparing for summer heat.—No time should be lost in seeing that everything is in working order for watering, such as hose, water barrels, and such like, nor should material that is suitable for mulching be neglected. Should this consist of long strawy manure, this should be put together and moistened to make it hot. It is of the utmost importance that a good mulching be given to Peas, Runner Beans, Cauliflowers, and Lettuces—in fact, all vegetables—where possible; also fruit-trees, applying it early before the moisture is drawn out of the soil. Land that is deeply worked and given plenty of manure, mulching where possible, seldom needs much water. Rotten leaves, mowings from lawns, in fact, any green material, help to keep the soil cool and moist. Where a continued supply of Lettuces, Spinach, Turnips, Radishes, and salad of all kinds is needed, then it is a good plan to supply work a shady border (not one overhung by trees), and give abundance of manure, sowing where the plants are to remain. Cauliflowers need a cool, deep, holding soil in summer. Whenever there is room, Brussels Sprouts and such like should be got out before the hot weather comes on, as in this way they get established without having recourse to watering.—F. A.

French Runner Beans.—There is a partiality among some cultivators for the French type of Bean over that of the ordinary Scarlet Runner. Sometimes the dwarf French Bean surpasses the Runner in point of crop, though not always in continuity. It is in cold

and exposed places where I have seen the advantage of growing dwarf Beans in preference to Runners, because the latter suffer from gales, while they pass over those of lower growth without much effect. Some prefer the French Bean by reason of its more delicate skin and flavour. Where this is the case, and the conditions suit the growth of trailing varieties, the French Runners are to be strongly recommended. Veitch's Climbing is a very good kind; its pods are similar to those of the Canadian Wonder in size, length, and colour. Epicure I have grown for forcing for the first time this year, and the results are so satisfying that it will be more freely sown in future, both for forcing and early gathering outdoors. This has a distinct and solid pod. As the time is now opportune for sowing Beans outdoors, those desirous of proving any fresh kind should do so at once. There are, beside these two climbing kinds, several others more or less distinct, but the above are kinds which can be recommended.—W. S.

GARDEN WORK.

Conservatory.—Cactuses are showy and interesting plants. Several species will be in flower now. *Cereus speciosissimus* when planted out will grow to a large size and bear hundreds of flowers, but it should be supported with strong stakes, as it is a troublesome plant to train. The dwarfier species, *Echinocactus*, *Opuntia*, *Mammillaria*, *Melocactus*, and others, are more easily managed, but they do not make so much show. These should be grouped together. There were many good collections years ago, but they to a large extent disappeared, for the time being only, and are now being sought for. Those who want to see a good collection now should visit Kew. Most of the species are improved by placing outside in summer when growth is finished; the full exposure ripens them, and when moved indoors in September they are all the better for the outing. The Aloe family is included in the same general term of succulents, and requires much the same treatment as the Cactus tribe. Both of these and various other succulents are sometimes planted out in summer, and if skilfully and tastefully grouped they are not without interest. Years ago we had a cold conservatory, where the back wall was covered with Myrtles. It was always green, and at this season, when the plants were in flower, the wall was a very effective feature, and one could always cut a handful of green sprays to mix with flowers. We still grow Myrtles in pots, and our plants are now just in bud, and will soon be white with blossom. The flowers do not last long, but they are sweet, and the whole appearance of the plants suggests homeliness. Tree-Carnations should now be in the flowering pots, and placed on a coal-ash bed in the open air. The watering should be in careful hands, as a water-logged plant may as well be thrown on the rubbish heap. The old-fashioned Cockscorn, when well done, generally attracts attention, and a group mixed with Ferns gives variety, and the more of these special features in the house the better. The same may be said about Balsams, though of late years they have not been so popular as they were, partly because they are of no use for cutting.

Stove.—*Acalypha Sanderiana* is easily propagated from young side shoots in bottom-heat, kept close. Young plants should be shifted on and encouraged to grow freely. They will not succeed in a low temperature, though they may be moved to the conservatory when in flower for a time; but the plant wants heat to develop the flowers. *Allamandas* and *Dipladenias* will now be coming into flower, and will produce a gorgeous effect. The Night-blooming Cactus is an interesting plant to those who visit their houses after dark, and the flowers must be seen at night if at all, as they soon fade when daylight comes. The Sultan's Balsam (*Impatiens Sultani*), easily propagated from cuttings and seeds, makes a bright little table plant in a 5-inch pot, and looks well in association with *Rivina humilis*, *Caladium argyrites*, *Ficus radicans* variegata, and *Cocos Palms*. *Jasminum gracillimum* should, if possible, be planted out

for the sake of its sweet flowers for cutting at all seasons.

Ferns under glass.—Many of the stove or tropical Ferns will do now without heat. The *Gymnogrammas*, if the nights continue cold, must have a little artificial heat at night, or their delicate fronds may suffer. Ferns will now be at their best, and the small plants will do very well in a cold-pit if kept fairly close and shaded from hot sunshine. Young seedlings in boxes or pans should be pricked off into boxes as soon as they are large enough to handle. Trade growers take them out in little tufts, as their object is to produce saleable plants speedily. For the same reason, in shifting into 5-inch pots (which is the market pot) two plants are frequently placed in each pot. Occasionally a green kind and a variegated kind are placed in the same pot, and very pretty effects are obtained when the two blend together. For house decoration we have often planted seedling Maiden-hairs and other Ferns and Moss on the tops of the pots in which Palms and other specimen plants are growing, the effect being enhanced thereby, as, without injuring the Palms, a dressy appearance is given to the only unsightly spot about the plant. It is a good plan, in addition to as many large specimens as can be accommodated in the space allotted to Ferns, to grow a large number of smaller plants. There is a large demand now for small Ferns in thumbs and pots of a slightly larger size. Mosses, also, and the pretty little *Madra* Grass are always useful. There can never be too many small, neat plants for decorating the rooms. The difficulty, if there is a difficulty, is in having sufficient variety, as no one likes to see the same plants too often.

Late Grapes.—The weather for some time has been dull and the nights cool, and it has been necessary to use a little fire-heat. It is always a mistake to stop the fires before the weather is settled, or if we get a short spell of hot weather, and then the cold wave returns, recourse should be had to fires again. If the berries of *Alicante* or *Gros Colman* are not sufficiently thinned, go over the bunches and relieve the crowded places. *Muscats* should have a little fire-heat until finished, and the lateral growth should be kept well in check if the amber tint so much esteemed is to be seen on the berries.

Window gardening.—More attention is being paid to outside window gardening than inside at present. A few well-hardened Palms may be used for a time as a background. One of the most effective plants for the back of window-boxes is the Japanese Grass (*Eulalia japonica variegata*). It is light and elegant. It will look well grouped in the corners of the boxes outlining the window. In connection with *Clematis Jackmani* the effect is very good and will continue for some time. What one wants is more originality. Within a short distance of where I am writing there are many windows decorated with flowers all in the same way, and the effect is exceedingly monotonous.

Outdoor garden.—There is a good deal of staking and tying to do now, and promptitude is necessary in keeping pace with the work, as if a plant is blown over by the wind it is never quite the same thing during the same season afterwards. Standard Roses should be specially looked to, especially if wooden stakes are used, and even with iron stakes the trees, with the weight of blossom and foliage, sometimes give way. Those who want fine flowers thin the buds of the Roses and Carnations, and as regards the Roses it is well to thin the buds somewhat, as it tends to make the succession more constant generally. When the buds are not thinned the first heavy head of bloom exhausts the plants, and then there will be no more flowers till the autumn. The only really perpetual Roses are the Teas and China. Those who have not yet sown Wall-flowers and other biennials should lose no time, as when sown late the plants are too small to flower much. Flowering shrubs, such as *Lilacs* and *Guelder Roses*, should have what pruning is necessary immediately after flowering.

Fruit garden.—When *Melons* are grown in frames, if the heat in the bed has declined, it may be necessary to surround the bed wholly or partially with linings of warm manure.

Early Melons are to a large extent now grown in low, span-roofed houses, and fire-heat is used, and the result is generally more satisfactory, as the temperature is more under control. Melons, even more so than Cucumbers, require a steady root warmth, with an atmospheric temperature of 65 degs. to 70 degs. If the roots are right the plants should not require shading at any time. A little ventilation early in the morning to let out the vitiated atmosphere, to be increased as the sun gains power, will keep the foliage robust and free from red-spider. Keep the young wood of Peaches under glass neatly tied in, and do not crowd in too much wood. Give liquid-manure freely after the stoning is finished till there are signs of ripening; but if the borders are heavily watered after the fruit begins to ripen, the flavour will suffer. The Cape Gooseberry (*Physalis edulis*) is a pleasant flavoured little fruit, scarcely so large as a Gooseberry. We used to grow it years ago against the back wall of a Peach-house, where it fruited very freely. It will succeed under the same treatment given to Tomatoes, both inside and against a warm wall in the open air. It may be raised either from seeds or cuttings. It will be necessary to still give attention to insect pests on the trees.

Vegetable garden.—The crops have made rapid progress since the showery weather set in, and the weeds, as they always do under such conditions, have obtained temporary mastery over the gardener who is short-handed; but a supreme effort must be made to clear them off before they seed, otherwise they will give trouble in the years to come. Among the routine work now will be planting out Winter Greens on every available spot. Sow an early kind of Cabbage to form Coleworts in winter. We have sometimes sown Tom Thumbs Savoy for the same purpose. It is hardier and is excellent in flavour. Continue to plant out Celery and Leeks in trenches or otherwise. Give the final thinning to Beet and other root crops not yet attended to. Beet transplants well if carefully done, so that the long root is inserted straight in the ground. Turnips sown now will not bolt, neither will Endive, which should be sown in rows 15 inches apart, and thinned out to the same distance between the plants. This refers only to the present. Later sowings will be better transplanted. Lettuces may be treated in the same way. We have had no hot weather yet. When it comes, Lettuces and Cauliflowers should be mulched. Earth up Potatoes. No more Asparagus should be cut, and the beds should have nourishment. E. HOBDAV.

THE COMING WEEKS WORK.

Extracts from a Garden Diary.

June 30th.—Planted out *Humea elegans* along back of herbaceous border. Pricked out choice seedling hardy Primulas and Auriculas in shady border. Put stakes to Carnations in beds, and gave a top-dressing among the plants of good loam and old manure. Finished potting *Chrysanthemums*. The plants are securely staked in rows easily accessible on coal-ashes. If black-fly appears Tobacco-powder will be used, and earwigs will be watched for.

July 1st.—All old Fuchsias have been planted out. Younger plants are trained up for conservatory. The old plants are pruned back rather hard, and the young shoots make excellent cuttings, which, when rooted early and kept moving during winter, make useful early-flowering stuff in 5-inch pots, or may be grown on into specimens. Sowed Forget-me-nots and Pansies in cool borders. We shall cut no more Asparagus; the beds have been cleared of weeds and top-dressed with nitrate of soda.

July 2nd.—Sowed second early Peas and Ne Plus Ultra dwarf French Beans. Top-dressed Cucumbers in frames with good loam and old manure and a little soot. Liquid-manure is given to Cucumbers and Melons in bearing now. The fruit on succession Melons is set when the pollen is dry in the forenoon. The frames are closed early after syringing on bright days. Watered the inside border of late vineyard and Peach-house; a little stimulant was in the water.

July 3rd.—Liquid-manure is given to Sweet Peas, Hollyhocks, and herbaceous Phloxes.

The lateral growth of Vines is kept well in check in mid-season and late houses. Gave a further thinning to the young wood of Peaches on walls, and removed a few more of the young fruit. One tree in an exposed position had blistered leaves. These were picked off and the trees dressed with Tobacco-powder, and afterwards syringed with Quassia extract. Mulched Tomatoes under glass with Moss-litter-manure to save watering.

July 4th.—*Verbena*, *Heliotropes*, and *Ageratum*s have been pegged down close. Where *Rosa*-beds are not mulched the surface is kept loose by frequent hoeing. The loose soil acts as a mulch and keeps in the moisture. Cut down one long row of *Globe Artichokes* to induce late growth. To have fine succulent heads we feed liberally. We are looking after early Strawberry runners for forcing. They are laid into small pots till rooted. All through the season the plants are kept in an open situation and confined to one crown.

July 5th.—Shifted on a lot of *Asparagus Sprengeri*. This is a very useful decorative plant, charming in baskets. Potted on *Cyclamens*. The compost is one-half best turfy loam, and remainder old manure, leaf-mould, peat, and sand. Pots are carefully drained. Plants will be grown in cold pits during summer, freely ventilated, and lightly shaded when the sun is bright. Sowed more Lettuces. Every spare minute is given up to hoeing. Leaves are broken down over Cauliflowers to keep the sun from the heart of the plant. Celery is planted in succession as ground becomes vacant. Filled frame with cuttings of double-flowered Arabis.

BIRDS.

Love-birds (*Peter*).—These birds should be fed upon boiled Maize, Canary-seed, and Millet. Give them as large a cage as possible, which need not be provided with nest-boxes, as these birds prefer to use a hollow log or a Cocoon-busk as a resting place. These should be hung up near the top of the cage, and have the aperture, which should be at one end, turned towards the light.

BEEES.

STARTING BEE-KEEPING.

HAVE often thought I should like to go in for Bee-keeping, and would be very glad if, through your paper, you could give me a few hints as to how best to begin. I have a garden in which I could grow suitable flowers, and there are a good many round about.—J. S.

[In starting Bee-keeping an important matter to consider is the sources of the honey supply in the particular district. Some localities yield well through May and during the early part of June, but in others little is gathered until the middle of that month. Then, again, in the north not much honey is gathered till the Heather is in flower. Still, it should be remembered that Bees travel long distances in search of stores, a radius of two miles from the apiary being visited by them. It is not so much the flowers of the garden that Bees depend on for supplies, the great bulk of the honey stored in the hive being obtained from fruit-tree blossoms, Clover and Bean fields, white Thorn, Lime-trees, and Heather, while the various kinds of Willow afford abundance of pollen in the early spring. The best way of beginning at this time of the year is to obtain swarms from some Bee-keeper in the neighbourhood. It would be well for you to arrange to have the swarm or swarms sent home on the evening of the day on which they leave the parent hive, as comb is very quickly built by a strong swarm, and if the hive is moved while the combs are new and tender they are liable to break away and cause confusion; and, again, if the swarm is left any length of time before removal to fresh quarters many Bees will be lost. It is well to feed a late swarm for the first fortnight or so, that all may be kept in a state of progress, and comb quickly built out. The feeding, however, must not be over-abundant, or the cells may all become full of stores, to the exclusion of brood.

The frame-hive is far in advance of the straw skep; if, however, you decided to keep your Bees in straw hives, these should be of large size and flat topped. Upon these can be worked best those species in which the Bees readily store the surplus honey in beautiful form. These

section-boxes hold just one pound of comb honey each, and being of very inviting appearance when nicely finished are easily disposed of. But if you wish to work for extracted honey you will find frame-hives of great advantage, as from these the combs can be removed as filled by the Bees, the honey extracted, and the combs returned to the hive to be refilled. A frame-hive to be occupied by a swarm should be furnished with comb foundation, in strips fixed to the underside of the top bars, as guides to the Bees to work out the combs within each frame. This comb foundation contains sufficient wax in its projecting walls to enable the Bees to completely work out the cells. When a swarm from the hiving skep is introduced to a frame-hive the latter should have a cloth or newspaper spread in front of it, one edge being brought over the alighting-board, and the front of the hive raised from the floor-board about 2 inches, being supported by a stone or wedge. The hiving skep should then be taken by both hands, and by a sharp and sudden movement the Bees shaken on to a sheet or newspaper. In a few minutes all the Bees will have entered the hive and formed a cluster. The day after hiving, the frames should be closed up by means of the division-boards, and all made warm and comfortable for the encouragement of honey storing.—S. S. G.]

LAW AND CUSTOM.

Notice to quit.—I took a cottage, cow-house, pig-stye, and two acres of land, on a yearly tenancy from Sept. 29, 1901, to pay rent half-yearly. I received notice on March 25 last, to quit on Sept. 29 next. Am I not entitled to a year's notice, expiring with a year of the tenancy? Does the payment of rent half-yearly affect the issue?—W. T.

[Have you a written agreement of tenancy or not? If you have not, then, supposing that you took the place at so much a year, the tenancy is yearly, and is not affected by the fact that you pay the rent half-yearly. The holding is within the Agricultural Holdings Acts, and so if there be no written agreement as to notice, a year's notice terminating with a year of tenancy is necessary; and this means that the notice you have received is bad, and that to get you out at the earliest moment, a new notice to quit on Sept. 29th, 1903, must be served on or before Sept. 29th next. But if you have signed a written agreement, any notice stipulated in that agreement will be sufficient, even if it be only a month's notice.—K. C. T.]

Agreement for working nursery ground (*A. R. B.*).—Probably you imagine that you are a yearly tenant, and that if this agreement were invalid because of the absence of a witness you would remain a yearly tenant free from any of the terms imposed by the agreement. But if this be your impression you are very much mistaken, as you are not a tenant in any sense of the word, and if this agreement were invalid the owner of the ground could turn you out at a minute's notice. In reality you are, by virtue of this agreement, engaged for two years to work this nursery ground at a specified and unvarying weekly wage. The owner of the ground is to pay for such additional labour (over and above your own work) as you and he shall mutually agree, and he is to find the money to pay for such materials as are necessary. He is to take all the proceeds of sales of produce, etc., until those proceeds amount to the sum of the following matters: a fixed amount termed rent, also the rates and taxes on the holding, and the monies laid down by him and 7½ per cent. interest thereon. After these charges have been met you are to take the proceeds of such produce as there may be until rent again begins to accrue, when your remuneration will be limited to weekly wages until the accruing charges are paid, and after that you will again take the proceeds as before. It is implied that there shall be quarterly settlements, as the rent is apparently to be calculated by the quarter. I can see very much that is vague in the agreement, and there is room for endless disputes; but, although it contains no express power on the part of the owner to appoint a receiver, or, as you term it, to "put a trustee over the place," he is quite entitled to do this. The agreement stipulates that the owner is to receive all monies from sales of produce until his claims are satisfied. It does not even say

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VEGETABLES.

LATE-PLANTED CABBAGES.

Most gardeners plant their Cabbages out early, so that they become well established before cold weather sets in. Last autumn I sowed that this haste in setting out the cabbage crop is not of so much importance as I once thought it to be. It came about in this way: A plot of Strawberries not more than two years planted was not particularly satisfactory in fruiting last summer, but hopes were raised that at least one more crop would be had. As the autumn advanced, however, the plants, instead of improving, became still more unsatisfactory, and finally it was resolved to clear them off and replant the ground with Cabbages. This was a November. The main crop of plants had already been put out, and had until then and since required making up. The November-planted stock took kindly to their new quarters, and grew away almost without the loss of a plant, and in spring the bed was much the best in the garden, the growth being so uniform and even. A good many bolted in the first planting; in the November bed not one failed from this cause. It is only fair to say that the first Cabbage was not cut from this bed, but the earliest was from another sort which did not form part of the November planting. What is equally remarkable is that these later Cabbages were from the same sowing as for the main crops already referred to. In this instance the smaller plants remained after the available ground had been filled up, and possibly this explains somewhat their greater uniformity in spring time. The ground was not dug after the Strawberries, but simply hoed and raked over, so as to remove the Strawberries and to have the surface clean and smooth. The firmness of the ground would be favourable, but as Onion-beds usually afford a site for the August plantings, the difference in soil firmness did not make so material a difference. Such instances are interesting, and in some degree instructive, particularly in small gardens.

W. S.

LETTUCES.

There should be no difficulty in securing an abundant supply of Lettuces this season, provided young plants escape slugs, which in wet weather prey so severely upon them. To restrain these pests, not only should dressings of fresh soot and slacked lime be freely applied, but plants should often be looked over in the evening, as it is just then that slugs are out feeding. Provided such troubles of early days are overcome, and they are usually so with ordinary care, it is still to be said in relation to Lettuces that whilst they like ample moisture they also like ample warmth to cause them to grow quickly and become sweet and crisp. Still further they are much less needed or appreciated when the weather is wet and cold. Whether, then, presented alone, clean, cool, and crisp, or with other salads in mixed form, there is hardly any more acceptable variety

summer food than Lettuce affords. It is also not a matter of moment whether the Lettuce be of the ordinary Paris White Cos type or of any good Cabbage variety, if both be sweet and crisp. But many of the latter forms are very bitter, and acceptable as such taste may be with Endive, it is not so desirable with Lettuce. Generally any good Cos type, if quick grown and well blanched, gives sweet leafage. A common plan in gardens, and particularly so in small ones, is to put out just one or two breadths of plants only, and often much larger ones than existing necessities require. The result is considerable waste. It is far better to sow once about every three weeks, and thus have small breadths to put out just so often. By that plan it is seldom that there is any lack of good Lettuces in a garden from May till October, and much longer if some cold-frames or south borders can be devoted to them in other months.

A. D.

NOTES AND REPLIES

Stopping outdoor-grown Tomatoes.

—One of the errors into which many fall in growing outdoor Tomatoes is that of continuing the leaders after this date instead of stopping them, and thus throwing all the energies into the fruit already set. By some the stopping of the growth in July is not regarded with much favour, but from experience I can say that one is assured of at least a few bunches of ripened fruit fairly early. This is not always the case where the leader is allowed to grow. In how many cases do we not see an abnormal amount of foliage on plants out-of-doors towards the end of a season, with very little fruit set? It is better, therefore, to make sure of the early bunches by stopping the leader now.—TOWNSMAN.

Endive.—To have an abundant stock of plants to put out in August and September sowings of Endive should be made at once, and again a couple of weeks later. Sow in shallow drills thinly 12 inches apart, as in that way the plants get much more room, and can be stout and well rooted when lifted, ready for planting out. Ordinarily it is well to plant on warm borders that slope to the south, following after some early crop, previously well manured, as such ground should do Endive well. Where such borders are not available it is then well to make sloping beds, 4 feet wide and facing south. A sloping surface enables water to flow away readily from the plants when heavy rains fall in the winter. If for the Dwarf Curled, rows 12 inches apart, and the plants 10 inches apart in the rows, suffice. But the coarser-growing broad-leaved Batavian variety should be in rows 15 inches apart, and the plants quite 12 inches apart in the rows. These can later be blanched by tying up the leaves, as is done with Cos Lettuces. The curled plants can be blanched by covering them.—A. D.

Sowing late Peas.—From repeated experiments we find June 1 quite late enough to sow for main crops of Peas, from which we always keep gathering as long as the weather remains mild enough for them to make

any growth. Last year we sowed our main latest crop on June 2 in trenches, well manured, as if for Celery, scattering the seed thinly all over the trench, so as to make a broad row. The plants were soked as soon as high enough, and the soil between the rows, which were 6 feet apart, was covered with long stable-litter to retain moisture, the soil being very dry at that date. By means of copious waterings a rapid and luxuriant growth was the result, and they produced a fine crop, which lasted as long as green Peas were procurable out-of-doors. The sorts which we grow principally are Ne Plus Ultra and Clampton of England, both kinds difficult to surpass for quantity, quality, and long continued bearing. Ne Plus Ultra is an especial favourite in the kitchen for its deep green colour, and if confined to one sort I should prefer it to all others. For the late tall Peas good supports are necessary, and I find Chestnut branches much more durable than Hazel, as they are perfectly sound the second year, while Hazel only lasts one season.

Cauliflowers clubbing (S. D. D.).

—Where clubbing is prevalent preventive measures ought to be taken. Sometimes it is caused by the grub of a small beetle or weevil, and occasionally the maggot of a midge or fly is responsible for the mischief. A free use of soot and lime, forking them into the surface of the bed before sowing the seed, has a deterrent effect, and so also has sand soaked in petroleum, the surface of the bed being dressed with this every week or ten days. Before planting examine the underground portion of stem of each plant, and cleanly cut away every small excrescence or wart there found, following this up with the oil-fashioned remedy of pulling the roots of all the plants. Form a puddle with clay, soot, lime, and water, a wineglassful of petroleum being also added with advantage, and drag the roots through this so as to thoroughly coat them and the lower portion of the stems with the puddle. Thus treated, they seem to feel the check of removal less than when not puddled, and are seldom interfered with by either maggot or wireworm afterwards. It is on stale, indifferently cultivated ground that grubs most often gain the ascendancy. You will do well to do all you can towards promoting a vigorous growth by way of prevention of club root. Newly slaked lime at the rate of 1 bushel per rod ought to be forked into the surface of the previously well-manured ground, and after the plants have been put out, all being carefully fixed, clear water should be given for a time, or for the first week or so, afterwards giving liquid-manure frequently. Nitrate of soda, or that in mixture with superphosphate of lime, dissolved at the rate of 1 oz. to a gallon of water, would be the best form of fertiliser for the purpose. Apply at first round the plants, but when the latter are growing strongly draw mould up to the stems and pour the liquid-manure freely along the furrows. Petroleum is one of the best insecticides ever discovered, and in extreme cases of clubbing we would advise soaking sand in it and mixing the litter freely with the soil in which the Cauliflowers are planted.

PLANTS AND FLOWERS.

INDOOR PLANTS.

GREENHOUSE FLOWERS IN LATE SUMMER.

It often happens that greenhouses, which, during May and June and the early part of July, exhibit much beauty, begin to show signs of falling off towards the end of July and August, a state of things which is mainly brought about, I think, by a failure to keep up a supply of young plants to take the place of those that have begun to fail. To maintain vigorous plants, one should always have in reserve a sufficient and varied assortment to last one right into the autumn, and this can very easily be done by preparing what is required now. There is no particular expense attached to this, as the propagation from cuttings and the raising from seed of some of our best known plants can at once be attended to. For example, cuttings of Fuchsias and Zonal Pelargoniums should at once be taken and grown on for blooming at a specific period, say, the middle of August. This, of course, will necessitate the removal of all flower buds until the near approach of that time, keeping them in the meantime in cold frames, and thus, with the change of temperature by their removal into the house at the date referred to, they will quickly burst into bloom and keep the house gay for weeks to come. I have always been struck with the absence of annuals from greenhouses in the autumn, and never could understand the reason why, for instance, the pink and white Rhodanthes are grown only in spring by most people. Seed sown in June will furnish many pots of blossoms in July, and there is less likelihood of their dumping off when young, as they sometimes do when sown in February and March; or, again, what can vie with Mimulus grown specially for blooming in August? Petunias are free-growing, and both double and single are easily raised in this way, or cuttings of approved sorts readily strike and make handsome plants if grown on in loam or leaf-mould, pinching them back to give them shape. I believe that some people, however, still are under the impression that double sorts can only be propagated in this way, but this is not so, as quite 60 per cent. of the plants produced from a packet of seed of a double sort come true. Fuchsias, as I have said, one never tires of, they are always interesting, and, to prepare a batch of plants for blooming a few months hence, one has but to strike the cuttings this month, prevent them from blooming by taking off the buds as they appear, and then, a few weeks before they are wanted in bloom, give them a stimulant. Balsams are wonderfully attractive in the spring; they are not less so when blooming in August, and to have them at that time is only a matter of sowing the seed, the finest trusses of bloom resulting from plants that have been given the most liberal treatment, this consisting of a rich compost of loam and partly rotted cow-dung, with leaf-mould added. That fragrant flower both for indoor or outdoor growing, the Heliotrope, can be brought on for flowering at any time of the year. Cuttings struck now will be in their prime in August, or they may be further retarded for late blooming by a removal of buds as they form. That oft-seen window plant, *Franca ramosa*, is a most useful greenhouse plant, and young ones now ready for shifting into 5-inch pots will be in bloom in August, and though the flowers are not by any means brilliant, they are produced in great quantities on their wreath-like stems and, what is of importance, last a long time. *Seizanthuses* must be grown and bloomed to be fully appreciated; they are most delightful half-hardy annuals, and when grown in pots and flowered in the house, as they should be, they make compact plants crowded with blossoms. Where young plants can be had they should now be potted on. If, besides all these, one desires attractive foliage, what can compare with the richness of *Coleuses*? That they may be raised from seed and grown with great rapidity if kept in a warm greenhouse, where the atmosphere is charged with moisture, is well known; but it is half the trouble to propagate from seed

now that we have the warmest of the weather before us.

The condition of basket plants about the middle of August is often anything but satisfactory, and owing to their being subject to dryness more so than pot plants, failures ensue in mid-season. To guard against a contingency like this one should be prepared with renewals, and scarcely anything can be better than young Ivy-leaved Pelargoniums. These will strike quickly enough now, and should be potted on and kept in the house for a time.

TOWNSMAN.

JUSTICIAS AND THEIR CULTURE.

This genus contains a large number of species of easily-managed, quick-growing plants that soon arrive at a flowering state. Most of them are evergreen free-flowering stove shrubs. They strike readily from cuttings in spring, kept

kinds are those that bloom in the autumn. After flowering, those that are to be kept for another year should have their shoots shortened back, and be kept in a temperature through the winter of about 60 degs. by night. In spring shake a portion of the old soil away, and give pots 3 inches or 4 inches larger, striking cuttings of those kinds that it is preferred to bloom in a smaller state, treating the old plants as advised in the summer previous. When the pots are full of roots manure-water is of great assistance. Aphides and red-spider affect these plants; syringe freely with clean water to remove the latter, and fumigate with Tobacco for the aphides. The most desirable kinds are—

J. CARNEA (here figured), a strong-growing, free-flowering species, that bears large heads of flesh-coloured flowers; an autumn bloomer.

J. COCCINEA is a winter or early spring-flowering kind, with scarlet flowers.



Justicia carnea. From a photograph by Geo. E. Low, 2, Glensageary Hill, Dublin.

moist, close, and shaded, and in a moderately brisk heat. When rooted, move them singly to 3-inch pots, giving them good turfy loam, with some leaf-mould, rotten manure, and sand, in which mixture they thrive very freely. Keep them rather close until they begin to grow, when pinch out the tops and give more air, still keeping them in a stove temperature, with a tolerably moist atmosphere, and shade when the weather is bright. When necessary, they will require moving to 6-inch or 8-inch pots, according to the more or less natural strength of the kinds grown. Use the same sort of soil, but let it be now in a more lumpy condition. Again pinch out the points of the shoots, syringe daily, and water freely, as the pot gets full of roots; stand them with their heads well up to the glass, and give air and shade. As the summer draws to a close, dispense with the shade as soon as the plants will bear it, give more air, and put a few sticks to them for support. The most useful

J. LILACINA, a pretty species, flowers at various times of the year.

J. SPLENDENS is a desirable free-flowering kind that may be had in bloom at different seasons, according to the warmth it is subjected to.

GREENHOUSE CLIMBERS.

CLIMBERS on the roof are undoubtedly amongst the attractions of many greenhouses, but unless they are kept under proper control they become more of a nuisance than otherwise, and positively harmful to plants growing therein. For this reason I am an advocate for cultivating climbing plants in pots or tubs, so that at certain times of the year one may remove them to the open air, to the advantage of the climbers themselves and the other occupants of the house. I do not always agree with creepers being grown on a roof to act as a shade for other plants, especially in houses

where mixed collections are grown, because there are certain periods when, dull weather supervening, one needs all the light one can get. Much better is it to have few creepers on a roof and employ blinds on the outside when required, which may be taken down as circumstances demand, than for the house to be in a state of semi-gloom for several months in the year. To avoid this, then, it is desirable to go over creepers now, cutting away all useless shoots, retaining only those that are actually of service. One knows very well what an abnormal amount of growth proceeds from such things as Passifloras, Lapagerias, Cobæas, Clematites, Swinsonias, Plumbagos, etc., and if a couple of seasons' growth accumulates how they darken the house. One sometimes profits by other people's experience in matters of this kind, and I recollect seeing a group of Coleuses that were fast becoming thin, losing colour, and having a drawn and sickly appearance through a roof over-hardened with foliage, but after cutting away all unnecessary branches, the light and sunshine, which had been prevented entering, soon wrought the desired change. What is applicable in the case of Coleuses is also true in the case of all kinds of greenhouse flowering plants. Light must do its part, or otherwise failures ensue. My contention, therefore, that climbing plants should be grown in pots, and so have a change by being placed out-of-doors, will be patent to anyone having to deal with greenhouse plants. I have on many occasions seen Roses planted in borders, and having been in the same house for a season or two, lose their vitality, mainly in consequence of the trying ordeal of being under a glass roof and exposed to overmuch sun, but grown in pots and placed out-of-doors after blooming they have a much better chance of recuperating and becoming stronger.

WOODRASTWICK.

AZALEAS.

Plants that were in flower by last December and January, and duly attended to in a growing temperature, should by the middle of July be fit to place out-of-doors to finish and harden up their growth and form flower-buds at almost every tip, if well cared for in the matter of watering and daily syringing when fine weather comes. The plants should be examined before turning out, and should thrip be found on the undersides of the leaves fumigate at night and next morning, if convenient. If this cannot be carried out, lay the plants on their sides and well syringe with fairly hot water that has a wineglassful and a half of petroleum put in, well mixing together first by working the syringe back into the vessel with as much force as possible. This will prevent the oil from floating on top of the water—in fact, it is much the wisest for one man to keep the mixture well on the move with the syringe whilst another puts it on the plants. Lay each plant on its side, spreading a couple of mats for the purpose, wetting every bit of foliage by moving around the plant. In eight or ten minutes after this application give another good washing with water standing at 110 degs. or even 120 degs. This will remove all dirt and any trace of petroleum. A partly shaded position during summer is best for Azaleas, under a north wall where just the rising sun reaches them and again when setting, standing them on slates or an ash bottom. Should any require repotting let it be seen to at once. Giving small shifts is the motto, using good peat with just a little fibrous loam, and enough coarse silver-sand to make it porous. Let the pots be cleaned and well-drained so that the water passes away freely or bad results soon follow. Any plants that are not in good health should be reduced at the ball and given a smaller pot. These would be better kept under glass for another month or so in case heavy rains ensue, which would be ruinous to the roots, not having laid hold of the new material. Early in September remove the plants to a more sunny position where the sun will thoroughly ripen up the growth. In a favourable autumn, with not too heavy a rainfall, the plants may remain out-of-doors until well into October, a few degrees of frost doing them no harm. When they are housed it may be well to agitate the soil, then as before, cleaning over the surface of the pots

and washing the outside of them so that all may be clean and healthy. Azaleas while making their growth enjoy a little artificial manure scattered over the surface and watered in, say once a week, while a little clear soot-water tends to keep the foliage dark.

J. M. B.

SMALL-FLOWERED ARUM LILIES.

INTRODUCED into this country in 1731, and so universally grown for many years, the Arum Lily showed little, if any, departure from the normal form till about a dozen years ago, when that delightful miniature kind, Little Gem, made its appearance. It was first shown at a meeting of the Royal Horticultural Society in the autumn of 1890, and attracted a deal of attention, an award of merit being bestowed upon it. This variety, the lower-stem of which reaches a height of about a foot, with a spathe in proportion, may be flowered successfully in pots only 4 inches in diameter, and in this small state is useful for various decorative purposes, but where the size of the pot is of no particular moment one 5 inches in diameter is the most useful. The variety Little Gem is



Arum Perle von Stuttgart.

extremely prolific in suckers, and that is the reason why many fail to flower it in a satisfactory manner, for if the suckers are allowed to develop, the result will be pots full of leaves, but few, if any, flowers. On this account the main flowering crowns must be kept free from suckers. Soon after the advent of Little Gem the variety compactum made its appearance, and gained a similar award at the Royal Horticultural Society just twelve months later than the first named. This reaches a height of 18 inches to 2 feet, and bears good-sized spathe, thus belonging to what might be termed the medium-sized class. It still remains a popular variety. Another in the same way is Perle de Stuttgart, here illustrated, which is a comparatively new kind, remarkable for its dwarf, compact habit and large flowers. In the

CULTURE of Arum Lilies in general, whether planted out during the summer or confined altogether in pots, a most important consideration is to remember the conditions under which they grow in a state of nature, and throughout the period they are in active growth keep them liberally supplied with water, while manure in some shape or other is very essential. In the West of England and in some parts of Ireland the Arum Lily may be successfully grown out-

of-doors as an aquatic, and when in a flourishing state it forms in this way a delightful feature. T.

NOTES AND REPLIES.

Bad leaf-mould.—I would warn users of this material who collect their own leaves for the purpose to see that they are properly decayed before using and that no mud or grit is thrown on the heap, or that no dirty water is thrown on to assist, as some think, the more rapid decay of the material. I had the misfortune to have a lot as above described, and after sowing seeds and pricking off plants in soil in which the mould was mixed, I found the seeds failed to germinate, and the plants made no headway. It is well to take a lesson from nature that the leaves which fall in and around a wood make the best of leaf-mould, and it requires neither dirty water nor any other concoction to assist in their decay.—D. McL., B. of W., N. B.

A good variegated greenhouse plant.—Of late years many of our best greenhouse plants do not appear to be much grown. This may arise from the fact that not a few of them are of much value to cut from. Nevertheless, there are many useful kinds, and amongst them must be mentioned *Coprosma Bauriana variegata*, which never loses its bright colour at any season. It is ornamental either in a large or small shape. Small plants in 4-inch or 5-inch pots are useful for house furnishing. Needing many plants for the embellishment of the rooms which are high and dark, I have to use material that is bright in colour, and I find this plant one of the best. Another recommendation, too, is that being grown cold it does not suffer like many things. My plants are always grown in a cool greenhouse, with abundance of air at all times, and are stood outside in summer. A sandy loam suits it well, potting it very firmly. From the habit being slightly straggling it needs the points of the shoots taken out sometimes, and in this way nice compact plants can be obtained. It strikes readily from cuttings put into sandy soil, keeping them close for a time.

Saxifraga pyramidalis in pots.—This is a most beautiful plant when in flower, which is usually in May and June. It requires good treatment to get the best results, and is best grown in pots under glass, though the plant has proved itself hardy in Devon and Cornwall, but the spikes are not to be compared with those that are given glass accommodation. No artificial heat is necessary; plunging in a bed of coal-ashes in a cold-frame will carry the plant through the winter. Free ventilation, whenever the weather admits of its being done, and little or no water at the roots, and keeping the plants within 6 inches of the glass and free from drip, are all that it requires while in this position. As soon as the plant passes out of flower remove the side growths with a knife with root attached, and either place in thumb pots or dibble into pans and pot up in early spring. Loam with a dash of leaf-soil, with a good percentage of broken bricks, I find a suitable compost to grow them in. These offshoots require two years' growth before they show flower, so a fresh stock must be put in each year. After flowering the plants die away, some without throwing off any side shoots at all. Young plants put in now into small pots will not require repotting for a year, when transfer into 5-inch pots, potting firmly and standing out-of-doors in the full sun, watering with care until growth is active, when a plentiful supply will do no harm. No stimulant will be necessary until the flower-spike shows, then it may be given weak. Keep the plant in the cold-frame or pit until the flowers begin to expand, when remove to the greenhouse or conservatory, and keep dry overhead or the flowers soon get spotted. A neat stake should be put to the spike, which reaches to a height of 2 feet, to keep it erect.—J. M. B.

As many of the most interesting notes and articles in "GARDENING" from the very beginning have come from its readers, we offer each week a copy of the latest edition of *THE HOUSE AND GREENHOUSE PLANTS*, or "THE ENGLISH FLOWER GARDEN" to the sender of the most useful or interesting letter on short articles published in the current week's issue, which will be marked thus *.

OUTDOOR PLANTS

SCHIZOPETALON WALKERI.

This curious half-hardy annual comes from Chili. It grows about 1 foot high, and bears on slender stems numerous white, almond-scented, fringed blossoms, which are well shown in our illustration. It will be found very useful for cutting for the house. If sown in April or May in a light, warm soil in the open border, it flowers through July and August. It may also be raised in pots and transplanted, but when thus treated great care must be taken that the ball of soil does not get broken, as it is impatient of disturbance.

NOTES FROM IRELAND.

COLUMBINES are beautiful in June, when the collection is rather large and varied, and this weather is in their favour, for in a hot, dry season they do not last long in bloom. Tall, double, large-flowered varieties are really showy, the colours being all shades of purple to almost black, blue, red, and pale shades to white. There are also purple and white or

double or single, scarlet and yellow, and other colours. *A. chrysantha*, *A. cornuta*, and *A. vulgaris* give good hybrids. One still living, having been planted in the shelter of a bush, had blossoms 3 inches or 4 inches in diameter, the petals of a creamy-gold outside, large sepals tinged lilac-purple, and it very often comes true. A scarlet-red double one may be a hybrid of *A. californica* and *A. vulgaris*. Two groups of *A. Jatschani* are good, the blossoms being almost invariably double, and either purple, purple and gold at the mouth, or red and yellow or deep pink. Formerly I had excellent hybrids myself from *A. chrysantha* and *A. Skinneri*, the blossoms with long red spurs and goblet centres looking, late in the afternoon, like lamps hanging from the plants. A collection of Columbines is always changing, old plants dying out, but when seed is sown annually, new types of flowers in build, also new colours, present themselves, since, in addition to what you may be doing in the way of hybridising, other agents may be assisting, while there is, besides, the law of variation in these plants, and it only needs the inferior varieties to be kept constantly weeded out and

Dielytra was pretty. The thin, shining, very pods of the white *Honesty*, when the valves of the ripe pods are removed therefrom are perhaps better than those of the common coloured kind. A plant of *Geum* miniature with thirty or forty stems, has been flowering since early in May, and is showy with its orange blossoms. *Polemonium coruleum* alba is now in flower beside *Geum* *miniaturum*. Double scarlet *Geum*, now opened, has been good as scarlet *Geraniums* sometimes. A dwarf, large-flowered *Myosotis* has been pretty as edging, and is still so, the rain but beautified the numerous blossoms. The ordinary *sylvatica* is not to be compared with it, an annual *Saxifrage* with Ivy-shaped leaves growing beside the dark-leaved *Ajuga* pretty, the numerous yellow blossoms of the *Saxifrage* contrasting with the blue ones of the spikes of *Ajuga*. An interest can be taken in seedling *Daisies*, many good varieties resulting in this way when the seed is good and inferior yellow-centred varieties can be pulled up as they appear. The old *Hen-and-Cluck* *Daisy* still gets a place. *Pyrethrums*, double and single, are beautiful; whatever the character of the season these hardy plants do well. Perennial *Cornflowers* are more interesting than that there are varieties of them, of which the cream coloured is one of the best. A seedling European *Globe-flower* is an improvement on the type, the sepals being broader and white, covering the centre. The star-shaped flowers of *Cerastium* in a warm site are pretty, Arabis being over. Both *Arabis* and *Aubrieta* were later this year owing to the weather. *Pulsatilla officinalis* and its white variety are worth growing because of their early flowering. *Wallflower Ruby Gem* is a good variety, coming mostly true from seed.

Roses are not much in flower yet, but the *Paeonies* are, and there are still a grandeur and beauty in these fine, large, hardy flowers whose scent, such as it is, I have always liked. It does not take many flowers for a vase when *Paeonies* are used. *Lily of the Valley* flowers well this year, the season suiting it. *Convolvulus* (*Calystegia sepium*) was established itself here, having spread out from a wall. The stems of the *Convolvulus* were permitted to grow until they acquired a little toughness—they were then pulled up with a portion of the white base generally. This was practised for more than one year; now there is no *Convolvulus* in the place nor along the wall where it spread to the border. Some common *Scilla* drops, single and double, are grown with the *Lily of the Valley*, the spot being warm and early, and the two plants grow harmoniously enough together. *Polyanthuses* bloomed profusely, the month of May still seeing some of the giant yellow and white varieties, these being the showiest, though the red and magenta kinds are nice. There was one fine *Primula* which got named *Lord Beaconsfield*. It is not a true *Primula*, sending up scapes late, and hardly until it has exhausted itself in *Primula* fashion. The species of *Primula* sometimes get unfavourable weather to open. *P. rosea* generally manages to display for a time of bright rosy blossoms; *P. denticulata* got killed occasionally; *P. Sieboldi* is too tender, whilst a crowd of little blossoms are on the trusses of *P. casimeriana*. *Tulips* (the late kinds) were lovely in May, beds of these being gay beside *Spanish Scillas* and other things. Of the species, or wild sorts, *T. acuminata* was early in bloom, lasting long. A scarlet strain ran down the petal of one flower of *T. Bellefleur*, so that these can vary too. *T. Geometrica* is an ornament wherever grown. *Tulips* have a richness and colouring entitling them to a high rank among flowers, and in this require care they are worthy of it. I gave lately in GARDENING a handsome photograph of *Crocus verus* in the Grass. I raised some corms of one, when it was in flower, a spurious kind having got amongst them. This is rather a distinct kind of *C. vernus*, with fine white stigma, which I named *C. French* after the giver of the parent corm, Rev. Edward French. A large blue (or purple) *Crocus* with eight segments, four stamens, and a four-lobed stigma, and, as this is the second year that I come this way, it supports the opinion that it is a seedling. A *Dog's-tooth Violet* had eight segments to the flower and an increased number of other parts, this enhancing its beauty.



Schizopetalon Walkeri. From a photograph by Geo. E. Low, Bulletin.

blue and white varieties, *Aquilegia glandulosa* or *A. Wittmanniana* being responsible for the white open tips to the petals. In the double varieties the petals are recurved or plain, both being nice. Tall single varieties with large, bell-shaped flowers, having long sepals, red, pink, pink and white, and blue, and other shades, are also showy. When this style of flower is associated with dwarfness of habit it comes near to *A. alpina*, true. There are also dwarf-growing double varieties in a number of colours, some being edged at the mouth of the petals with silver. The most perfectly double have the spurs twisted at the base, this being a neat style of flower; but loosely built double blossoms are also nice. The kinds with spurless petals, when moderately double, are pretty, their drooping, spreading blossoms having a fine column of stamens. A dwarf-growing kind, with erect double flowers, now in different colours, is interesting where drooping blossoms are the rule; it is *A. sibirica* pl. Usually the first flower of any plant to open is the best, regarding doubleness as well as the best, but this is not the case always with Columbines, since the first blossoms to open may be single, the succeeding ones double. Hybrid *Skinneri* with *A. vulgaris* are pretty, being

destroyed to keep the collection up to a certain standard of goodness. One Columbine shows the sepals doubled in number—ten—the flower, which is double, being singular even among these quaint plants. The American species are not lasting here, and sometimes capricious, too, in the flowering.

Rockets (*Hesperis*) are in fine flower now, the colours of the blossoms varying from clear white to lilac, or purple almost, or speckled, and, when planted in mixture, are pretty, having also a sweet scent, especially in the afternoon. The double kinds require here strong, rich soil, retentive of moisture, to enable them to send up strong stems. *H. tristis*, which is a remarkable plant, commenced to flower early in May. An insect affected the foliage of the common *Rockets* in May, their points being caught with a web, this excluding the air from the flower-buds, and I thought it worth while opening them and killing the small, smooth, caterpillar which was the cause, and which "G. S. S." knows all about. Some plants of the white variety of *Honesty* grew beside *Dielytra spectabilis*, and were permitted to flower where they sprung up, and the appearance of the large pyramidal plants when in blossom beside the arching racemes of pink flowers of

Leucojum vernum flowered well; its bells are finer than those of the summer Snowflake. Yellow Turk's-cap Lily, the broad-leaved kind, is flowering. The plant of this species, with narrow, linear leaves and a more graceful and different blossom, is still in bud. The distinction between the two is maintained in the fruit, this being longer and broader at the top in the narrow-leaved kind. It is the broader-leaved variety that is oftenest met with. A narrow-leaved purple Turk's Cap is pretty, its blossoms being as distinctly spotted as those of *Calceolarias*, but it is not so hardy as the commoner broad-leaved purple, and transplanting prevents it flowering. *Verbascum pyramichitum* is seeding up its stems, also *Digitalis lutea*. *Bocconia cordata* is a good height in a sheltered position, later to bear its plume-like panicles of sweetish-scented blossoms. *Sanguinaria canadensis* was of lasting quality this year, its glistening white flowers remaining a long time good. It is well that Tufted Pansies and Pansies (seedlings) are so hardy that they can endure a severe winter and give us their blossoms when the year begins to get properly warm. Some seedlings of the Tufted Pansies are elegant, being yellow, primrose, white, blue and white, and other colours. Pansies of the German strain growing out in the open are flowering well. Orchids are pretty on the north side of a rock-

the year, but I have found that by getting the seed in from the middle of July to the middle of August one obtains plants calculated to stand the winter better. Inclosed Poppies last well when cut and are slightly scented. Too many, I fear, who care for them overlook until spring that seed to do any good should be sown in July or August.—TOWNSMAN.

YUCCA FILAMENTOSA.

THE various species of *Yucca* are particularly valuable in our gardens, for there is no season of the year when they are not decorative. Naturally, the period of their highest effectiveness is that when they bear their tall, ivory-white flower-heads, but even when they are flowerless their cool, grey-green foliage is always pleasing to the eye, both on account of its colouring and its noble form. *Yucca filamentosa*, popularly known as Adam's Needle, the species figured in the accompanying illustration, is the freest bloomer of the family, as, when once established, it almost invariably flowers annually. Being of comparatively dwarf habit compared with others of the genus, and taking up but little room, it is the one best-suited for the small garden. Herbaceous borders, even the narrowest, are greatly improved by a few of these plants, which tend to break the line. In wide borders, groups of

standing the hardest frosts with impunity. Many of the other species, coming from more southern districts in the American continent, are tender or at best only half-hardy.

S. W. F.

RABBIT-PROOF PLANTS TO FLOWER IN AUGUST.

(REPLY TO "CASTLEMANS.")

RABBITS have not touched the following in S. Devon: All vars. of Perennial Astors, P. Sunflowers, *Helianthus*, Golden Rods, and *Railbeckias*. These are wild plants in the woods in the U.S.A., all hardy, but the Brass must be cleared from their crowns, and, indeed, from all this kind of plant. They are glorious in their union of gold and lavender. Whether they will be too late for August in the north I do not know. All the St. John's Worts are safe and beautiful. There are not many plants suitable for wild gardening that would be safe; but for spring and early summer there should be added to the list Snowflakes, Solomon's Seal, the Gloxinia-flowered Foxgloves, single Paeonies, "Flag" Iris (*Iris germanica*), single Rocket, and, by the burn, double and single King Caps. Would Oriental Poppies do? They are rabbit-proof. I do not think "Brere Rabbit" would touch wild Poppies or Corn Marigolds.



Adam's Needle (*Yucca filamentosa*) in Col. Baskerville's garden at Crowsley Park. From a photograph by Mr. Thomas Taylor.

garden. The first Oriental Poppy flower is open. Spores of *Lycopodium selago* were scattered on the surface of a pot containing white Heath, and now one or two young plants are to be seen; a prothallus was not noticed. A few plants of *Lycopodium selago* look well in a pot—they look so like miniature conifers.

Frost was rather severe on some plants last winter. *Muhlenbeckia complexa* was injured. *Helleborus orientalis* escaped, but a little choiceness of site is beneficial. *Phytolium capensis* bore the ordeal well. The Barbary Ragwort (*Othonna cheirifolia*) was potted and kept safe; this plant has rather nice and distinct, erect, smooth, glaucous, obtuse foliage. *Hypericum Moserianum* was killed in the top parts of the plants, but it springs up from the thicker wood lower down. Cuttings of it struck in the summer or autumn, kept safe during winter, and planted out in the spring in rich soil when frost is gone, give fine large flowers in the late summer and autumn. In the newly opened blossoms of this hybrid St. John's Wort the red-anthered stamens look pretty standing in their saucers of gold.

R. L. K.

Iceland Poppies.—Some Iceland Poppies which are now in bloom in my garden remind me that the plants were raised from seed sown last July and wintered on a dry border under a wall. Some growers, I believe, sow late in

four or five give the most pleasing effect, while in narrow ones a single plant will prove sufficient for one spot. The charming picture presented by informal grouping of half-a-dozen plants or so in the Brass in front of shrubs and evergreens is well portrayed on this page. The great *Yucca gloriosa* is an especially striking object on a lawn where it has been established for many years, as in this case it spreads over a large space of ground, forming numerous heads of various heights, and often bearing many towering flower-spikes simultaneously, the tallest of which sometimes exceeds 10 feet in height. This species often produces its bloom-spire late in the season, and in the south-west it is no uncommon sight during a mild winter to see one in full blossom in December. There is a variegated form of *Y. gloriosa*, which is but rarely seen. It is a strikingly handsome plant, and flowers as freely as the type. *Y. pendula* has drooping foliage which imparts to it a graceful and distinct appearance, and renders it perhaps the most attractive of the family. It is held to be a variety of *Y. gloriosa*, but rarely attains the same dimensions, and bears its flowers more loosely disposed upon the spike. *Y. flaccida* is a form of *Y. filamentosa*, from which it differs in its leafage being less erect. There are also many other species and varieties, but those mentioned, which are natives of North America, are the best for gardens as they are absolutely hardy with-

or, indeed, "pot" Marigolds; at any rate, they do not do so here. They also let alone the wild Columbine (*Aquilegia vulgaris*), but graze down the hybrids. *Lilium tigrinum* and *L. speciosum* would thrive if planted in groups and surrounded by 1-inch mesh wire netting, 3 feet high, but also 1 foot in the ground; the Brass would almost hit the wire. The first would about suit for time; the other would, perhaps, be late. All these plants are quite hardy and cheap, and increase quickly. It would be well to try Chicory and Viper's Bugloss (the latter a biennial). Their blue is perfect. But to make real pictures, fine-foliaged plants should be used. A group of *Bocconia cordata*, 8 feet high, arching its heads of soft brown flower-buds over a huge clump of scarlet Poppies, every passing breeze turning its lovely grey-green leaves to show their silver lining, is a sight worth seeing. They are beautiful, too, by water. The Giant Rhabarbs (*Rheums*), Fennels, and *Acanthus* are quite hardy, and quite as beautiful as tropical plants. These, also, are more "in keeping" if planted by water. All die down in winter, out of harm's way. Little or anything would touch them in the summer with better food-plants about.

A. B.

Dwarfish.

—Concerning your answer to "A. H. F. M.," in *GARDENING ILLUSTRATED*, p. 223, as rabbit-proof plants, the following may be of service

to your correspondent. A short time since I had occasion to consult several authorities on the subject of rabbit-proof plants, and found, singularly enough, that there were considerable differences of opinion—that is to say, plants that escape in one district would be eaten in another, and *vice versa*. However, the matter was thoroughly discussed, and the following list of plants drawn up, which might be safely planted where rabbits abound (short of insuring an actual warren) without much risk of their being troubled by these animals. Shrubs: Azaleas, Rhododendrons, Spurge Laurel, Juniperus Sabina, Potentilla fruticosa, Furze or Gorse, Forsythia suspensa, Forsythia viridissima, Jasminum nudiflorum, Lilacs. Tree: Peonies, Symphoricarpos racemosus, Ruscus aculeatus, Ruscus racemosus, Leyceum barbatum, Eonymus japonicus, Ligustrum vulgare (Privet), Hypericum androsaemum, Yucca gloriosa, Hydrangea Hortensia, Rhus Cotinus, Box, and Helleborus viridiflorus. Herbaceous plants: Tritonum, Iris, Winter Aconite, Narcissus, Solomon's Seal, Lily of the Valley, Aquilegia, Periwinkle, Scillas, Delphiniums, Primrose, Anemones of sorts, Violets, Poppies, Foxgloves, Pansies, Stachys latata, and Muscari. T.

NOTES AND REPLIES.

Crinums.—Beautiful subjects are the Crinums, but too often absent from gardens where their culture could easily be undertaken. What suits them best is a warm, sheltered border where the soil is rich, and where they will not have to be disturbed. Their blossoms, which are borne in umbels, are nice for cutting, and come in useful in the autumn. *C. capense* and *C. Moorei album*, pink and white respectively, are the best known. It is advisable to give them a slight covering of leaves, etc., during the winter.—TOWNSMAN.

Madonna Lily diseased.—I enclose a stem of Madonna Lily. I have a border with twenty-four large clumps, about 2 yards apart all down it of *M. lilies*. Just lately five clumps together have been spoilt as enclosed. My gardener says it is the hot sun, which has been out at 4.30 a.m. on top of the frost, which we have been having last week, but I would be glad if you could tell me if it is the dreaded Lily disease? These lilies have been in five years and do so well always in stiff clay soil. The rest of the clumps do not seem to have been touched. What remedies do you recommend?—EDELWEISS.

[Unfortunately, the stem which you send has been attacked by the disease so liable to attack this Lily. Lifting the bulbs and shaking them up in a bag of sulphur has in some cases proved a remedy, whilst in others lifting and baking in the sun have also been efficacious.]

Columbines.—A hunk of these lovely old-fashioned flowers, grown in a country garden and which was put into my hand the other day, showed very clearly what a deal one may do in having showy borders where Columbines are grown. They offer a range of quaintly marked flowers, which last for a considerable time, are not the least interesting when arranged in vases for table decoration, and are, moreover, so easy to rear and keep during the winter that anyone with a garden need not despair of growing them. No better time can be chosen than the present for sowing seed in the border. Some of the selected hybrids of to-day are charming.—LEADHURST.

Silenes.—For planting out in autumn for blooming in the border next spring, now is the time to plant *Silenes*, or where pink blossoms are wanted in the greenhouse early, a few plants lifted, potted up in autumn, and placed in ashes in cold-frames, being subsequently brought on gradually in heat, will be found useful. Once *Silenes* were thought much of where a spring display of flowers is sought, but for some unexplained reason they have waned in popularity. They are, however, worth the little trouble needed, and this consists in sowing the seed in the open in July in a rather shady border where moisture obtains, as sometimes on dry soils the seed fails to germinate. *Silene pendula* is probably the best known, but the double white and rose forms, dwarf and compact, are also useful.—TOWNSMAN.

Early garden exhibitions.—There can be no doubt that the shows fixed for late July and in August will be the most useful and best furnished this year. I refer, of course, to the ordinary rural cottages shows, the earliest of

which I have to attend is on July 10th. Always an early date, it bids fair to be fully a couple of weeks too early this season, as everything is so late. Certainly we may have some warm weather yet, but we should have had under ordinary conditions needed warmth for the past month, yet with one or two fine days the time has been both singularly cold and gloomy. Practically nothing can be done to help accelerate the growth of ordinary crops, such as Peas, Potatoes, Onions, Beans, Carrots and various other vegetables, whilst ordinary hardy fruits will all be late. Cabbages and Lettuces may be very good. Tomatoes, Cucumbers, and Marrows must all be late. Even many ordinary early summer flowers will be rather late, although the unwanted moisture has done wonders to strengthen hilly herbaceous plants, and whenever they bloom they should in the course be very luxuriant.—A. D.

Fairy rings on lawn. I am writing to you hoping that you can suggest a remedy for what is a great disfigurement to the lawn. Three or four fungus patches have appeared, which each year extend in circumference, leaving the centre free. My efforts to remove them have been in vain—they are flourishing as strongly as ever.—A. STREBBER.

[What you refer to is known as "Fairy-rings." They increase in size annually, for the spawn of the fungus prefers fresh soil every year, pushing outward into that in which it has not previously grown and dying away where it has been before. The dead spawn forms a very nutritious manure for the Grass, consequently the latter grows more luxuriantly on that part of the lawn, and forms the "fairy" rings, the fungus itself growing on the outer edges of the rings. Sweep off the Tondstools as soon as they appear and before they have had time to disperse their spores. To get rid of these rings the surest way would be to take up the turf outside the ring for about a foot in width from the edge of the dark Grass, and replace with fresh turf. Watering with 1 oz. of sulphide of potassium dissolved in 4 oz. of water might be useful. A good dressing of Kainit is said to kill the fungus.]

Bedding plants.—This is a dreadful year so far for those who are abandoned entirely to bedding plants. I went to a large place the other day in the country—one of the most famous in the county—and there was not a flower on wall, garden, or Grass to be seen in the place. The bedding plants had just been put out in this cold June, and very bad they looked in the hard, conventional flower garden in front of the house. But as the season is, the really hardy plants have endured it very well, some better than ever, and I am more and more convinced that the true way of a beautiful flower garden in our country is to try hardy plants alone. I was even afraid to put out the *Heliotrope*, which, at the best, can only give us a short season before the frosts come again. When on this subject I may speak of the great deterioration I notice in our gardeners raised in this hot-house way. It is often very difficult now to get a man who takes any pride in outdoor work or who can dig a bit of ground in a right and level way, or prune a tree in the old and careful way that was common to good Scotch and English gardeners and is still the rule in France. It seems to me we shall have to begin to educate our gardeners again on something better than the pot and kettle business of the hot-house.—S. J.

Spring flowering perennials.—I wish to establish a border composed of spring-flowering perennials, and would be grateful to know whether any members of the Ranunculaceae family, flowering in April or May, are averse to a somewhat heavy, clay soil? Also, whether this same soil suits any of the low-growing Sedums and Saxifragas—those that are used for carpeting? I should also be very glad to know the Latin name of Harrison's Musk, lately described in *GARDENING* as a useful carpeting plant?—SWISS SUBSCRIBER.

[There are many beautiful spring-flowering plants that are never so well suited as when growing in good, holding clay soil, and there is no reason why such a border with the right class of plants may not prove a success. In this connection you inquire whether any members of the Ranunculaceae family would succeed, preferably those flowering in April or May. Of these we may first mention *Ranunculus speciosus* and *R. aconitifolius* fl.-pl., the latter with pure white and double flowers in great profusion. There is also a single white

of this. Another highly ornamental species is *R. amplexicaulis*, and with every hope of success you may try some of the florist's *Ranunculus* (R. asiaticus) in variety. *Paeonia officinalis* forms and *P. tenuifolia* and its double variety would be very beautiful. To these many fine single kinds may be added. Then, again, in *Hepatica* or *Anemone* you have a wide range, particularly in the latter the forms of *A. coronaria*, with *A. fulgens*, *A. sylvestris*, *A. s. fl.-pl.*, all of which are fine spring flowers. Then you have the *Globe-flowers* (*Trollius*) at your command, and these are all May flowering. Nor will you err if you add a few things from such groups as *Arabis*, the new double white particularly, and many *Candytufts*, such as *Iberis corioliola*, *I. superba*, *I. Little Gem*, *I. sempervirens*, *I. Garretiana*, etc., all beautiful, free-flowering, and dwarf. The alpine *Phloxes* are also beautiful. In *Saxifraga* you may grow such as *S. Wallacei*, *S. granulata* fl.-pl., *S. umbrosa*, *S. Cotyledon* var. *pyramidalis*, *S. peltata*, and the whole of their near allies, the *Megaseas*, some good ones of which are *M. cordifolia* purpurea, *M. crassifolia*, etc. There are also many fine hybrid forms too little known at present. To the above may be added *Corydalis nobilis*, *Senecio Dronicum*, the lovely *Arnebia echioides*, many charming kinds of *Thrift*, *Dianthus barbatus*, *magnificus*, etc. If you wish for bulbous things, you could plant *Narcissus poeticus ornatus* and *N. p. fl.-pl.*, planting the latter quite 6 inches deep at the least and better at 8 inches. Also plant it thinly, that it may stand for years, as disturbance to this kind is injurious. *Primula caschmeriana*, *P. rosea*, and *P. Sieboldi* in variety will also appreciate a heavy soil, and the last-named full moisture at all seasons into the bargain. Of *Sedums* and *Saxifragas* for carpeting you may employ of the former *S. hispanicum* and *S. h. glaucum*, also *S. acre elegans* and *S. albidum*. Of the *Saxifragas*, any of the more elegant Mossy kinds—*e.g.*, *S. hypnoides* and *S. h. elegantissima*, *S. Sternbergi*, *S. Stansfieldi*, *S. carpitosa*, etc. All are beautiful, free, and easily established by pricking the single rosettes over a given surface in spring or autumn. "Harrison's Musk" is *Mimulus Harrisoni*, but the former popular name is always ample. It is a pretty and freely-flowered plant.]

New Dahlias.—It is necessary, if one wishes to have the best in a rapidly improved flower like the *Cactus Dahlia*, to purchase a few new ones each year. Out of the great number exhibited the difficulty is sometimes in the choosing. The price of new Dahlias is 7s. 6d. each; it is, therefore, an expensive hobby. It often happens, too, that a new variety is seen that one feels he must have—like the white *Lord Roberts* of last year and the *Mrs. J. J. Crowe* of the year before. Whilst I do not think there are any new sorts equal in merit to the above-named, there are, nevertheless, several very striking kinds forthcoming. *Clara G. Stredwick* is a variety which will supersede *Magnificent*. It is of a more elegant shape; the florets being very narrow; colour salmon-shaded yellow. *Ringdove* is a chaste and beautiful sort of a white-fawn shade, most distinct and pleasing. *Gabriel* has blooms the ground colour of which is crimson, the upper half of the florets being pure white. This is the choicest of the two coloured kinds that have yet appeared. It is a nicely formed flower. *Mrs. A. F. Perkins*, yellow shading to white at the tips, is a pretty thing in every way. Another nice yellow is *Mrs. Edward Mawley*. It is deeper in colour than the last named, and its long, narrow florets incurve to the centre. This is distinct. *Anat Chloe* is a very dark blossomed kind, lighter in arrangement than *Uncle Tom*.—H. S.

Photographs of Gardens, Plants, or Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

The Prize Winners this week are: 1. Mr. W. R. Mills, Avlington Farm, Fairford, Gloucester, for Garden in front of house; 2. Mrs. Stuart Rickman, Arborfield Grange, Berks, for Empress Daffodil forced.

FRUIT.

THE FIG IN SUSSEX.

We suppose that Sussex is not quite the most sunny county in England, but for some reason or other it suits the Fig the best, as far as we know. Although the Fig has a wide range in Southern and Eastern England in which it fruits, we think the handsomest wall of Figs we have seen is at Glynde, in Sussex, of which we are happy to show a view.

Fig culture, even in counties not so favourably situated, is quite easy so long as we grow it on warm walls. We think the tree deserves a little more attention than is usually given to it, and also that there should be a change of variety. The Fig commonly grown in England is a great big stodgy fruit, very good when you get it; but the Figs of Spain and Northern France should also be tried, as they would give

have no sun, and with a cold, biting wind always blowing would only make matters worse, as although the fly might be washed off or destroyed, the wet would be productive of much harm. Vegetation will stand a great amount of cold so long as the atmosphere surrounding it is dry, and, tender as the young leaves of Peaches and Nectarines are, they form no exception to the rule; therefore during such times as these every effort should be used to screen them from damp as much as possible, as under such adverse circumstances nothing is so fatal to the flowers. Rather than syringe or wet the trees thus early under the present unsettled state of the weather, it will be advisable to go carefully over them with Tobacco powder, which, puffed among the young shoots by means of a cheap, handy distributor, now made and sold for the purpose, will soon destroy the fly. A small tin of Tobacco powder used judiciously will go a long way if applied during a still day, as otherwise

insecticides made for the destruction of red-spider and green-fly, but if not very carefully applied and properly diluted they are dangerous, and often do considerable harm to the fruit. For use in a liquid form there is nothing so safe and effectual as Tobacco juice, obtained by steeping the Tobacco in boiling water, and adding thereto an ounce of soft soap to every gallon, and if some Quassia chips be soaked or boiled with it the mixture will be all the more effectual. A pound of Tobacco added to the ingredients just named is sufficient to make 10 gallons or 12 gallons of a strength that will kill green-fly almost directly it touches it. A decoction made as above stated is always handy to keep in a large bottle for the purpose of dipping fruit-tree shoots into, and also those of Roses, for it frequently happens that if taken in time the spread of these insects may be stopped at once, and much after-labour and annoyance saved.

Peach and Nectarine-trees growing on walls



Wall of Fig-trees at Glynde, Sussex. From a photograph by G. A. Champion.

us a difference in flavour, size, and quality. In particular, one called "Dauphine" and another called Blau d'Argenteuil, are excellent. Occasionally we have noticed a Fig doing pretty well as a standard in the same county, and often in the Thames Valley in the little parks we see Figs on the trees now. It is such a very distinct tree as a standard that it is almost worth growing for its foliage.

INSECTS ON FRUIT-TREES.

THE unseasonably cold weather which we have experienced for a long time past has not only been injurious to the blossoms of all fruit-trees, but, owing to their slow rate of growth, has rendered them a prey to insect pests, more especially to the green-fly, with which Peaches and Nectarines are now in most places badly infested. In fine, warm seasons these are easily dealt with, as then one need have no hesitation in using the garden engine and freely wetting the foliage, but to do so while we

there is much waste, owing to its being very light, and therefore easily blown away. As this Tobacco powder lodges in every curled leaf and on the tips of the tender growth, it soon makes these positions very uncomfortable for insects. In order to cleanse the trees, when the weather gets more favourable wash off any stragglers that may have escaped; there is nothing better than a well-directed stream from the garden engine; but the jet should be broken, and not allowed to play against it with full force, unless at a long distance off, so as to diminish its power. In order to give the trees and wall time for drying, this operation should be done early in the morning on a warm, sunny day, but by-and-by the evening is the proper time for such work, as then it has a very refreshing effect and prevents the spread of red-spider, a pest to which Peaches and Nectarines are particularly subject. Fortunately, however, they cannot endure cold water, which not only keeps them moving, but breaks up their webs.

Some use one or other of the many kinds of

derive much benefit from being syringed with soap-suds every week or so, followed daily with clean water. Whenever soap-suds is used the foliage soon assumes a changed look for the better, and remains in a healthy condition. Apricots, though not subject to green-fly or red-spider, are very liable to the attacks of a maggot that curls up the leaves and eats its way out. These should be searched for and destroyed, or they soon do irreparable mischief. The Gooseberry caterpillar is one of the most annoying and destructive of insects, as it is so voracious that it clears all before it—that is, so far as leaves are concerned. Many resort to picking it off by hand, but the quickest way to exterminate it is either to dust the bushes with Hellebore powder, or syringe them with a decoction made from steeping leaves of the common Foxglove in water. In order to deal with the aphid on Currants the best way is to snip off the tops of the young shoots, as it is from the tender leaves there situated that they attack.

PEAR-TREES UNHEALTHY.

I SEND you some leaves and fruit taken from Pear-trees in my garden. You will see they have been attacked by a larva or fungus. All the Pear-trees in my garden have been similarly attacked. Not one of the other fruit-trees has suffered. Can you inform me what the disease is, and suggest a remedy?—J. C. A.

[This is a bad attack of the Pear-leaf rust (*Roestelia cancellata*), and though not often heeded, is much more prevalent and injurious to Pear-trees than is generally supposed. Very few fruit gardens are really free of it, but instances of the whole of the trees being overrun by the rust are, happily, rare. The first symptoms of it are small raised yellow spots thickly dotted all over the leaves, giving them the appearance of being blistered, these spots eventually changing to a rusty brown colour. Experts state that this is the work of a fungus, which, owing to its penetrating and spreading under the epidermis, or thin membranous covering of the leaf, is very difficult to combat. The best that can be done is to pick off the affected leaves at once, or before the spots change to a brown colour, with a view to checking a more widespread attack. If the trees are very badly infested by the fungus, wholesale clearance of the leaves would scarcely be wise, especially if there is fruit to be considered. All that can be done is to allow the disease to take its course, but in order that activity at the roots may be sustained, no summer pruning should be resorted to. If the trees are not starved at the roots, many of the shoots may, so to speak, grow out of the disease, and any way the fruit will be more likely to swell to a serviceable size and the trees be less weakened than would be the case if either pinching back or early summer pruning were practised. All leaves that turn black and are on the point of dropping should be collected and burnt. Next winter, after the trees have been pruned, they may well be cleared of all rubbish, including any about the border, and then receive one or two thorough syringings with the caustic alkali wash so frequently referred to in these pages. This would probably destroy most of the disease germs resting upon or in the neighbourhood of the trees, and next season's attack could then be met by hand-picking the affected leaves. Diseases and insect pests are far more rife than they were last year, owing, probably, to the abnormally early and very tender growth of the trees being greatly checked by the cold nights and easterly winds.]

RASPBERRIES INJURED BY FROST.

THESE are usually looked upon as hardy—so hardy, in fact, that frost has no ill effect upon them. Such, however, is not the case, for this spring a great thinness of growth is apparent in my wire-trained canes, which necessarily means a light crop of a useful summer fruit. Absence of maturity can scarcely be an attribute of such a season as that of 1901, though with vigorous plants there is such a wealth of foliage that probably the sun's influence did not reach the canes. This explanation would seem all the more feasible because in younger plantations, where there is not the same density of foliage, there is no sign of injury to the canes and buds from frost. The failing is not due to neglect of summer pruning, for directly the crop is exhausted the older fruiting wood is cut out so as to give the young growths the advantage of all air and sun possible, with a view to their maturity. In some gardens and soils Raspberries remain productive over a much longer period than in others. I find it necessary to replant a portion of the bed each autumn. This is carried out piecemeal so that the summer crop shall not suffer in extent. I find that those canes planted in October last and cut down to about 12 inches from the soil give a few fruits of very fine quality and size from the growth issuing from these shortened stools. Those which are a season older give a fine crop, too, of heavy berries, and this graduation proceeds through the bed proportionate to their age and date of planting. All the older portion of the bed at the present time shows this loss of vitality from frost, and those of your readers who may have similar experience would do well to consider the advisability of the transfer of a portion of the bed to fresh soil. Crowding must be guarded against, par-

ticularly if replanting cannot be conveniently practised. The green suckers now springing up from the roots can be carefully lifted and transplanted to a piece of vacant ground, either temporarily or permanently. They should be so lifted that new fibrous roots are attached in sufficient quantity. It can scarcely be hoped to establish rootless suckers in mid-summer. In carrying out this work it should be remembered that the suckers farthest from the base of the fruiting-cane are those most convenient and easy to replant, and there being always a superfluity of these suckers to be dealt with in established beds, no loss is sustained in their removal, and by planting them in another quarter in summer they are gaining time compared with others moved in autumn. W. S.

EARLY RIVERS' PEACH.

IN some of the early Peaches there is the disappointing trait commonly known as stone-splitting, and in the above kind this seems peculiarly pronounced. There are instances in which stone-splitting occurs from quite local circumstances, in others the habit seems chronic, and there does not seem any easily explained reason for it, or a ready cure. I have recently had brought to my notice a tree of the Early Rivers' Peach which has for the past nine years given this trouble, and while inquiries have elicited varied remedies and opinions, the trait continues as bad now as at an earlier period. Almost every fruit develops with an open stone, which makes it absolutely unsaleable, and of but little value for home use. Some of the fruits on being opened are found half-destroyed from the core outward to the skin. Such fruits cannot, under any circumstance, have a properly developed flavour. By some the failing is attributed to absence of lime, in others to improper fertilisation of the flowers in spring, but it has been proved that while these conditions have been studiously attended to the failure still continues. When remedial measures such as these afford no relief, the better it not the only course to take is to cut out the tree and replace it by another and more reliable one. There certainly is no need to grow such an unreliable kind when so many others are available. The case referred to has been allowed to go on for such a length of time that the tree now covers a space of over 300 square feet, and bears heavy crops. The sacrifice in destroying such a tree would be, in one sense, a heavy one, but a greater gain would follow if, after writing a short time, good fruit were produced with the same expenditure of labour. In some soils Early Rivers' may do well enough, but it has so often failed that it is scarcely deserving of the effort to prove whether local circumstances meet its requirements, at any rate, not in a position where a permanent tree is desired. W.

AIR-ROOTS ON VINES.

WHAT are known as air-roots on Vines are the root-like growths which push from the wood above ground. They generally appear in the greatest quantity near the spurs, and less frequently upon the clean wood or stem. They usually number from two to a dozen, or even more, sometimes coming in bunches, and sometimes in rows. They resemble earth-roots in some respects, but they do not often divide into rootlets; they begin to grow with the rise of the sap, and continue growing until it descends again. All varieties of Vines are subject to them, and it is often said they do no harm, which may perhaps be correct so long as they are few and small; but there is reason to believe that where they occur to any great extent they at all events do no good. I was lately requested by an amateur to come and see his Vines, as he could not understand why he had no Grapes on them this season. I ascertained that for some years air-roots had been annually increasing and the crops diminishing. This year they hang down over 1 foot in length, and there is not a vestige of fruit on one of the Vines. There can be little doubt that these air-roots have, in a great measure, brought this about, and if their influence in this case has been antagonistic to fertility, it may be assumed that they will

always produce effects which will be more or less injurious in proportion to the frequency of their occurrence, for the nourishment which supports these roots, or other superfluous growths, is that which should properly go towards the formation of fruit-bearing wood. Air-roots should, therefore, be regarded and treated as any other Vine disease. They are the production of an imperfect root-action in the first place, and a damp atmosphere encourages their growth afterwards. Young Vines are not so liable to become affected as those that are middle-aged or old. Vines on which the berries shank generally form air roots; but they also occur on those that are quite free from this disease. Their growth is often very vigorous when the Vines are first started, especially if they are kept close; afterwards, when more air is admitted, their points get starved, and further growth ceases; where this is the case, they do not do so much harm as when they continue growing throughout the season; and this they always do if not checked in time. Cutting, or rubbing them off, when they are growing vigorously, does no good. The points do not start into growth when once broken; but a second batch is invariably pushed from the base of the first. It is as well to let those that do appear remain and grow until the end of the season, when they may be cut away with a sharp knife while pruning. Vines with their roots in borders which are damp, or in which all the fibre of the soil has decayed, generally produce plenty of air roots, as a close, adhesive soil is not by any means conducive to the healthy development of any Vine. When air-roots appear in quantity no time should be allowed to pass without making an examination of the border. Fresh drainage, where necessary, must be resorted to; and a quantity of fibrous turfy and lime rubbish is of service in sweetening the soil. T.

NOTES AND REPLIES.

Frosted Pears.—It is but too evident that a large number of the fruits found on Pear-trees will presently fall and thus lessen the season's crop. All these imperfect fruits are more or less deformed when closely examined, and in every case when pinched are found to be hollow and black inside. It is very likely that the injury thus evidenced is greater in some varieties than in others, and more or less according to position and surroundings. Readers who may presently find their fruits falling in this way may rest assured that the producing cause is lost, which literally destroyed the organs of fertility in the flower, but left the flesh-forming part of the fruit sufficiently alive to enable it to form a coating over the injured organs, and thus temporarily hide the mischief done and the blackened decay.—A. D.

Gooseberries and the late frosts.—That the Gooseberries have suffered from frosty nights and cold, cutting winds is, unfortunately, only too apparent in the reduction of what was once a promising crop by, in some instances, quite one half. Some districts have suffered more severely than others. While in my own case there are but few fallen berries, a near neighbour bewails the loss of quite half his crop. In his case the garden lies much lower than some, though there are trees and garden walls that afford them shelter. Some of the frost trouble in this instance I am inclined to think is due to the thinness of foliage on the trees by the loss of so many buds by the birds, notably bullfinches. These are a pest in some gardens, and do not confine their attention to Gooseberry-trees alone, but for a change of diet they take Plum, Pear, Damson, Medlar, and Peach buds. I had not learnt of a case of Peach loss until this past season, then I saw the mischief, which if allowed to go unnoticed would soon have spelt ruin to this crop. Fortunately a gun was available and their depredations stayed in time. Gooseberries, however, fared worse, and to this I have come to regard some of the frost trouble, because there was insufficient foliage to shelter the berries. Some kinds, too, seem more liable to injury than others. The loss is accentuated from the fact that the fruit had become of a good size, showing the damage inflicted to be from recent frost.—W. S.

TREES AND SHRUBS.

THE JUDAS TREE (CERCIS SILIQUASTRUM).

The *Cercis* is a picturesque tree, not tall, but spreading out into a head of quaint aspect, and the purplish flowers are produced profusely on the old wood. It is when standing by itself that the full character of the tree is revealed, not when crowded up amongst a host of other things, and deprived of light, air, and space. It was introduced from Southern Europe in 1596, and to get the tree in full character it must be left to grow to old age, as then it assumes its picturesque character. Unfortu-

leaves of a deep green colour. The flowers are deep rose and larger than those of the other kinds.

NOTES AND REPLIES.

The Nepal Laburnum (*Piptanthus nepalensis*).—This cannot be regarded as thoroughly hardy in all parts of England, and it is consequently often trained to a wall, in which position it is now flowering freely, and from the showy character of its golden blossoms it forms a bright and effective feature. It is commonly known as the Nepal Laburnum, which name conveys a very good idea of its general appearance, but the individual

common with most of the Brooms, flowers very profusely. It is of a low, spreading habit of growth, and the long slender shoots are clothed with neat pinnate foliage and studded for a considerable distance with purple Pea-shaped blossoms. It is at home on a sunny ledge of the rockwork, or it may also be planted in the foreground of larger forms. The purple-flowered Broom is frequently grafted standard high, and in this way the long arching shoots are seen to advantage; but even then it would be by most people preferred when allowed to assume its natural character as a low spreading shrub. Not only does this Broom flower in the spring, but a few scattered blossoms are often produced throughout the summer.

Ceanothus.—These are among our best flowering shrubs during May and the two succeeding months, and while not quite hardy, many of the varieties will thrive and flower well if given a place on a warm wall, even in the north with a little protection during severe frosts and early spring, when growth begins afresh. In Devon and Cornwall several of them flower profusely planted in the open. *C. rigidus*, one of the first to open its flowers, which are of a pretty blue, makes a good bush. *C. Veitchianus* against a wall is a lovely thing, and should be included in the smallest collection. *C. azureus* is paler in colour than the two former, but none the less pretty. *Gloire de Versailles* is a form of *azureus*, and certainly an improvement on the type. *C. papillosus* has blue flowers, produced in dense clusters, and *C. floribundus* is a rich blue, while among the white-flowered are *C. apicatus*, *C. collinus*, *C. divaricatus*, *C. integerrimus*, *C. microphyllus*, and several others, but the above comprise the cream of them. They are not fastidious as to soil, but certainly do better where it is fairly light and well drained. On heavy soils it repays to add a little peat. Very little pruning is necessary, and what is should be done as soon as flowering is over. This shrub can be increased by cuttings taken in autumn, and placed in cold-frames similar to *Veronicas*, or shoots may be layered where it is convenient to do so, good plants being quickly secured in this way.—J. M. B.



The Judas-tree (*Cercis siliquastrum*) at Dulwich College.

CHRYSANTHEMUMS.

Early-flowering Chrysanthemums
Crimson Pride and Queen of the Earlies.—These are two of the most useful of the early varieties, blooming in September, and, being under 3 feet, may be planted in a mixed border. Crimson and white respectively, they are conspicuous in the garden when in flower, and bloom very freely. I grow them and stop them in June, thereby getting dwarf plants laden with flowers all through September.—TOWNSMAN.

Pompon Chrysanthemums.—In houses where accommodation is one of the first considerations many admirers of Chrysanthemums are prevented from growing either Japanese or incurved, and either overlook or fail to appreciate the beauty of Pommpons. For the beginner with his small house Pommpons offer several inducements, because they may be bloomed in rather smaller pots than the aforementioned, and can be grown plunged in the border or planted out until towards the middle of September and then potted without any great harm resulting, thereby saving much time and attention during the hottest weather. As a rule, a few sorts of Pommpons in a collection are considered sufficient, but wherever they are grown the following sorts are worthy of mention:—Early-flowering for blooming in the open: Longfellow, white, August; Mme. E. Lefort, amber, Mrs. E. Stacey, apricot, Jacintha, deep lilac, Mignon, golden-yellow, Anastasio, light purple, Toreador, reddish-bronze, La Petite Marie, white, September; Precocite, yellow, Precocite, crimson, Alice Butcher, red, October; Seur Melanie, white, Rubrum perfectum, purplish-crimson, Florence Carr, deep bronze, October and November; Mlle. Marthe, white, Rose Treveuna, rose, November; Mrs. Waterer, pink, Perle des Beauties, crimson, W. Westlake, golden-yellow, tipped red, November; Snowdrop, white, November and December.—TOWNSMAN.

nately, growth is not very rapid, but flowers are plentifully produced on young specimens. The *Cercis* grows freely on all ordinary soils, and many fine specimens, as in our illustration, occur in the older English gardens.

C. CANADENSIS (the American Judas-tree) has an irregular rounded head and cordate leaves of a fine green colour, whilst the flowers are pink, borne profusely, and appear before the leafage. A popular name for it, besides American Judas-tree, is Red Bud, in allusion to its flowers. This species is not common in English gardens, but it makes an attractive feature, especially when planted singly to show off its characteristic features.

C. JAPONICA (the Japan Judas-tree), which is synonymous with *C. chinensis*, is a useful, small tree, the head rounded, and the collate-

flowers are larger, and the trifoliate foliage is of a very deep green tint. In mild winters it is often almost evergreen in character, while if the weather is severe it becomes quite deciduous. Where this *Piptanthus* is not hardy enough to be planted in the open it should not be trained to low walls, as it is such a vigorous grower that continual cutting will be necessary to keep it within bounds, and consequently very few, if any, flowers will be produced. On a wall 10 feet or 12 feet high it will, however, flower freely—that is, if given a southern aspect.

Cytisus purpureus.—If only from the fact that the blossoms are so widely removed in colour from those of all its allies, this Broom would merit notice, but in addition to this it is a really pretty little shrub, and one that in

ROSES.

HALE-STANDARD TEA ROSES FOR POT CULTURE.

To obtain the exquisite Tea and Hybrid Tea Roses in greatest perfection under glass, one must resort to half-standard plants. Good, thrifty one-year-old trees potted up in October and kept outdoors for twelve months make the best specimens. Avoid plants with old, ugly knobs, but select rather those trees that possess abundance of fibrous roots. The Brier itself should not be old. I prefer those quite thin but well-ripened Briers, which one may obtain by diligently seeking for them, but the thin, pithy Briers are worse than useless. Some of my most magnificent Teas this year have been produced on standard plants. What a lovely Rose Climbing Niphetos is grown in this way, so also is the Catherine Mermet race, such as Bridesmaid and The Bride. Twelve splendid flowers upon a three-year-old tree of L'Innocence have been much admired. It is a glorious Rose of very delicate milky white colour, full, but not too double. The flowers expand very freely, and they are of beautiful form. Medea is always fine on standards and half-standards, and as for Maman Cochet, it outrivals all pink Tea Roses. I rather prefer Teas to Hybrid Teas for pot culture in half-standard form; they make graceful, half-pendulous heads, elegant in appearance. Many find a difficulty in properly training a standard Tea Rose. It is very essential that the growths should have plenty of air and sunlight. I use No. 16 galvanised wire for training out the growths. Secure a wire to the stem of the Rose as near the base of the head as practicable, then bend the wire according as one desires the shoot to grow. A fine spreading head consisting of eight or ten growths may be thus obtained by allowing a wire for each shoot. Rosa.

THE AUSTRIAN BRIERS.

How the name of "Austrian" became attached to the group known as *Rosa lutea* is a mystery. I cannot find any reference to this in any of the botanical works consulted, and I should be glad if any readers of GARDENING could throw any light on the subject. Professor Crépin, in his classification of Roses, which he contributed to the last Rose Conference in 1889, mentions Miller's name in connection with *R. lutea*, and puts the discovery of it in 1768. Linnaeus named it *R. Eglanteria*, and Hermann *R. fedida*. It is quite one of the best single Roses grown. The intense yellow colour makes it a prominent feature among the early-flowering species. The Austrian Copper is a variety of *R. lutea*, and is known as bicolor and also as *punicia*. Its flowers are of a marvellous colour—a rich reddish-copper. The full beauty is seen when sprays are cut in the bud stage and allowed to develop in water. It makes an interesting pot plant, also as a standard it is good. The late Lord Penzance used this Rose in the production of his hybrid Sweet Brier Lady Penzance, which is readily seen by the reddish wood.

There are two double forms of *R. lutea*, one known as double yellow or Williams', and the other as Harrisonii. The double yellow is often sold as the Yellow Scotch, and Professor Crépin considers that we owe this to the crossing of *R. pimpinellifolia* and *R. lutea*. Harrisonii was raised in America in 1830. It is an abundant and early bloomer, with pretty buds and flowers of a bright yellow colour. It is, perhaps, the freest-growing of the group, with wood plentifully covered with hedgehog-like prickles. Harrisonii is admirably suited for hedges, and also to form pendulous headed standards. It has a sweet fragrance, quite distinct; the scent of the Sweet Brier can also be detected in the foliage. The Persian Yellow is yet another double form, and is perfectly distinct, the colour of the deepest yellow. It was introduced from Persia by Sir H. Willock in 1837. M. Pernet Ducher has lately given us a lovely hybrid of this latter Rose. It is named Soleil d'Or, and was mentioned in GARDENING on April 12 last. I look forward to a most interesting race springing from this hybrid. *R. sulphurea* and *R. hispida* are grouped by some botanists with *R. lutea*, but the

authorities make *R. hispida* a distinct species, and *R. sulphurea* they class with *R. hemisphaerica*.

All the group should be very sparingly pruned, as they usually produce their flowers at the middle or top of the last season's shoots; but the plants should occasionally have some of the oldest growths cut out. Rosa.

NOTES AND REPLIES.

Niphetos as an outdoor Rose.—Although this is one of the grandest white Roses for indoor blooming, and in rare instances one hears and comes across it growing out-of-doors and flowering, Niphetos, I fear, has not sufficient robustness about it to be ever regarded with much favour as one for outdoors. There is, I believe, some difference of opinion with reference to the pedigree of it, but, be what it may, one cannot compare it with some of our hardier Hybrid Teas. Mine were planted on a south border, having regard to its tender qualities, but I have never been successful with Niphetos outside. Can anyone report better after such a spring as the past? —WOODBASTWICK.

Climbing Roses in pots falling.—Will you kindly tell me what to do to some climbing Roses in 5-inch pots, twined round sticks, in a cold greenhouse—a Niphetos, W. A. Richardson, and Gloire de Dijon? They were bought last March, and were very healthy. The leaves and buds fall off before they come to any size, and in the case of the Niphetos it is quite bare of leaves, and the wood is going hard and dried. The W. A. Richardson has been the best, having had some small blooms, but does not now look very healthy. I shall be pleased if you can help me in the matter. —Dox.

[Yours is a very good method of training certain climbing Roses, and succeeds well after the plants have produced some good lateral. But Roses so trained must have thoroughly healthy root action. It is impossible to say without seeing the plants what has brought about the falling of the foliage, especially in the variety Climbing Niphetos. It is not a kind we should select to cultivate in a cold structure. It is not so much in the spring that climbing Roses miss a warm atmosphere, but from May to July they require it, and a moist atmosphere is necessary, so that the plants can make new wood for next season. We should advise you to repot the plants at once, and, when so doing, examine the ball of earth. If very hard, just press it a little to release the roots, and then repot into next size pot, using a compost of loam two parts, rotted manure one part, with a liberal dash of silver-sand. Pot firmly, and return the plants to your greenhouse for the summer, standing them upon inverted pots.]

GARDEN PESTS AND FRIENDS.

A CURE FOR CANKER IN FRUIT TREES.

I ONCE read in some garden publication of a remedy for canker in Apple trees. It consisted in covering the cankered part (after removing the canker entirely) with a paste made of clay mixed with chlorody acid. I used this method in so far as I applied the acid pure after cleaning away the diseased part, and having effected a complete cure with a single application, I can now recommend this method as both easy and effective. Apply the acid with a small brush, which anyone can make out of horse-hair or bristles from an old broom, or even with a feather. The acid will be found destructive of canker fungus. Possibly it is not absolutely necessary to remove the rough pieces, but I think it better to do so, as it gives a flat surface, and, moreover, the wound will heal quicker. It need hardly be said that care must be taken in handling a corrosive substance like this for the sake of one's clothes as well as one's face and hands.

G. D. HURT (*Revue Horticole*).

THE VINE-WEEVIL (OTIORRHYNCHUS SULCATUS).

SEVERAL of the readers of GARDENING appear to have recently had plants suffering from the attacks of the grubs of this insect, which belongs to the very numerous family of weevils, so many of which injure vegetation in various ways. Most insects are only injurious during one stage of their existence, but in the

case of this insect both the beetles and grubs are very destructive to living plants. The grubs, however, are much more mischievous than their parents, and are only too frequently found destroying the roots of various plants cultivated in pots. When these plants begin to droop and wither without any apparent cause, the presence of these grubs may be suspected; and if they be the cause of the mischief, the roots of the plants will, on examination, be found to be considerably gnawed or eaten nearly through, generally just below the surface of the ground. Cyclamens, Primulas, Saxifrages, Sedums, and other succulent plants, Trollises, Adiantums, Strawberries, and Vines are the plants which suffer most from these grubs. The most certain way of getting rid of these pests is to repot the plants affected, taking care that none of the grubs are left among the roots or earth replaced in the pot. If repotting for any particular reason is undesirable, the roots may be examined by uncovering them as much as possible, for the grubs are generally tolerably near the surface. Watering the roots with an infusion of Quassia or Tobacco-water has been recommended. The weevil at times does considerable damage to Vines, Peaches, and Roses by feeding on their young shoots. They are very difficult to find on account of their dark colour, and of their habit of only feeding at night, remaining hidden in some shelter during the day. They may, however, be caught an hour or so after dark by spreading white cloths under the plants, into which the beetles will fall when the plants are shaken. These cloths should be spread while it is still daylight, as the beetles often drop from the plants on the sudden introduction of a light. The weevils make their appearance in June, and should be destroyed as soon as possible, so as not to give them an opportunity of laying their eggs. These are probably deposited below the surface of the earth, near or on the roots of the plants on which the grubs are to feed. At first the damage caused by the newly-hatched grubs is not noticed, but in the autumn, when they have increased considerably in size, they should be searched for carefully, if there be any reason for suspecting their presence, as it is during the winter and early spring months that they do most injury. In May they descend an inch or two into the earth, and there form small smooth chambers or cells, in which they undergo their change to the chrysalis state. In this state they remain for about a fortnight, at the end of which they leave their chrysalis cases and come forth perfect weevils. They are now about $\frac{1}{2}$ inch long, and entirely black in colour; the head is produced into a long snout, with a deep longitudinal groove or furrow down the middle, the tip of which is furnished with a pair of long antennae consisting of twelve joints; that nearest the base is very long and somewhat curved; the remaining joints are small, and form quite an elbow with the long joint, the four nearest the tip forming an oval knob. The thorax is broadest in the middle, where it is considerably wider than the head; it is covered with small, raised tubercles. The wing cases are much wider than the thorax and are oval in form, being broadest about the middle; they are much rounded transversely, and are sparingly sprinkled with small brownish spots composed of minute hairs. The legs are strong and of medium length; the thighs of the front pair are much thickened towards the knee joints, and are each armed with a strong tooth. The grubs are about $\frac{1}{2}$ inch long, and are generally in a somewhat curved position; they are stout, fleshy, much wrinkled, considerably thicker in the middle than at either end, and are entirely destitute of legs. The joints are thirteen in number, well defined, and of a dirty white colour, sparingly covered with stiff, brownish hairs. The head is reddish brown, and furnished with a strong pair of jaws.

Broad Beans falling.—I enclose roots of Broad Beans, of which the crop has entirely failed, the blossoms and pods turning black and rotting. Have the correspondences on the roots anything to do with this? I have never seen anything like it before. —E. P. W.

[I cannot in any way say what is the cause of the failure of your crop of Beans. I can only give you a negative reply that the

erescences on the roots are not the cause. They are formed by one of the Bacteria (Bacterium radicola). Peas, Beans, and other leguminous plants require a large amount of nitrogen, and these bacteria, in some way which is not yet quite explained, enable them to make use of the nitrogen of the air, which they are not able to do when these nodules are not present on the roots. From the size of the tubercles I should imagine the soil in which your Beans grew was deficient in nitrogen.—G. S. S.]

GARDEN WORK.

Conservatory.—Berry-bearing Solanums are useful in winter. We generally plant out about half our stock, and lift them in September. The other half is grown in pots. We find the potted plants ripen their berries a little earlier than those planted out, and so a succession is formed. Those that are planted out are in an open situation fully exposed, and they always berry well. The potted plants are in a cold pit with the lights off, except during heavy rains. We keep them in the pit because the wind has less effect upon them. We find Eupatoriums do best planted out. They are pruned hard back in April, and by the end of May they have broken well, and when planted out they grow freely and are pinched once in July and lifted in September, and placed for a few days in a shady position on the north side of a wall. They are well in flower by Christmas in a cool-house, and come in useful after the bulk of the Chrysanthemums is over. We have had large bushes in 8-inch and 9-inch pots. Mignonette sown two or three seeds in small pots in April, all but the strongest removed, and grown on through the summer, trained either as pyramids or standards, shifted onto larger pots as required, and all flowers picked off, will make large flowering bushes by winter. A large-flowered variety should be selected, as otherwise the blooms on a much-potted plant will come small. When the pots are well filled with roots, liquid-manure can be given. Though Mignonette is generally regarded as an annual, it is not necessarily so, but of course the older the plants the smaller the flowers. We have had Mignonette planted in the borders of a conservatory assume a shrub-like habit with woody stems, but when that stage is reached the flowers come small and are less fragrant. The ventilation should be free, even in dull, damp, sunless weather. We never remember a June so sunless and damp as the present. We have discontinued fires in all plant-houses except the warm stove, but damp is kept down among the flowers by a free circulation of air, of course keeping out heavy rains. Under such treatment the flowers open slowly, but they last longer. There are beautiful things among the newer Ivy Geraniums. Some of them planted out and trained up against bare places or walls or pillars are very effective. Leopard is a very distinct spotted variety. Resplendent is very bright and showy. Among Zonals, Rudyard Kipling, a rich purple, and Ian McLaren, a massive salmon-coloured flower, should be added to every collection.

Hard-wooded plants.—We have delayed turning these out in consequence of the heavy rains, but by the time these lines appear a change may have come, and Azaleas, Camellias, and other hard-wooded stuff will be outside. This annual outing is always beneficial under favourable conditions. Camellias must be in a shady spot, or the hard shining leaves may suffer. Azaleas and New Holland plants will do in the sunshine if the roots are sheltered from the hot sun. They may be so arranged that the foliage of one may shade the roots of the next row of plants. It is not always convenient to partially plunge in ashes. This, where it can be done, keeps the roots from drying so fast, and acts as a support against wind. I have sometimes sheltered the pots on the sunny side by placing Moss against them, where Moss was plentiful. The sunshine will ripen the wood if the roots are kept right. The syringe should be used daily in the afternoon, and special care must be taken with the watering. Never trust a showery time to supply enough to a well-rooted plant.

Young plants in frames.—All kinds of young plants, even young stove things, and especially Ferns, will do better in frames than in houses till the middle of September, as appearances with us are not so much studied. We simply mix a little size and whitening, and either rub a little of the mixture, after making it thick enough, on the glass, or strain it and pass it through the syringe. If the frames can be placed where the midday sun will not reach them, there will be no necessity for shade in any other way. The necessary pinching should be given to Begonias and other winter-flowering plants, except, of course, Poinsettias, which must be built up sturdily but not pinched. Ventilation must be given to harden growth, and the plants shifted into larger pots when necessary. Cyclamens and Primulas will be in frames now, freely ventilated and slightly shaded when hot at midday, dewing them over with a fine syringe every afternoon, and always giving night air freely in suitable weather, but keeping off heavy rains. Cyclamens must have clean, well-drained pots and good soil. We are potting ours in two-thirds best turfy loam, the remainder composed of peat, leaf-mould, and sand, with a dash of soot. Any stimulant will be given later on if required when their roots have filled the pot. The bulk of the plants will be in 3-inch and 6-inch pots. A few old corms will be grown to a large size in 7-inch and 8-inch pots. The loam, being the main staple, must be good and turfy, with some body in it.

Late Grapes.—These have required fires up to the present, as the nights, and in many cases the days, have been cold, and it is better to use fires now and get the crop forward than use more fire heat later, when the sun will not give much help. Stimulants should be given from this till colouring commences. Vines in a well-drained border will take a good deal of feeding, and something that acts quickly is best now. Liquid-manure from a yard, if available, will do, and, failing that, some artificial manure may be mixed with the water or be scattered over the border, 2 ounces to the square yard, and watered in. The border may have two dressings of this strength at intervals of three weeks or so.

Window gardening.—Musk is a favourite window plant. There are several Campanulas very pretty for windows from this onwards. *C. garganica* is now in flower. *C. isophylla* (blue and white) flowers a little later. Tuberous Begonias, Oak-leaved Geraniums (including the variegated Lady Palm-mouth) are sweet things in a room. If Palms or any other fine-foliated plants require a larger pot, the shift should be given now, the plants to be watered with caution after repotting.

Outdoor garden.—When climbing Roses, Jasmines, and Clematises are obtained in pots, June is a good month to plant; or, in fact, any time during summer, as they then get established before winter. In spite of careful planting there will be occasional deaths. Among Clematises of the large-flowered type, *Jackmanii superba* is one of the hardiest and best, and *Henryii* the best white. Some of the newer forms are very beautiful, including double white and double mauve; but grafted plants are not equal to plants obtained from cuttings and layers. This may partly arise from the union being unhappy; even when the grafting has been skilfully done there will be failures, and these Clematises are so lovely one wants them to live and thrive, and to this end, when planting, place a little good soil round the roots, but no manure, though a mulch on the surface will be helpful. A mulch of good loam over the surface of Carnation beds will be better than manure, and will keep the moisture in the bed, and, by adding some sand to it later, will do for the layers. Flower-stems must be staked, and, if fine blooms are wanted, the buds thinned. All flowers are later than usual at present, though a week's bright sunshine will bring things on with a rush. The necessary staking of certain plants, and pegging down of others, should receive prompt attention.

Fruit garden.—It is important for Strawberry runners to be obtained early for forcing. They may either be laid on the top of small pots filled with good soil and secured with a

peg or a stone, or be laid on the fruiting pots at once. We adopt the small pot system and consider it the best. For planting new beds we have laid the runners on small mounds of good soil. The stronger the plants when put out the better the crop next season. The Gooseberry caterpillar must be watched for and destroyed. There are several ways of doing this. If there are only a few insects, hand-picking will be best, because it will not disfigure the fruit. Hellebore-powder may be used in bad cases, and may be mixed with water and applied with the syringe. Very often at this season Red and White Currents are attacked by the Currant aphid, which speedily curls up the foliage and injures the fruit. These insects always begin at the ends of the shoots and work downwards, and if the ends of the shoots are cut off and removed, this trouble may generally be got rid of easily. The shoots of Morello Cherries are often at this season attacked by black aphides. Dusting with Tobacco-powder, or mixing Tobacco-powder and soft-soap in water and dipping the infested shoots therein, will clear them. Two oz. of soft-soap and 1 oz. Tobacco-powder to a gallon of water will do.

Vegetable garden.—The weather has been wretched for some time, and there will probably be in many gardens arrears of planting, and especially weeding and hoeing, to fetch up. The season is moving on, and Celery, Winter Greens, and various other things, including a good breadth of Turnips, should be sown or planted. Lettuces, also, and Endive should be sown for late summer use. Late Cauliflowers should be planted, and a good batch of Veitch's Self-protecting Broccoli set out. A further sowing of Peas may be made, but the kind should be a second early one. French Beans should be planted in succession. The Runner French Bean is useful for summer use. Tomatoes outside should be secured to the wall and the side shoots snipped off. If planted in the open, select a sunny spot, and make a trellis of Bamboo-canes. We are growing open-air Tomatoes largely, but shall stop when three trusses have shown, as in a backward season, if we get three clusters of fruit we shall be satisfied. Top-dress Cucumbers frequently, and give liquid-manure when help is wanted. Keep the growth thin by pinching regularly one leaf beyond the fruit. We hear of a good deal of disease among Cucumbers under glass. E. HODDAY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

July 7th.—Sowed Wilton 1st and Laxton's Improved Peas. Sowed Canadian Wonder Beans for the last time; shall sow an early kind later. Brussels Sprouts, Broccoli, Kale, and late Cauliflowers have been planted. Made several Mushroom beds on the north side of a wall, sheltering with litter and waterproof cloth. Peas are gathered as soon as the pods are full enough. The leaves are tied over Cauliflowers as soon as the heart is visible.

July 8th.—Tomatoes are allowed to hang on plants till ripe—it improves the flavour. A little air is left on fruit-houses all night, except in wet and windy weather. Liquid-manure or stimulants in some form is given to inside borders of Grapes, Peaches, and Figs. The fruits of Melons are set when the pollen is dry in the forenoon. An effort is made to get all the crop set at the same time, as far as possible, so that all may swell together. Thinned and stopped Cucumbers in houses.

July 9th.—Moved a lot of *Lilium longiflorum* and *aureum* just opening their flowers to conservatory. The stamens are always taken out of Lilies before the pollen is ripe, otherwise the flowers are too much stained for any decoration in a cut state. Shifted on a lot of young Acacias and other hard-wooded plants. A little loam is used in the compost for Acacias, but for other things, chiefly pent. Moved Azaleas to coal-ash-bed, the pots being plunged in ashes.

July 10th.—Put a tie to Dahlias, Hollyhocks, and other things requiring it. Thinned the buds of Carnations a little. Sowed Chervil, Turnips, Lettuces, Endive, and small saladings, the last in the shade. Sticks are placed to

Peas in good time, so that the tendrils may have something to cling to. Moved a few flowering and fine-foliaged plants from stove to conservatory to make room for growing specimens. Pricked out Canterbury Bells, Sweet Williams, and other hardy seedling stuff.

July 11th.—Pricked out more Celery. Looked over late Vines to stop sub-laterals. Tied in young wood of Peaches in late house. Gave a final thinning to young wood of Peaches on walls. One or two trees that had blistered leaves have recovered, and are now making healthy growth. Finished thinning fruit on Apricot trees. Stopped young shoots of cordon Pears on walls. One or two Plum-trees which were attacked by insects have been syringed with Quassia.

July 13th.—Scattered nitrate of soda over Asparagus plantation during showers. Weeds are kept down by hand-picking and hoeing between the rows. Cut Box-edgings in showery weather. Gave final thinning to Onions. Lettuces are tied up when dry in relays as required. Thinned out Endive to 15 inches apart. Some of the young plants have been set out at same distance elsewhere. The hoe has been freely used when the surface has been dry.

POULTRY.

Roup in fowls (Rustic).—Several prescriptions for roup pills might be given, but none is better than the following: Cayenne pepper 20 grains, copper sulphate 10 grains, cohiba 1 fluid drachm, to be made into 20 pills, one of which should be given to an adult fowl night and morning. The fowl should receive half a teaspoonful of Epsom salts before the first pill is administered, and its head and affected organs should be washed twice daily with Labarraque's solution of chlorinated soda, diluted with twice its bulk of water.

Hens dying (Hen).—You are evidently feeding too highly, and we should advise adding at least one-third of pollard or sharps to the morning feed of Barley-meal and discontinuing the Potatoes, as these are also fattening. It is always better to underfeed than to give too much, as when a hen becomes fat she ceases to lay. Overfat birds suffering from liver complaint often die suddenly from the rupture of a large blood vessel in the neighbourhood of the liver, and this disease when once firmly established is incurable, the only remedy being to clear out the old stock and start afresh, as liver disease is hereditary. There is no doubt your hens obtain much food in the form of worms and so forth in the field where they run, notwithstanding which they would always be ready and anxious for their food at meal times. It would be also well to vary the grain food, giving from time to time a little Wheat or Barley.—S. S. G.

BIRDS.

Red Linnet (Mrs. A. Ridgway).—Your bird is no doubt suffering from a disease of the skin, and from your account of its condition is not likely to recover. Anointing the affected part with a little neat's-foot oil or vaseline would give relief, but it would be better to destroy it at once rather than let it suffer. The sample of seed contained a large proportion of Hemp, and there is no doubt that partaking too freely of the latter has brought about this trouble. The best food for these birds is Rape-seed, with a small quantity of Canary seed, and green food occasionally, such as Lettuce, of which they are very fond. Little or no Hemp should be given, as Linnets are subject to excessive fatness of the internal organs. To keep them in good health a little salt should be given now and then.—S. S. G.

Death of Bullfinches (Zitella).—In both cases there was a large clot of blood in the region of the heart, and this would indicate that their sudden death arose from fright. Bullfinches are very susceptible to the influence of heat, and as your birds were with foreign linnets and Canaries, the temperature of the aviary was probably higher than

was suitable for them. This would tend to bring about heart weakness, and render them liable to sudden death. But their both dropping off at the same time would appear to point to their having been alarmed. Then, again, in the matter of food, the seed supplied to foreign birds would not be quite suitable for Bullfinches, the best food for them being the larger kind of Rape-seed, but scalded to remove its acidity, and a little Hemp. The hen bird was very bare of feathers, and the under parts of the wings of both were quite denuded, having been picked bare by the birds themselves. The cause of this was in all probability through their having been attacked by parasites, although an over-heated atmosphere, causing an irritability of the skin and a gross condition of the system, would give rise to the habit of feather-eating.—S. S. G.

Treatment of Bullfinch (W. L.).—From your bird being very wild it has probably been lately captured. It will, no doubt, become tame in time. I should advise you to keep it indoors that it may become accustomed to human society. As a rule, Bullfinches become very tame and familiar in captivity. If you wish to prepare your bird for exhibition, you must take care for one thing that the allowance of Hemp-seed is very limited, as the free use of this will often cause the plumage to become dark. From twelve to twenty seeds a day should not be exceeded. Scalded Rape-seed is the best staple food for these birds. To this may be added a small allowance of Canary-seed, and for green food give a few twigs of some fruit-tree, with occasionally a stalk of ripe Plantain-seed, a few Privet-berries, a little plain biscuit, a piece of Apple, or a little Watercress. You are quite right in putting a nail in the drinking-water, as this provides a mild tonic and tends to keep the bird in health.—S. S. G.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in GARDENING free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF GARDENING, 17, FURNIVAL-STREET, LONDON, E.C. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Repotting Roses (Paddy).—No. Stand in full sun on a bed of ashes, and if the weather is dry they must be watered with a rose-can after the first three or four days, but only resort to artificial watering when really necessary, or the soil becomes too much compressed for the new roots to work into it freely.

Carbonate of lime (Subscriber for Years).—Lime is useful for many purposes, and the carbonate of lime that you have is of value. Its action is similar to that of quicklime, though the latter is much more powerful. Much of the value of lime is due to its mechanical action on the soil; it makes heavy soils more friable and light soils more cohesive.

Palms for a greenhouse (T. H.).—The following half-dozen to begin with should suit you: Kentia Forsteriana and K. Belmoreana, Phoenix reclinata and P. tenuis, Rhapsis humilis, and Livistona chinensis, better known as Latania borbonica. Licualas will not thrive in a root-house, neither will Stevensonia. The plants will all grow well in loam and peat made sandy, and the pots require thorough drainage.

Six Roses with deep petals for cool greenhouse (G. W. S.).—The following would, we think, meet your requirements: Anna Ollivier, Mme. Hoste, Mrs. W. J. Grant, Marquise Lilla, Maman Cochet, and Killarney. If you have not already set your plants outdoors to ripen, this should be done at once; but we should recommend you to plunge the pots in some ash to prevent too rapid evaporation, and if the plants are small keep all flower-buds pinched off during the summer.

Rose-leaves curling (Rosa).—There are several causes for this. Rose-leaves curl because maggots have taken up their residence in them, and the action of the insects provokes this curl. They also curl from the action of green-fly or aphids, and also from cold, cutting winds. They sometimes also curl from drought at the roots. If

you think the roots are dry, give them a good soaking of water, and also some manure-water, and cover the soil over with some half-decayed stable-manure. To induce new and robust growth is the best thing to do now.

Sowing seeds of hardy perennials (S.).—The following may be sown in July and August. All such seeds may be sown as soon as ripe, that being their natural season: Lupinus polyphyllus, Lupinus macrophyllus, Foxglove (spotted varieties), Dictamnus Fraxinella, Linum perenne, Delphinium formosum, Veronica spirata, Linnaria biennis, Columbine, Antirrhinum, Anemone italica, Rudbeckia Neumann, Campanula pyramidalis, Campanula nobilis, Alyssum saxatile, Viola and Pansies, Ibericum Chusii, Prunella japonica, and others. Dracocephalum austriacum, Trifolium repens, Hollyhock, Sweet Williams, and Centaurea montana.

Blood-manure (Ken).—This needs such care in using that we do not set much value on it. If used in excess for Roses and fruit trees it causes them to make a lot of sappy growth that is not desirable. In using blood, add six times its bulk of dry soil, and keep it under cover, turning the mixture once a week. For plants in pots it is best mixed with the potting soil, at the rate of one-sixth to the bulk. For outdoor crops it should be spread on the surface and forked in. One cubic of the mixture to every square yard of ground is a liberal dressing. For whatever purpose, you should advise amateurs to rely on good rotted stable or farmyard manure.

Flowers in May and June from seeds sown now (W. L.).—Celsia cretica, Apollonia hybrid, Foxglove (blue and white), Campanula in variety, white and blue Lupinus, Sunpapers, Tree-Lupinus (white and yellow), Oriental Poppy, yellow Alyssum, and Euphorbia. These are all excellent for flower decoration, in addition to the list given; they are perennials. "W. L." should add Canterbury Bells (biennials), and get about a hundred cuttings of Mrs. Sinkins Pink; they will root new easily. The Euphemias, besides being graceful flowers, have beautiful foliage, so has Thalictrum—far better than Fern. Yellow Wallflowers are beautiful in early May if grown on a north-west border.—A. B. Dawkins.

Roses not blooming in a greenhouse (R. P. M.).—To flower Roses well they must get plenty of sun, air, and good food, and we should imagine that in this case they do not do so. Very probably the Vines give too much shade, and hinder the wood from maturing as it should do, in which case there is but little prospect of success. We should counsel you to feed the Roses all through the summer with weak liquid-manure. In November thin out the weakly growth, and cut the shoots left back to about two-thirds of their length. The great point is to induce luxuriant growth now, and to ripen the same by exposing it as much as possible to the sun, and admitting air freely during the early autumn months.

Position for cold-frame (Myrtil).—A south aspect, especially under a wall, is certainly much the best position for a cold-frame during the winter, as, apart from other considerations, the plants in it would benefit from the greatest body of light they could secure, as well as a higher average temperature. Hardy plants in such a frame would suffer little if frozen but once, as it would be best to throw mats or litter over the glass to exclude light until a natural thaw set in. Practically, plants would suffer less if, once frozen, they remained so until a true thaw resulted. Were they sometimes frozen and often thawed harm would probably result. Certainly, were the frame covered up well at night the frost which entered would probably be slight and comparatively harmless.

Roses with green centres (E. Terry, M. J. and W. Ripper).—This freak of nature is peculiar to a few kinds, such as Mme. Annie Wood, and where this malformation constantly recurs upon the same plants we should advise you to destroy them and plant popular varieties that are free from such a fault. But whilst these green centres are peculiar to certain varieties, they may, nevertheless, be brought about owing to a check of some kind which the plants receive, such, for instance, as spring frosts or overuses of manure. We fear there will be many malformed buds this season owing to the late frosts and cold, cutting winds. Where possible to detect these green-centred buds, it is a good plan to remove them early and encourage the smaller buds, which may be more perfect.

Artificial manures for plants (Myrtil).—Nitrate of soda is certainly a leaf promoting manure, but when leafage is formed wood is formed also, and that has to be overlooked. Still, all plants, more or less, and according to their structure, need phosphate, potash, and nitrogen, and a mixture of these, which the chemist can plant a complete manure, practically furnishes all a plant requires. The proportions used in the making of liquid-manure should be about equal, such as 6 lb. in 2 1/2 of each, dissolved in 20 gallons of water, and applied to vegetables and fruits twice a week, and to ordinary flowers once a week. For plants, however, will be all the better if supplied twice a week. If, at any time later on the soil becomes very dry, give the crops a soaking of water six hours before applying the liquid-manure. A peck of soil in a coarse bag, soaked with chemical manure, is a valuable addition.

Wild cliff garden (E. W. A. Hastings).—It is not easy to suggest a subject that will outgrow and overcome Couch Grass. It is one of the most persistent of all such in those soils where it most flourishes. Frequently, old roots are trenced in 2 feet deep they do not arrive, and if they do, the only other thing to fork them out and burn them when dry. This may not prove a ready means of destruction, but what one has to fight in these and similar instances is not merely the weed, but the year upon year in the past during which it will have the supreme possession of your now idiosyncratic soil. The feature is that every atom will grow. It would appear your last winter trenching has modified the crop, and possibly what is now appearing may be fragments broken off. We cannot suggest any crop that will choke it, for the roots are not easily overcome. By trenching the soil in 2 feet deep, and giving a heavy dressing of caustic lime in the trench on the roots, or even of salt, it may have the desired effect, though were we in like position we would fork it out and burn it, as the least expedient method of overcoming a terrible garden pest.

TREES AND SHRUBS.

Cutting down Hollies (S. S. W.).—The best time to cut down the Hollies is early in spring before the sap rises. A sloping cut is much preferable to a straight one, as moisture is thus prevented from remaining on the cut portion, and, as an additional precaution, the wound should be covered with a coating of tar. It will be much better to leave the side growths, as they assist to draw up the sap.

Rhododendron flowers changing (H. A. Dwyer).—Your Rhododendrons must have flowered unusually early for the blossoms to be past, the seed pods picked off, and a second crop of blossoms expanded. It is no uncommon thing for a few buds to expand after all the others are past, but the change in colour is difficult to account for. We should be inclined to think that the plant has been grafted, and the shoots now flowering are the produce of the stock, whereas the earlier ones were borne by the scion; that is the true Old Port.

Stauntonia latifolia (C.).—This is a handsome, half-hardy evergreen creeper, native of Northern India, bearing very sweetly-scented flowers, which are, now, however, very showy; still it is worthy of a place in a cool greenhouse. In some of the warmer parts of this country it succeeds well when trained to a south wall in the open air. It may be potted or planted out (the latter is the best way) in a well-drained compost of turfy loam and sand, with some sharp silver-sand added to it. Plenty of water will be required at the root when the plant is established and in active growth in summer, and it should be well syringed frequently to keep the foliage clean.

Wistaria not starting (Wistaria).—The treatment given to your Wistarias could not have been improved upon, and we think it very probable you will find that they will yet start away in a satisfactory manner. By the retransplanting we have had them stand completely dormant till midsummer was past, when they broke out freely and grew rapidly. True, ours were lifted from the open ground, and, therefore, a much greater check was inflicted on them than if simply turned out of pots. Still, your others are rather old plants they may have been to a certain extent starved and the roots cramped, and very likely the minor rootlets are now active; if so, it will soon show in the buds pushing. We should certainly not cut back such plants as you describe. The minor shoots will be back a little; it is the plump buds at the base thereof from whence the new growth is pushed out.

Rhododendrons not blooming (H. R. Mather).—The failure of your Rhododendrons to bloom is in all probability caused by weakness of constitution, which may be brought about in several ways. An unsuitable soil, particularly if it contains lime in any shape, drought, a shady position, or an overcrowding of weak shoots, are likely to bring about such a condition of things as you describe. If this last prevails to any great extent they may be thinned out now, but the question of soils must be left till the autumn. A clay subsoil suggests that the plants are badly drained, and though Rhododendrons suffer greatly from drought, stagnant moisture is equally injurious. You might in the autumn lift your plants and examine the soil in situ, or, if you are not sure, you may dig it up with it, then replant, taking care that the soil is broken down firmly. In doing this leave a hollow a couple of feet in diameter or so around the stem for drainage, and take care that the plants at no time suffer from want of moisture. If the plants are tall and weak you may cut them down to within a couple of feet of the ground, but this is much better carried out in April, though it may be done even now.

FRUIT.

Black Cluster Vine in a cool-house (C.).—This Grape ripens freely in the open air against a wall in the open air in ordinary summers throughout the midland and southern counties. That it ought, therefore, to ripen in a cool-house in the north seems obvious, as in such a structure, though unprovided with artificial heat, the ordinary outdoor warmth would be increased thereby quite a month earlier, and retained quite a month later in the season. We advise you to give both that and the several Muscadine a trial.

Gooseberry and Currant bushes with rank growth (H. E. T.).—Thin out the "rank" shoots now on the Gooseberry and Currant-bushes to let the sunlight and air to ripen the wood, and at the autumn or winter pruning thin out the growths a little if necessary; but do not shorten the shoots of the gooseberries that are left, and then there will be an abundance of fruit. It is a great mistake to prune Gooseberries too hard on strong soils, their strength is checked away in useless wood production when such is the case.

Raspberry-suckers (R.).—The young shoots that spring up from the bottom of the shoots should now be cut out to something near the required quantity. In the case of young plantations that have not yet attained their full strength, two or three bearing shoots will be enough; those that are stronger may have six. In thinning the young shoots it is not sufficient to cut or break them off level with the ground, for if so treated they will usually spring up again. An ordinary planting trowel will be the best implement to use for the purpose, removing 1 inch or 2 inches of soil, whereby the shoots can be taken off directly from where they spring, in all cases retaining the strongest. Keep the ground well hoed, but do not dig it.

VEGETABLES.

Treatment of Cucumbers (C.).—Keep the atmosphere of the house close and moist, and give plenty of water at the roots when the plants get well established. Prick the main shoots up the roof, say for 3 feet or 4 feet, and then stop them. When side shoots are produced, stop them one joint past the fruit, and continue such a practice throughout. When in full bearing, a top-dressing of rotten manure will be beneficial, as will also occasional doses of manure-water.

Spot in Tomatoes (J. Fraser).—Your Tomatoes have been attacked by a fungus known as Cladosporeum lycopersii, which springs from spores floating about in the air. The spores settle on the fruit, and if the house be damp they will at once germinate. Keeping the air of the house dry is a good preventive. Give abundance of

air, leaving some on all night, and see that the roots have a good soaking of water, not a dribbling. Pull off all the infested fruits and burn them.

French system of growing Asparagus (Inquirer).—The Asparagus is planted in a little trench, somewhat like a Celery trench, but not manured as the latter is. After the first year's growth, if the ground is not very rich, manure is added, and a little is given every year. This, with the upward growth of the plants, gradually raises the soil around the collars, and by the time the plants are three years old, and have a good heap of the mould about the crowns, the bed is naturally raised up a little. The trenches should be 3 feet or 4 feet apart.

Turnips bolting (J. J. Whitby).—On some soils raising early Turnips is a difficult matter, as unless carefully managed they may run to seed (which yours have done) at the very time they ought to be ready for use. Under these circumstances, unless your land is very suitable for Turnip growing, April is quite soon enough to make the first sowing. A sprinkling of superphosphate applied when the seeds are sown will push on the crop, and should never be omitted when the fly is troublesome. Sow in drills 1 foot apart, and thin the plants well out. During hot weather the drills should be thoroughly soaked with water previous to sowing the seeds. If the seeds lie too long in the soil the plants always come patchy and weakly. You give us no idea as to the soil, but if it is light the evil you complain of is sure to follow, more especially if you have not thinned out the seedlings freely.

SHORT REPLIES.

E. W. A.—Your Thorns seem to have been attacked by some insect, but it is very difficult to assign any cause of failure without seeing the plants.—W. G. Please send us the double and single forms, and we will try and help you. Possibly some of the single form may have got in.—Mrs. J. Hurdell.—Your Peach-tree leaves are suffering from what is known as blight. See reply to "Major" in our issue of May 17, p. 161.—C. P. W.—The only possible reason we can give is the very cold and unseasonable weather we have had of late.—Bowie.—You had better write to some of our large Rose growers.—S. C.—If you want to cut down your Aralia, the best time is the month of March or early in April, but as this plant is so easily raised from seed we would advise you to get up a young stock, which will be far better in the end.—H. T.—The reply to "M. G. L." referred to Tulip Pansies (Violas). We know of no books dealing especially with

Pansies and Auriculas. "Floralia" Flowers" (it still in print) by Mr. J. Douglas, would help you.—F. W. Davies.—You cannot do better than plant me of the climbing Roses or Clematis, of course putting in good soil in place of that you have, which you say is very poor.—W. F. Smith.—Your best plan will be to dust the plants with Tobacco powder or syringe them with some insecticide.—Mrs. Gray.—The best way is to advertise them in one of the gardening papers.—Norie.—Consult our advertisement columns.—D. W. Hughes.—The best way to kill woodlice is to pour boiling water over them, if you can find out where they congregate. The same will answer in the case of the ants, if you can find out their nests.—Lady Mary Craig.—If your Brier cuttings are well rooted you may certainly bud them, but if not leave them for another year.—Lion.—It is useless to attempt growing any flowering plants under such a roof. You can only grow such as Ferns and Mosses.—K. G. S.—No, they are not the true Mushroom, but resemble the Horse Mushroom (Agaricus arvensis).

NAMES OF PLANTS AND FRUITS.

* Any communications respecting plants or fruits sent to name should always accompany the parcel, which should be addressed to the Editor of GARDENING ILLUSTRATED, 17, Pall Mall Street, Holborn, London, E.C. A number should also be firmly attached to each specimen of flowers or fruit sent for naming. No more than four kinds of fruits or flowers for naming should be sent at one time.

Names of plants.—J. C. T.—Lithospermum prostratum.—R. Pitt.—1, One of the tall Linaria, but impossible to say without flowers; 2, Fumitory (Corydalis lutea);—Sarracenium; 1, Isoketes gracilis; 2, Aloe sp., send in flower; 3, Sedum carneum variegatum; 4, Cyperus alternifolius; 5, Tradescantia zebrina.—Mrs. Hubert Holton.—Rose Gloire Lyonnaise.—Mrs. Sheldon.—Not recognised.—A. Harrison.—One of the many forms of Spanish Iris.—Maud Worth.—Yes, a double-flowered Columbine.—Dun. Cranochilus aureus.—P. L. Smith.—1, Pyrolithum, single; 2, Veronica sp., send leaves; 3, Honeysuckle (Lonicera biennis); 4, Woodruff (Asperula odorata).—Mrs. D. M. Green.—Your plant is, we think, from the description you send, Citrus Upliana, plants of which we have seen growing in the open air in Devon.—Philomathea.—1, Caryx sp.; 2, Festuca elatior; 3, Common Spurry (Spergularia arvensis); 4, Fox glove.—Henry Wilkinson.—We cannot undertake to name British flowers.—H. W.—Auricularia formicoides.—J. Anderson. Hybrid forms of Aquilegia vulgaris.

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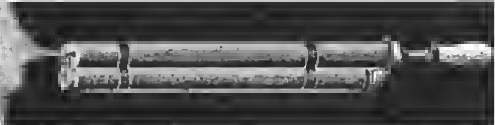
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- " Veitchi
- Calanthe, hybrid
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- Calceolarias, hybrid
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- Eucalyptus leucocylon
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- Euphorbia Jacquiniiflora
- Exogonium Purzia
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- Fuchsia imperialis
- " Melegaris var.
- Fuchsia Monarch
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- Genista atnensis
- Gerbera Jamesoni
- Geum cardinals
- " longiflora
- Geum miniatum
- Gladioli, hybrid
- Gladiolus Mrs. Beecher and O. Ben Hur
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- " sulphureus
- Gloriosa superba
- Grimmia hyacinthina
- Habenaria militaris
- Habrothamnus Newelli
- Hemanthus coccineus
- Heaths, Cornish and Dorset
- Helenium autumnale
- Helianthemum algarvense
- Helianthus mollis
- Hemerocallis aurantiaca major
- Hibiscus Cameroni
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- Hippophae rhamnoides
- Hydrangea Hortensia Mariesi
- Hyperastrum brachyanthum
- Hypericum oblongifolium
- Illicium floridanum
- Impatiens Hawkeri
- Incarvillea Delavayi
- Iris Gates
- " juncea
- " ochroleuca and I. Monsper
- " Peacock
- Ixora Westi
- Kämpferia rotunda
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- " caulescens
- " longicollis

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- " Tucki
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GARDENING ILLUSTRATED.

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FRUIT.

MULCHING FRUITS AND VEGETABLES.

In dry weather the value of a covering of some kind of manure over the roots of plants is very great. In the fruit garden Apples on the Paradise and Pears on the Quince will be much benefited by a mulch of good manure 2 inches thick spread on the surface as far as the roots extend. It is difficult to keep the roots sufficiently moist without something of the kind in when water is plentiful and can be easily applied. Watering at any time is not an unusual good. In very dry weather, unless the surface is mulched, the water rapidly evaporates, leaving the surface soil in a harsh, unfavourable condition. Where the appearance of manure is objectionable it is an easy matter to draw away a little of the surface soil and scatter it over the manure. When the latter is applied this will keep the birds from scuttering it about and along the garden untidily during very hot, dry weather. It is next to impossible to keep bare-rooted fruit-trees in really good condition in a dry time without mulching. Strawberries are generally mulched down as early as the blossoms are set, if not earlier, and a mulch of manure or even the lawn mowings scattered between the rows of Raspberries is much to the weight and value of the crop. All trees, especially those trees growing against the walls, often suffer from lack of moisture in June till the crop is ripening, and a mulch will keep the roots comfortable and the foliage healthy and free from red-spider. But as soon as the crop is gathered the manure or whatever dressing has been used should be removed to let the sunshine warm the roots, and by its action ripen the foliage and harden the wood. Young plants cultivated for their flowers only, such as Phloxes, Hollyhocks, Carnations, Pansies, Petunias, Stocks, etc., are much benefited by a surface covering of manure. It is possible, of course, to grow good flowers without mulching, but the soil has been thoroughly cultivated, and there is a great saving of labour in the use of a few loads of manure spread over the roots, and when it is necessary to water during a prolonged drought the nutriment in the manure is turned down to the roots, adding size to the blossoms and health and vigour to the foliage. Well-rotted manure forms the best material for mulching. In many instances, if more hoeing and less watering were done the plants would thrive better. Mere

SURFACE WATERING often does more harm than good, by the encouragement given to the production of surface roots only. The natural tendency of the roots is to go downwards in search of moisture in hot, dry weather. It is in the case of fruit-trees that this downward tendency, if it proceeds far, leads to disorganisation of growth and is destructive of fertility, simply because without warmth as well as moisture the wood will not mature sufficiently to produce fertile blossoms. In extreme cases there may be an entire absence of flowers, and under such conditions there can, of course, be no fruit. Hence the value of a mulch of

manure on the surface over the roots of fruit-trees in hot, dry weather, to keep the roots within the influence of solar heat, so that the wood may be properly built up and matured.

A mulch of some kind, either in the shape of a covering of manure or a loose, freely-stirred surface, is absolutely necessary for most vegetables, but especially Peas, Beans, Cauliflowers, Lettuces, Celery, Globe Artichokes, Vegetable Marrows, ridge Cucumbers, etc. To have Radishes good and crisp in hot seasons they should be sown in drills, and the spaces between the rows covered with short manure. In the use of mulch everybody will, of course, be guided by his own circumstances and the character of the soil he is dealing with. At the present time there are very few gardens with a sufficient water supply to meet a hot, dry summer, and where the water supply is abundant the means of distribution are often inadequate. A few loads of manure will go a long way in mulching, and will keep things up to the mark with an occasional soaking of water. In this island home of ours we never have too much sunshine if the proper means are taken to keep the moisture within reach of the roots.

VINES DUKE OF BUCCLEUCH AND B. HAMBURG FAILING.

Will you have the kindness to let me know what is the matter with the enclosed Vine leaves taken from a Vine called Duke of Buccleuch? The border is inside and outside the house, and is about 15 inches higher than the level of the garden soil. Another Vine in the same house—Black Hamburg—is showing a tendency to have the same marks on its leaves. The other three Vines—Madresfield Court, Gros Maroc, and Buckland Sweetwater—do not show any signs of this withering. The house faces S.E. and is well ventilated top and sides. The Vines are watered every afternoon, and I have examined the bed and found it to be damp, not wet, and the roots making young growth. The Vines were two-year-old canes when planted last winter, or rather this spring. There is one bunch of fruit on Black Hamburg and none on Duke of Buccleuch. There is not fire-heat in the house at present. I am much obliged for the information you so kindly gave me in past issues of your paper respecting Vines and Peaches.—W. M. FANNING.

[Had your complaint referred only to the Duke of Buccleuch Vine, we could have more easily understood and assigned a cause, but for the Black Hamburg to have acted in the same manner reduces the case to one of the insoluble problems so common every day in the garden. There may be local reasons why your Vines have acted thus, which, without some knowledge of the nature and state of the border, and the conditions of the Vines when planted, reduce the possibility of arriving at a satisfactory solution of the case. Your letter states that the Vines are watered every afternoon. This is wrong treatment to give irrespective of the weather, for without fire-heat the watering or syringing would not be favourable on cold nights. Duke of Buccleuch is a very fickle Grape—one that is sometimes stubborn when newly planted, and especially if the cultural conditions are not of the best. You can maintain ample atmospheric moisture without recourse to syringing the foliage or watering of the border daily by sprinkling water over the floor surfaces on sunny days with a fine-rosetted pot. If water is given to the border, sufficient should be applied to moisten the soil to

the depth of or below that occupied with roots. If you have examined the surface only, and found this amply moist, this does not imply that the same state exists at the depth of a foot. It may, with a daily sprinkling, be too moist on the surface, yet dry below, and if this exists, then to this you may, we think, rightly attribute your failure. It is nothing unusual when planting a new vine to find inequality of growth. We have had a perplexing experience in some such cases, while in others the progress is both even and satisfying. Newly-planted Vines ought not to be allowed to fruit, no matter how willing they may be to do so. The aspect of your house is that requiring early morning attention, opening the ventilators so that there is no undue rise of temperature. On sunny mornings air may be admitted as early as 6 o'clock, and closed again in time to husband some solar warmth for the Vines' benefit during the night. This may at the present time be possible from 3.30 to 4 p.m., earlier, of course, when there is no sun. The opening and closing of the ventilators must be governed entirely by the time of sunrise and sunset and the season of the year. The leaves you have sent clearly show an absence of vigour. Two-year-old plants certainly should produce stronger foliage, planted since the spring. If, however, there is an absence of suitable root moisture, Vines make but very poor progress, if they do not actually collapse. It would be impossible for us to say how often water would be needed, so much depending on local circumstances; but, in any case, we advise you to discontinue the daily watering, and give instead a soaking at less intervals, and note results of the change.]

STRAWBERRY PLANTS.

VERY often amateur growers complain that their first year's plants fail to fruit. That is generally due to their failure to secure the very earliest runners, and to get them well rooted early. Growers of Strawberries in pots for forcing always select their very earliest runners for such a purpose. They do more, for they put out into rows strong young plants the previous autumn, that in the spring are not allowed to bloom, and thus are induced to throw runners earlier than fruiting plants will. Small gardeners and amateurs may not be able to spare ground for such purpose, but in any case they should look well after the earliest runners made, and either layer them into small pots or into the soil where growing, just breaking it up first with a fork, or else cut off the strongest runners as they show roots, and dibble them out into a patch of ground that has been heavily manured, where they will grow strongly, and can be lifted and replanted where to grow and fruit in the following autumn. Wherever the runners are layered into pots or into the soil between the rows, the spaces between alternate rows only should be so used, so that space between each set is left free for fruit gathering, if not over, or for watering or giving such other attention as may be needed. In some soils Strawberry plants do not fruit well after the first year. In such cases it is best to make the ground fairly

rich with half-decayed manure, deeply dug in, and then to plant 12 inches apart each way. When young plants are strong and fruit well, they give in that way a surprising quantity of fine fruit. Even if so treated the first year, then, after fruiting, each second row be cut out, the plan pays well on any soil.

A. D.

SOME GOOD CHERRIES.

THE Cherry, running the Strawberry very close as to which shall ripen its fruit out-of-doors first, is a welcome addition to the dessert from early June onwards, though this season both will be late in ripening on account of the backward, cold, and unseasonable weather from early May up to the third week in June, when these lines were penned. I shall treat principally of trees grown under glass, but without fire-heat. All growers know that the Cherry of all fruit resents much fire-heat until the stoning is over. But in an unheated house, and with care exercised as to airing, watering, etc., it is seldom the crop fails. In my case, standard-trained trees with clean stems 6 feet

years with me, but the tree gummed badly, eventually going off, and has not been replaced. Black Eagle is a fine-flavoured Cherry of free growth. Early Rivers should be in every collection. With me this does not form so many spurs as could be wished, but the fruit finishes up grandly. Bigarreau Napoleon is a good late variety, the fruit large and excellent. Emperor Franeis, another late fine-flavoured fruit, comes up to a grand size, and, moreover, hangs well. St. Margaret's, too, follows in the train of late varieties, and valuable on that account, the fruit large and handsome, and the flavour all that can be desired in a Cherry when fully ripe. With the above-mentioned varieties a succession is ensured.

CULTURE.—The trees, of course, require attention during growth, syringing twice a day until the blossom expands, when discontinuing until the fruit is formed, after this the same practice is carried out until colouring of the fruit commences. If this is omitted the chances are red-spider, which soon works havoc with the Cherry, will attack the foliage before

the trees in any way until the fruit has stoned, or a large percentage will drop. Black aphid is the worst enemy the Cherry has, and the trees should be washed during the winter with soft-soap and sulphur, with a little Quassia extract or a small quantity of nicotine. Even then it is quite likely insects will appear on the foliage in early spring. I find half a pint of the Quassia extract put into 4 gallons of water will clear them of this enemy and do no harm to the tree, and if the shoots are very bad and curled, the points should be dipped in the solution and be well syringed next morning with clean water. Trees outside get similar treatment as regards washing, pruning, etc.

J. M. B.

NOTES AND REPLIES.

Shanking in Grapes.—I have charge of a vine, and the whole of the bunches are affected more or less as sample enclosed. The Vines are planted outside and their roots have probably gone beyond the Vine border into the lawn adjoining. Each year I give them a good sprinkling of Vine-manure and water it in, this being done after thinning. There has always been a difficulty in ripening them properly. What is the probable cause? Please.

[The Grapes sent are what is known as "shanked," and the fact of your Vine roots getting beyond the border into the lawn may at once explain the cause. The roots, getting into a cold subsoil, the young fibres perish and are unable to supply proper food for the development of the berries. If such is the case, your only safeguard is to lift the Vines from the border, and replant them.]

Pruning Gooseberries.—By way of following up the letter of "Close," the issue of GARDENING, June 28, p. 14, on the pruning of Gooseberry-bushes, allow me to give my methods. For a good many years now—more than a dozen at least—my Gooseberry-bushes have been pruned just about this time; this year, of course, somewhat later owing to the lateness of the season. The process adopted is as follows: All the young wood (of year's growth) coming up out of the base of the bush is cut out, leaving one or two buds on. In this way the fruit is not crowded; a check is given to exuberant growth, and, of course, light and air are more freely admitted. When the leafless bush is cut, two or three may be taken, but there is no pruning of the old-fashioned sort. A composition of lime, soap, and black soap is syringed on, and finally a black thread is warped and watered over the bushes. This latter is done if the district is infested with sparrows; unprotected the bushes would have a poor crop. Strange to say, there has been no appearance of the caterpillar, though plenty of black rust. In the dead season the bushes are treated with all available soap-suds and urine, with the result that the is always a crop.—FIFER.

—In answer to your correspondence regarding the pruning of Gooseberry trees I discovered last year from a friend who had been living in France, and who had watched the system of pruning Gooseberries there, where they have such abundant supplies, that their method is to prune off all the young shoots directly they make their appearance—i.e., in June, when they are also bearing fruit. The shoots are pruned back to within an eye, and also enough are pruned off to enable you, as the saying is, to put your head into the middle of the bush. I was glad to get corroboration of my information in last week's GARDENING from your correspondent "Close."—E. P. GIBBON.

Strawberries for forcing (Nov. No. 1).—Early in July will be found a good time to layer the earliest batch of plants for next year's supply, while for the late varieties towards the end of the month will be soon enough. I prefer 3-inch or 4-inch pots to layer in, filling these to within an inch of the top with loam chopped fairly fine, putting just a little fibrous stuff at the bottom for drainage. The soil should be made fairly firm with the fingers. The pots should be placed on a hand-barrow and conveyed to where the runners are, and an equal number of crooked pegs, 2½ inches in length, to fasten them in position, choosing the nearest the parent plant on the runner, and



Cherry Governor Wood growing in a pot at Gunnersbury House.

in length are trained to the back wall of two Peach ranges 50 feet and 95 feet in length respectively. The wires that carry the Peach-trees planted in front of the house are placed 16 inches from the roof, and the Cherries after reaching these wires are trained downwards to meet the Peach wood. Here they fruit abundantly, and begin to give ripe fruit the third week in May, and extend the supply until early in July. Black Tartarian, though classed as a late variety, is always the first to ripen with me. This is a grand fruit, swelling up to a great size and rich in flavour. Governor Wood, here figured, follows very closely, and is a good Cherry, very sweet, and, like its predecessor, a great bearer. The flesh soon decays if damp reaches it, and this is the evil to be avoided. When ripe Cherries are hanging give plenty of ventilation top and bottom whenever the weather will allow. Frogmore Bigarreau, a very nice fruit, of a paler amber colour than Governor Wood, bears well, and the fruit is richly flavoured. May Duke, a well known variety, requires little praise, the fruit of good size but more acid than the Governor. Even an early kind of good flavour, did well for some

the fruit has all been gathered. Neither must this washing be neglected after the crop is cleared, or like results follow. The main branches ought to be pretty well 2 feet apart when trained down the roof, or very little light or sun can reach the back wall. All shoots not required for extension or filling in should be pinched at the fourth leaf, and I have found that it matters little whether it is done before or after stoning, and all sub-laterals should be pinched throughout the season, when very little winter pruning will be necessary. The less cutting the Cherry gets the better for the tree. It is much better to root-prune in autumn if too robust wood is made. The Cherry, similar to all stone fruits, enjoys a fair percentage of lime or mortar-rubble in the compost of fibrous loam, and on no account should manure of any sort be given. Feeding is much better done from the surface in the shape of liquid-manure from the tank, diluted with clear water, or a sprinkling of some artificial manure when the trees are in active growth, and especially during the time the fruits are swelling. The greatest care is necessary with this fruit under glass, not to excite

pinching out the point beyond. If the foliage of the old plant is likely to shade the little plants, it will do no harm if a few of the leaves are pinched off. Afford the pots water twice a day when the weather is dry, and examine them occasionally and see that the little plants are taking root and not slipping away from under the peg. As soon as the roots can be seen at the bottom of the pot, cut the runners from the mother plant and stand in an open sunny position. There will be no need to shade or shade them in the least if the pots are filled with roots, but keep them well sprinkled with the syringe or a rose can, when they will scarcely feel the check. Repot into $\frac{5}{8}$ -inch pots before many days have elapsed, using a compost turfy loam and also about 1 quart of bone meal, soot, and wood-ashes respectively to 4 bushels, thoroughly mixing all together before using, and potting carefully with a potting stick, allowing nearly an inch for watering. Clean pots only should be used, and see that the little plants are fairly moist beforehand. After potting stand the plants on mesh bottom in the full sun. Give each one care to develop its foliage, so that sun and air can reach the crowns, without which thorough ripening is well nigh impossible. Examine the

PLANTS AND FLOWERS.

INDOOR PLANTS.

**A FINE GREENHOUSE RHODODEN-
DRON.**

THE Rhododendron Countess of Haddington, flowers of which we figure to-day, is the result of a cross between R. Dalhousie and R. ciliatum. The flowers on first opening are pale pink, but as they age become almost white. It differs materially from either of its parents, R. Dalhousie being straggling in growth, and R. ciliatum forming a low bush, while Countess of Haddington is of a bold, free growing character. One great advantage of this useful Rhododendron is that it may be flowered freely in small pots.

**PROPAGATING MALMAISON
CARNATIONS.**

PROPAGATION by layering is still the best course to pursue; it is the safest, as it is also the quickest. Two year old plants will make capital stock for propagation in this way, simply because the growths are longer, thus

shading being employed at such times as a matter of course. This latter should be removed as soon as the sun declines, and then air may be given, or if not windy the lights can be left off entirely until the following morning, so as to have the full benefit of the dew. Being layered in the fibre, but little watering will be needed. By adopting this plan the layers will be fit for potting in a month or five weeks' time, and this will allow a good interval for the young plants to become well established before winter sets in. This fact is all important in the future well-being of the plants. Late propagation, with a consequently late period before sufficient roots have been formed to carry the plants safely through the winter, means that a closer course of treatment has to be adopted. This is not at all congenial to the Malmaison or any other Carnation, for it must not be lost sight of that it is a hardy hardier plant and not a tender greenhouse one in any sense of the term. Anything approaching a close or stuffy atmosphere during the autumn and winter is decidedly injurious to the plants, as indeed it is at all times. It is of no use to attempt to make up in this way for time lost in layering. The

YEARLING PLANTS, if not wanted for propagation, should at once receive a shift into one size larger pots. In doing this do not hesitate to make use of about half and half good peat and turfy loam. If the loam be at all close and wanting in fibre, then employ more peat. Firm potting is essential, less watering being afterwards required. Slopping the plants frequently with water will cause them to go off at the base. Should any wireworm or other grub trouble the plants at any time, dust them over at once lightly with soot, leaving it to be watered in. This not only acts as a check, but as a preventive also, besides which it is also a manure in which Carnations delight. These plants should have all the light and air that can be given them, but be screened from easterly winds and from the intense heat of the sun during the day in very hot situations. This can be easily managed with ordinary shading. Plunging the pots in a dry time is a good course to pursue; it saves watering, too much of which is not beneficial at any time. During a wet period, on the other hand, the plants would be better not plunged, being merely stood upon a bed of coal ashes or upon bricks, so as to prevent worms from entering the pots. Just sufficient staking should be afforded after potting to prevent the shoots from breaking down; in doing this do not crowd the growths together, but rather draw them out. In the case of the young layers it will sometimes happen that an adventitious flower-spike will push up; rather than stop this encourage it, for one good flower upon a dwarf plant is a pretty sight during the winter months.



Flowers of Rhododendron Countess of Haddington. From a photograph by F. Mason-Good, Winchfield.

NOTES AND REPLIES.

Fuchsia buds failing to open.—I should be much obliged if you could tell me the reason of the enclosed buds of Fuchsia failing to open? The plant is looking very healthy, as do also the buds up to a certain stage, when they crack all round. The plant is in a box in a greenhouse, and has lately had some manure-water.—(MISS) HOPE K. BRACK.

[An excess of stimulants, with possibly rather too much water at the roots, is the reason of your Fuchsia behaving as you describe. If you discontinue the manure-water and give plenty of air your Fuchsia will in all probability soon recover.]

Spots on Pelargonium leaves.—I send some leaf of Zonia for your opinion as to cause and prevention of spots on the leaves. Last autumn these plants and others were overrun with small caterpillars, and as they are very choice sorts I dread another visitation.—CONSTANT READER.

[Judging by the leaves sent, we should say your Zonal Pelargoniums have had insufficient ventilation, for a free circulation of air in all stages is necessary to their well-doing. An excess of stimulants, too, will often lead to a disease (which may be compared to eczema) attacking the foliage, and this can be remedied by potting in good, sweet soil, withholding stimulants of all kinds till the pots are full of young, active roots. The caterpillars of last autumn have nothing to do with the diseased state of the leaves now, and should they put in an appearance later on, hand-picking is the only remedy. The larvae of the white Cabbage

plants twice daily, and water when necessary; dryness at the root must not be permitted at any time, and should red-spider attack them syringe with soapy water, with a little sulphur or lime mixed with it. All runners and weeds must be constantly removed and the plants turned round a few times during summer.—J. M. E.

Selecting Strawberry-runners.—

This is an important consideration. Those only should be employed that are stout and healthy, with a good round, plump bud in the centre; and they must be from fruit-bearing plants. When runners are taken at random from unfruitful plants, the progeny generally proves unfruitful also. It is of the utmost advantage, in order to obtain the runners quickly and to get them soon into their fruiting quarters, that they be layered into small pots about 4 inches or 5 inches in diameter, filled with rich loamy soil, and mixed with a little rotten dung. While they remain in the pots they must not be allowed to suffer from want of water. They will make rapid progress in this rich compost; as soon as they are fairly rooted they can be cut away from the parent plants, and as soon as convenient afterwards they should be finally planted out before the pots become matted with roots, and if the weather is at all dry well watered until they become established.

admitting of more effectual layering than in the case of yearling plants; besides which these latter will make fine plants for the earlier flowering next season. A good method to pursue is that of either planting out the old stools or plunging them in a frame. For instance, a frame that has been cleared of either early Potatoes or Carrots, and still is lying idle, will do well for the purpose. First level the soil and add a little fresh around the old ball if necessary as the planting is being done. Then give it a thorough good watering, and after that surface the soil all over with Cocoa fibre to a depth of about 3 inches, this also being watered. The layering should then take place in the usual way, the layers being pegged into the Cocoa-fibre. This material is a first-rate rooting medium, keeping a regular moisture around the layers, encouraging thereby a speedy root-growth.

After the layering is completed the fibre should be made firm and a sprinkling of silver-sand be added as a surfacing, with another watering as a finish. The lights should then be placed over them, but do not keep them closed so as to cause a too damp atmosphere. Such a condition will only tend to engender fungoid growth and cause green-fly. Close if needful during the daytime, more especially when an easterly wind is blowing or the sun very bright and warm. This latter advice may seem an anomaly, but it works out well,

lutterfly are very destructive to Pelargonium-leaves, as also are those of two or three nocturnal kinds of moths.]

Zonal Pelargoniums in winter.—The bright colours of these flowers are never more appreciated than during the dull autumn and winter. But to be successful one must grow the plants specially for that object. To let them flower all the summer and then expect them to give a display later is to court failure. The present is a good time to begin either by rooting cuttings or by obtaining young plants already rooted. Pot these into 3-inch pots, and stand them out-of-doors. In due time give them a shift into 5-inch or 6-inch pots, and use any ordinary potting soil. By ordinary potting soil I mean that free from mixtures of manures, which have a tendency to produce a gross growth. Pot firmly and allow the plants plenty of room to induce a short, stocky growth. Plenty of water is important during summer, removing also all bloom-buds. This latter may be done up to September, when the plants should be placed under glass. As the pots are by this time well filled with roots, feeding with stimulants is beneficial in producing fine trusses of bloom. Do not, however, feed the plants before. I would rather they have a starved appearance during the summer than large green, soft leaves. It may be well to mention the importance of standing the pots on a hard bottom so that worms may not get through the drainage and disturb the soil.—S.

Indian Azaleas.—Those that are now gone past or out of flower should at once have the few remaining blossoms (if any) and all the seed vessels picked off. The sooner this is done, the better will it be for the after growth to be secured and ripened in good time, for even in spite of the syringe thrips will increase rapidly at this season. The best remedy will be two fumigations at the least if this can be arranged for, otherwise a strong solution of soft soap and Tobacco juice should be used to syringe them with. More often than not this plant pest does the most harm to Azaleas after an exhaustive flowering period; it behoves us, therefore, to be on the watch against them. Young plants that are making a vigorous growth may be pinched with advantage; there is plenty of time for a second growth to form and then to set for flower. This plan is not adopted nearly enough; if it were, we should not see so many straggling plants as they get older; whilst in other respects, as the forming of a good base for a future specimen in equalising the growths it is a distinct advantage. Early forced plants will now have completed their growth under favourable conditions. Where this is the case, no time should be lost in hardening them off, so that in a few weeks in places where the plants can be stood outside they may be fully exposed.

ROSES.

BEFORE THE ROSES COME.

The first blaze of spring flowers is well over before the season of Roses and the summer garden flowers begins. The Wallflowers, Primroses, Tulips, and other bulbs during April and May make a fine show, helped as they are by the fruit blossom and the dwarf plants of the Arabis, Alyssum, and Aubrietia, in no way more effective than as broad edgings to borders, trimmed into form as soon as the flowering season is over, and left to run for the rest of the year. This gives a look of freedom and wildness to a garden, yet within bounds. But by June these things are over or quite past their best. It is between their period and that of the Roses at the end of June that so many gardens get dull. To fill this interval, the most effective plants—plants to produce an effect of colour generally rather than of beauty of the individual blossom alone—are Pyrethrum and Lupinus. For lasting, there is probably no outdoor flower to equal the Pyrethrum, if only its habit were more tidy. A heavy shower and a little wind, however, and the top-heavy flowers are all on the ground. The best way to manage the plant is to surround the clump with dwarf Pea-sticks, about 18 inches high, with perhaps a loose tie of raffia. If this is done while the plant is compact, just before the flower stems begin to

run up, the result is usually quite a natural-looking clump when in blossom. The Lupinus, when well grown, are stately plants, with fine foliage and handsome spikes of purple-blue or white, and they last over a long season. Like everything else, they will repay rich treatment. Rockets, single and double, too, are good. The mauve tinted white, the usual colours of the so-called double white, is very delicate and useful when well placed. An annual shift and rich treatment quite transform the character of this plant. The varieties of the German Iris, though lasting but a short time each, give a good succession, and if planted in a mixed clump give flowers over some time. Oriental Poppies undoubtedly give brilliant colour, but the space allowed them should be restricted if any consideration is given to appearances at other seasons. Pionies of the double crimson kind are usually failing by this season, but some of the other forms overlap the Rose season when they are hardly wanted. If a right selection is made, however, they are far too good to omit. They group conveniently with the shrubs, of which the Rhododendron and the Guelder Rose are, of course, invaluable. Other less showy but valuable plants for the same season are Perennial Carnulowers, of which the white is the best, the other colours looking rather weedy (these need supporting early), Campanula glomerata, with its fine violet flowers well out before the other Campanulas begin, and the Columbinas.

Among the dwarf trailing plants there are the white-flowered Mossy Saxifrage, beautiful either in or out of bloom; Cerastium, with its grey foliage and white flowers; Helianthemums—for dry soils—in various colours, of which the pale pink grows and flowers the most rampantly; and Woodruff, with its beautiful leafage and small, lily scented blossoms. All these dwarf plants trail about and look after themselves, so perhaps it is as well, as with Aralis, to put them in order once a year, as soon as the flowering season is over. There are also—too useful to be left out—the Forget-me-not and London Pride, though they almost belong to the earlier spring season, and the Tufted Pansies, which seem to belong equally to all seasons of the year. While many of these things are still at their best, the Delphiniums and the Pinks will be beginning to open, and from that time the season of Roses and all the flowers that make a summer is not many days distant.

R. B.

OWN-ROOT ROSES ECONOMICALLY PRODUCED.

ANY method of raising a stock of own-root Roses that ensures a good percentage of rooted cuttings of all varieties would naturally appeal to those who are interested in this branch of Rose culture. The method I recommend is simple in the extreme. It is merely a plan whereby advantage is taken of the summer's sun to obtain a quick callusing of the cuttings inserted. When a cutting is provided with healthy foliage and is practically in full growth it readily produces roots, and provided the proper condition of ripeness is observed there is no reason why every variety should not be produced as freely from a cutting as it may be by budding or grafting. Naturally, smaller plants are the outcome at first, but ere long the cutting will outstrip the budded plant. First, then, a frame should be placed in a sunny position. A very convenient size would be about 30 inches wide and the same in length. Several such frames should be placed in a line together, or may be in front of each other, provided the sun be not impeded. A depth of about 9 inches is a good one. This would allow of 3 inches of crocks, 2 inches of loam, sifted through $\frac{1}{2}$ -inch sieve, and then 3 inches of sharp silver-sand on top of the loam. Press the sand firmly, and give a good watering. It is now ready for the cuttings, the

selection of which is most important. The very best wood should be inserted, and none is better than the growths that produce fine blossoms. After the flower has developed about two days the wood is in a fit condition to be made into cuttings. I prefer two eyes for each cutting—that is, two leaf-stalks. The lower one is retained in its entirety, and the

upper one has the end leaflet pinched off. Cut the end of the cutting just below the eye with a sharp knife. The cuttings may now be inserted in the sand to a depth of 1 inch. They may be inserted thickly, but where frames are plentiful I would advise that the cuttings be planted an inch apart and 2 inches between the rows. When inserted the cuttings will appear like a thick layer of leaves. It is the proper treatment of the foliage that makes this method so successful. This consists in sprinkling with a fine rose can every hour from 9 a.m. to about 4 p.m., and is continued on each bright day for about ten days. On no account must the sand become dry, if possible avoid a soddened condition. The lights should be shaded with whitening, but to prevent it being washed off by rain some size and boiled oil should be added. At the end of ten or fourteen days, should the weather have been bright, young growths will appear from the top eyes. As the foliage shows signs of decay remove carefully. The frame should be frequently examined for such decayed leaves. The lights must be kept perfectly close until the new growths appear, then a chink of air may be given. By lifting one of the cuttings at the end of about four weeks, roots will probably be found some $\frac{1}{2}$ inch in length; if so, the cuttings are then ready for

putting off into 2-inch pots or frames, using a compost of sandy loam. One small crock will be ample in each pot. Other frames must be provided to take the potted up cuttings, and they should be brought as near the glass as possible. Keep close for a day or two, then give a little air, and shade from bright sun during first ten days. In a week or two the rooted cuttings will be ready for a shift into next size of pot. Keep all flowers pinched off the first year, and endeavor to harden the wood by exposure, as a soft growth always winters badly. By the fall, plants produced in July will be in 48-sized pots, and will be quite sturdy little specimens, but scarcely fitted to be planted out, so that it is necessary to hold them for another year in a well shaded frame or house. I may say all Roses will root readily after the manner described. It is new kinds are wanted for cuttings, dwarf pot-grown plants would be the best, and if the most is desired to be made of these single-eyed cuttings may be used. Ros.

NOTES AND REPLIES

Rose Beauty of Waltham.—Forty years ago this fine Hybrid Perpetual was introduced, and it remains to-day one of the most reliable of Roses. Its colour is a lovely bright light red, sometimes termed cherry red. The flowers are delightfully sweet, and of most perfect imbricated form. It is a free bloomer and also a good autumnal, and in vigour all that can be desired. The variety makes an excellent standard, the head spreading and not too dense. It is rather surprising few Roses have been raised from Beauty of Waltham, a this type of Rose could be increased with much advantage to our collection.—Ros.

New Rose Lady Roberts.—This charming variety has been seen recently in excellent form, and it is undoubtedly one of the finest additions of late years. It is said to be a seedling from the well-known Tea-scented Rose Anna Olivier. The new variety has a more dense buff shade of colour. In shape it has the full, as well as high-pointed, centre. It will be safe to say that this Rose will be much valued for exhibition, and it will also be among the easily-grown ones, as, like that of the parent, the growth is free.—H. S.

Effect of stock on the colour of Roses.—The other day I noted a striking instance of the difference the stock can make in the colour of the blooms in the case of *Maréchal Niel* Rose. In a greenhouse planted with this variety all except one plant were budded on the multiflora Rose as the stock. On marking how light in colour were the blooms, I came across one plant the flowers of which were some shades deeper in tint, and found that in this instance a Brier was the foster parent. As all of the trees are treated alike one can come to no other conclusion than that the stock makes the difference; although, in other respects, the multiflora stock seems in every way suitable for the *Maréchal Niel*.—S.

OUTDOOR PLANTS

WOOD ANEMONE (A. NEMOROSA).

In spring this native plant adorns our woods and also those of nearly all Europe and Asia, but it is so abundant in the British Isles that there is little need to plead for its culture. The form known as *A. n. major*, which we figure to-day, was collected in Ireland about seven years ago. It is a great improvement on the type, the flowers being quite twice the size, the plant also being a stronger grower, and also equally free flowering.

NOTES ON HARDY FLOWERS.

MORISIA HYPOCÆA.—This somewhat scarce alpine is a native of Sardinia. I am not acquainted with the conditions under which it is found growing in its native habitat, but I imagine that it will be found on hillsides, probably among dwarf herbage and in rather light stony soil. In any case it evidently requires good drainage, enjoys the full sun and a free circulation of air. With me it thrives very well on rockwork in gritty loam, but increases slowly. It is quite a diminutive plant with divided pale green foliage and tiny yellow flowers which are very freely produced. It is a bright, attractive little plant, and is

twenty good heads of bloom. A good soaking of water occasionally in great heat or drought will maintain vigorous health, and this little alpine, being so distinct and pretty, is well worth the extra labour that watering entails.

GENTIANA VERNA.—As growers of hardy flowers are aware, it is a matter of some difficulty to induce permanent vigour in this *Gentiana*. In the generality of gardens newly-imported plants do fairly well for a season or two, but they do not increase in size, and eventually dwindle away. This I believe to be in a great measure due to climatic influences, for it is no easy enough matter to give the right kind of soil, but the confined atmosphere of a garden is so different from that which this plant enjoys on the breezy hillsides, where it grows naturally, that unless artificial means are resorted to permanent vitality cannot be ensured. It is under the scorching sun of July and August that this little *Gentian* is apt to suffer so acutely, the slender wiry growths being apparently unable to resist the fierce heat and parching atmosphere that are apt to prevail at that time of year. They appear to become over-hardened and eventually shrivel, so that the energies of the plants are in a measure paralysed. Many of the current season's growths die away, the decorative worth of this lovely little alpine being permanently impaired. One way of

when fit to handle, and shade for a few days, keeping as cool as possible. Transfer them to 3-inch and 4-inch pots before they have a chance to get crowded, using a little fine mortar-rubble with the compost, which should be loam 2 bushels, leaf-soil $\frac{1}{2}$ of a bushel, passed through an inch sieve, and a peck of well-decayed cow-manure rubbed through a $\frac{1}{2}$ -inch sieve. Put firmly and stand in a frame, where they can remain until frost sets in, when remove to a greenhouse shelf. Shift into 5-inch and 6-inch pots as they become ready, and early in March move them into 8-inch or 10-inch pots, in which size they will flower, using the soil a bit rougher at each potting. Do not overwater during the dark days of winter, and only use a weak stimulant once a week when established in their last shift. The foliage is very sweet-scented when touched, which can soon be detected in a house. When in full beauty during July and August they are much admired, being so graceful in habit. I have used them to advantage in the flower garden, plunging the pot in the soil or on the turf. A sheltered place is necessary, or the fine pendulous shoots get broken, and thus spoil the appearance of the plant. To me the glasshouse seems the best place for the *Humea*, giving it a light, airy position. *H. elegans purpurea* and *H. e. alba* have purple and white flowers respectively. The plant is no good after going out of flower, a new stock being raised annually from seed.

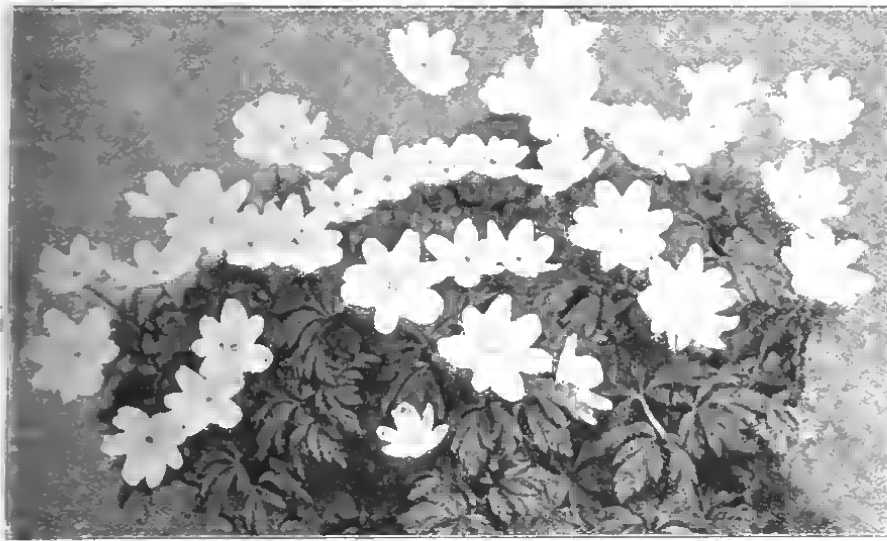
J. M. R.

[Many years ago in a garden in Morayshire this plant was largely used as a centre piece for beds in the flower garden, and always did well. In some cases it was plunged pot and all, and in others it was planted out, but in both cases the results were equal. The only thing needful was to see that it was securely staked to prevent its being broken down. The soil in the garden referred to was a very light, sandy loam, which just suited it. — Ed.]

FUCHSIAS FOR OUTDOOR BLOOMING.

Most people who are fond of flowers have a special regard for Fuchsias. When one comes to consider Fuchsias in the light of outdoor-blooming plants, we are right when we say that to a great number of gardeners they are comparative strangers. Those even who grow them for indoor blooming do not to any very great extent "plant them out." It cannot be denied, however, that Fuchsias are as easily grown out-of-doors as the over-much patronised *Pelargonium* or the yellow *Calceolaria*, will bloom quite as abundantly, and, as at this time one may transfer them to the open, a consideration of their claims is asked. Anyone who has troubled about the British coast, as I have done, or who has visited the Isle of Man, must have been struck with Fuchsias grown under conditions utterly foreign to those who have been accustomed to view them only as "pot-plants." In those places they attain huge proportions—are even used as hedges, as they are in other parts of the south. *F. Ricurtoni* and *globosa* are examples of this, being grown in the mild climate out-of-doors the year round. Fuchsias for the flower garden with other small plants, for planting in window-boxes or baskets, or for growing in ornamental vases, may now be obtained for a modest sum, and in various colours, so as to present at blooming time a delightful contrast; moreover, one may rely on them flowering quite as freely as any other outdoor plant. Those who have not propagated any this spring may, as I have said, purchase young plants for a reasonable figure—in fact, at much less cost than *Pelargoniums*. I append a list of varieties that I have found most suitable for outdoor work, and would say that if they are purchased in pots it will be found that they bloom earlier if the pots are plunged in the borders:—

SINGLES.—Flocon de Neige, sepals bright crimson, corolla white, veined blue; Sedan, rosy red; President, sepals deep red, corolla salmon.



A fine form of the Wood Anemone (*Anemone nemorosa major*) in Messrs. Barr's nursery at Surbiton.

worthy of a place among choice rock plants. It does not appear to be one of those things that can be easily increased by division, but can probably be raised from seed, though I have not yet tried this method of increase.

SAXIFRAGA AFICILATA.—When in the enjoyment of favourable conditions this *Saxifraga* has a remarkably fresh and bright appearance all the season through. Another point in its favour is that it blooms very early in spring, when flowers in the open air are comparatively scarce. Like many members of the family, it suffers much in periods of parching hot weather, and it is therefore wise to place it in the rock-garden, making the soil very firm round the root. In the case of this *Saxifraga* I find it very helpful to embed small stones or, better still, pieces of chalk round the roots, and in the case of established plants a top-dressing of loam and leaf-mould, applied in autumn and worked in among the young growths, will help to maintain vigour. In the north of England and in districts where the rainfall is above the average, this species does much better than where it is liable to be subjected to periods of severe drought, which in a great measure destroy the rich verdure that characterises this *Saxifraga* in its normal condition, and thus cause it to miss flowering. It is very provoking to see specimens a foot or more across with only two or three small flower trusses, when there should be from twelve to

neutralising the effects of very hot sun is to annually top-dress about the beginning of July, using fine material composed of loam and leaf-soil, with a sprinkling of lime or powdered chalk, and working it well in among the young growths. This protects them against the desiccating effects of the hot summer sun, and induces the formation of new roots from the crown. If an occasional soaking of water can be given, the young growths will remain fresh and plump, and will form healthy flower buds. J. C., *Ryffest.*

HUMEA ELRGANS.

This is an effective plant when well grown, and to do it justice ten to twelve months must be given before plants of much value can be had. Towards the end of June is a suitable time for sowing, first preparing a 6-inch pot or a pan by filling nearly to the top with a mixture of loam and leaf-soil put through a fine-meshed sieve, adding just a little sand to keep the compost sweet. Water the soil before sowing, letting it drain for a couple of hours, then scatter the seed quite evenly over the surface, and but lightly cover, as the seed is very small. Place a piece of glass over the top of the pan or pot, and stand in a cool, shady place until the seedlings appear, when insure to light and air, giving water with judgment, as they so soon get wrong. Prick them into similar pans

corolla orange-scarlet; Countess of Aberdeen, sepals and corolla pure white; Excelsior, sepals carmine and reflexed, corolla lilac-mauve; Earl of Beaconsfield, sepals and corolla orange-red; John Gibbons, tube and sepals dark crimson, corolla dark blue.

DOUBLES.—Phenomenal, sepals red, corolla blue, enormous flowers; Frau Emma Topfer, sepals red, reflexed, corolla rosy-blush; Molesworth, tube and sepals rich rose, corolla white; President F. Guntbier, sepals red, corolla violet; Fortuna, sepals crimson-red, corolla white; Beauty of Exeter, salmon-scarlet self.

For ornamental vases, where plants and flowers of a hanging habit are needed, few better subjects could be employed than Fuchsias. W. F. D.

NOTES AND REPLIES.

Torch Lilies (Tritomas).—T. Uvaria is the best known probably of the genus, and when once established gives little trouble. Tritomas need a deep soil and manured from time to time, and are best adapted for well-drained borders, as on cold, heavy soils with a winter like the last they not infrequently die off. Having regard to this, it is wise to afford the roots some little protection with light, warm material, such as straw litter, leaves, or Bracken. —LEAMINGST.

Oriental Poppies.—I think more would grow the Oriental Poppies if they knew how comparatively easy they are to grow and how hardy they are. As with other varieties of Poppies, seed of the Oriental Poppy is very small, and should, therefore, be sown in boxes in a cold frame now for next year's display, and planted out later where they are wanted. They need little attention when once established, and may be counted upon to bloom well every year. Mine have been in their present quarters several seasons, and never fail to flower freely. —LEAMINGST.

Clematis Beauty of Worcester falling.—This plant, three years old now, has only flowered once, and has had but the one flower. Last year the whole plant withered in one night. This was thought to be due to great heat or wireworm. The plant was moved to a more sheltered situation, and has appeared again in healthy state, only to wither. What is the cause? —E. V. R.

{Very probably your plant was grafted, in which case the Clematis often goes off in the way you say. This is by some attributed to disease, doubtless brought about by the pernicious forcing adopted in its infancy. We should advise you to cut the plant down, and if the roots are right it may probably break again.}

Spanish Irises.—There are few Irises so easy to cultivate, certainly none that take up so little room, as the Spanish, and whose delicate and beautiful blossoms are with us now. Particularly adapted for table decoration, in consequence of their graceful appearance, they should be grown by all who value cut flowers, and the bulbs being inexpensive one may plant them liberally and confidently anticipate a bountiful supply of blooms. If the bulbs are planted in groups in the borders, or rather thinly in a bed by themselves, one may sow between Mignonette, which comes in nice for succession. One rather pretty arrangement is to plant alternately with Iceland Poppies, another equally desirable blossom for vases. —DERBY.

Staking Dahlias.—When old undivided roots are replanted, as is sometimes done, it matters little when stout stakes are affixed to the plants; but in the case of hard divided roots or of those which have been raised from cuttings (the common method of propagation), it is wise to get the stakes fixed soon after the planting is done, as then in driving the stake into the soil no harm is done to the fleshy roots. Some growers, after the holes for the reception of the plants have been prepared, drive a stake into the centre of each one at once, and thus prevent the possibility of harm being done at all. But it is not always convenient to adopt that course. In pointing the stakes it is well to have no sharp angles or edge, but to trim the points round and smooth, also have them well driven home, and thus render them secure. The tying up of the main stem and branches should be done rather loosely, as the wood of Dahlias necessarily swells very much in the autumn. —GARDENING ILLUSTRATED BY

Lawn weeds.—We have recently seen a lawn greatly infested with Plantain and other coarse weeds, on which efforts to kill these pests had been made by dropping lawn-sand, as it is called, on to them. The effect was objectionable, as myriads of them looked like dirty patches, and it was but too evident that whilst some of the leafage was killed, the root, stem, and lower leaves were still alive. Had the time spent in thus dressing each individual weed been utilised in cutting each one out, the result would have been satisfactory. Weed extracting of this nature can be done constantly, except when the turf is hard frozen, but when the process is persistently followed up the result is that in time every coarse weed disappears. If in heat and drought deep-rooting weeds hold on whilst the Grass dies, in wet seasons such as the present they make very coarse growth. But if they are extracted now the Grass will soon cover the bare places thus created, and in a short time they are obliterated. —A. D.

Forget-me-nots.—Though devoid of scent there is, nevertheless, a charm about these spring flowers. Forget-me-nots last fresh for a considerable time in cool dwelling rooms. *Myosotis dissitiflora* is a general favourite because of its hardiness, early flowering, and depth of colour. This, too, is good for pots, and may be forwarded by some weeks in a greenhouse temperature. A striking but later variety is *M. alpestris Victoria*. This has a denser panicle of flower, dwarfer growth, and, if anything, is more conspicuous in a mass than the first named. The past winter has proved the hardiness of many subjects. This kind survived the ordeal, and in my case out-distanced *M. dissitiflora* in point of hardiness. Another and miniature kind is *M. alpestris gracilis*. This, too, was equally hardy, and in its early season resembles very much in colour and compactness the summer *Lobelia*. As an edging to spring beds or grouped alone it has a pleasing effect, and is sure to arrest attention. —W.

Single Cactus Dahlias.—Where it is possible, these should be planted on a border which has a raised terrace at the back. The terrace saves the plants from many a gust of wind, and, better still, it shows the flowers off to advantage, especially if the plants be a mixed lot. I prefer raising plants every year from seed, getting it from a reliable firm. The diversity of colour and the robustness of the plants commend this method to all. The soil for these Dahlias need not be rich, nor should it be too poor. Good garden soil which has been manured the previous year suits them admirably. They will require to be firmly tied to the stake, as, being of a branching habit, they soon get broken if attention is not given. A little liquid-manure should be given when the buds are well set, but care should be taken not to overdo it, as gross growth will be the result, and the blooming will be retarded. The same result happens when too much water is given them if the season is dry. The cut blooms are charming when arranged loosely in a vase or jar with a little of their own foliage. —D. G. McI., *Bridge of Weir, N. B.*

Lobelias from seeds and cuttings.—Lobelias are much in request as edgings to borders, etc., during the summer. In the early spring, if one could peep into most greenhouses one would find boxes of young stuff as evidence of this. It is often a point for discussion amongst gardeners as to which is really the best mode of raising plants—whether it is worth the trouble to save old ones during the winter, or to sow seed in the spring. Personally, I think there is something to be said in favour of both methods. Very often those who dig up old plants in October find that after keeping them in the house for a month or so they damp off. Thus the system is condemned and seed has to be sown. Is it wise to propagate from old spent-out plants? I think not. In my opinion it is the best to have prepared in August boxes of sandy loam into which cuttings can be dibbled; these will root readily at that time, and by October have developed into bushy little plants, which will stand the winter in the greenhouse, not damp off so readily as plants lifted from the borders, and by February will be full of young shoots ready for the propagating-pit. Where this cannot be carried

out, then I would sow seed in heat in February. One may not always rely on seed, as it not infrequently happens that some of the plants when they come to bloom are lighter in colour than others. This is got over where a stock of autumn-raised cuttings is kept, from which it is comparatively easy to raise a large number of plants for the borders, and I always find that plants raised from cuttings flower the earlier. —WOODBASTWICK.

Polyanthuses.—Although these are looked upon as hardy, severe winters sometimes make havoc amongst them. Where, however, they can be planted at the foot of a warm wall, the little protection thus afforded will often tide them over the severest winter. Some of mine in beds that lay under the snow for a long time this winter were found to have rotted away, but those under the wall are at the time of writing showing for bloom. Now is the best time to sow seed, and plants raised will blossom next year. Polyanthus seed is very slow in germinating, and one is liable to get impatient about it, but it invariably comes. Seed should be placed in boxes in a cold-frame, and the young plants got into the borders in the autumn. —LEAMINGST.

Plants for stone elder mill.—I have just moved into a sunny position an old stone elder mill, about 3 feet or 9 feet in diameter, with a solid block of stone in the middle and a large trough round it, about 15 inches deep. I am anxious to cover it with plants and creepers. It is in two pieces, and by not quite joining the two halves and sloping the earth towards the crack, it would be drained. Will you kindly advise me as to the plants I think could grow in the trough? It is not possible to plant anything in the ground near the elder mill, as bed of marl comes to the surface there. Would Rock Rose, alpine plants, alpine Roses, *Daphne*, *Cotoneaster*, and *Clematis* be likely to thrive? The spot is sheltered by walls on three sides and open to the west. —MARJORIE E. CURIE.

{There are many things that should not only do quite well, but prove suitable and picturesque also. If you could place other rough stones on the central block with a view to making a cone-like centre of an informal character, then we would suggest the planting of *Cotoneaster microphylla* or *C. Laelandi*, in such a way that these would mass together in the centre portion, the object of the added stones being merely to support the plants, instead of these producing quite a flat area. Some rough and old stones would be best, to be in keeping with the millstone. Oryon may plant such a *Clematis* as *C. montana*, *C. Viticella*, or *C. Jackmani*, the older kinds preferably. In the trough, that should be nearly filled with good soil, you could plant such things as alpine *Phloxes*, or any of the dwarf *Phlox setacea* varieties, with *Ajugas*, *Veronica prostrata*, *Vinca*, various *Aubrietias*, and such-like, to hang over the sides, together with *Campanula garganica*, *C. muralis*, and *C. pusilla* in variety. All these are dwarf-growing and trailing, or nearly so. Of other things suitable for centre of the trough, we may mention *Columbines*, *Rosa alpina*, and *R. a. pyrenaica*, or, in place of either of these, the copper and yellow Austrian *Briers* would succeed well. These, with *Lychnis Viscaria* fl. pl., *L. Haageana*, *Arnebia echinoides*, *Fritillarias*, or Crown Imperials, *Statice latifolia*, *Physalis* *Franchetti*, *Plumbago* *Larpenae*, would furnish it well with old-fashioned flowers for the most part, and give an interesting variety also.}

Misleading names.—At the flower show at Holland House the other day we saw what we see so often done at shows of late—i.e., many *Anemones* shown under the name of St. Brigid's *Anemone*, which is misleading and wrong as a name for a class. They are simply well-grown seedlings of the plant grown in English gardens for ages under the name of Poppy *Anemone*, or Crown *Anemone* (*A. coronaria*). We have no objection to anyone calling any one variety St. Brigid or any name he fancies, but to give a new general name to a class of well-known and very old flowers should not be done or encouraged. It is wrong, because it leads people to fancy that they are dealing with a new group of flowers, and adds to the already too numerous names by which we are confused. The trick succeeds so well in sales that it will probably be followed in other instances. Real novelties are different and deserve distinguishing names. Pedigree *Roses* was another class of misleading names, as they were in no sense more pedigree than any other seedling

THE GARDEN CLEMATIS.

ONE of the most useful and beautiful climbers is the Clematis, and few pictures are more familiar in gardens than the violet-purple coloured *C. Jackmani* that wreathes many a pillar, post, and rustic doorway with its free growth and countless flowers. As there are several distinct sections of the Clematis, it will be well to refer to them under their separate headings and briefly touch upon their cultivation. There is nothing troublesome in growing this climber, and the freedom of Jackman's Clematis shows the vigour and hardiness of the plant even when associated with sturdier things that seem determined to choke it. Some of the prettiest effects in gardens are the result of

lessly will simply result in pruning away the next season's flowers. This is sometimes done, and the plants complained of as shy flowering. A different course may be followed, however, with the Jackmani and Viticella types, which usually bear large, variously coloured flowers in summer and autumn on the young shoots, which should be therefore encouraged. Cut back the plants when their beauty is destroyed by frost to within a few inches of the soil, and give a mulching of manure. This is a short review of the culture of plants which are of free growth, hardy, and may be grown in various positions in the garden, while they give a profusion of bloom of various shapes and colour over a long season. The Jackmani type is the most common, except such a variety as *montana*, and besides

(white, tinged with cream) are also popular kinds, while such kinds as *Fair Rosamond*, *Miss Crawshaw* (here figured), *Lord Londesborough*, *Mrs. G. Jackman*, and *Miss Bateman* are excellent. Two other types remain, and these are *florida* and *lanuginosa*. Of the former, one of the finest is *Duchess of Edinburgh*, a pure white, double flower, sweetly scented, and very chaste when the plant is in full bloom. Another full and bold flower is *Countess of Lovelace*, while *Fortunei*, *John Gould Veitch*, and *Lucie Lemoine* are worth having. The *lanuginosa* class is larger, and embraces some very choice flowers, as *alba magna* (white), and the sky-blue coloured *Blue Gem*, *Henri* (creamy-white), *lanuginosa candida* (grey-white), *Gem* (lavender-blue), *Louis Van Houtte* (bluish-purple), *Olto Froebel* (one of the very large-flowered kinds, with blooms of a greenish-white tone), *W. Kennett* (lavender), *Princess of Wales* (bluish-mauve), and *purpurea elegans* (violet-purple).

These are a selection of a few of the best in their several sections, and in disposing them in gardens I may remark that the common way of nailing the plants to a wall is not the most happy, if we want the full characteristic grace and elegance of the flowering shoots. We do not care for the varieties that bear very large, saucer-shaped blooms, but rather for those of smaller size, which are more in keeping with the character of the group. The first remains that, familiar as the Clematis is, it is principally the smaller class of gardens in which they are planted, not the large places that have many odd and bare corners, walls, pillars, and posts that such charming things would wreath in growth and flower. The Clematis, in one or other of its many varieties, would fill the gaps, and give pleasure by the boldness, freedom, and beauty of the variously-coloured flowers, which range from white to the deepest purple.

FERNS.

TREATMENT OF FERNS DURING THE SUMMER.

FERNS, as a rule, are well attended to during the early spring months as regards potting, watering, shading, etc., but the same amount of care is not always bestowed upon them throughout the summer. As the season advances and the earlier growths mature the plants must not be neglected; they rather require looking after even more closely than in the spring.

INSECTS, which in the early part of the year were not plentiful or that had been cleared off either by the removal of the old fronds or by other methods, will now be again giving trouble if not well looked after. Both thrip and scale will cause considerable annoyance if they escape notice until the plants are seriously affected with them. This work, on the other hand, if taken in time is easily kept under; not so, however, when in the ascendancy, the plants being frequently disfigured for the rest of the season, more particularly in the case of thrip. Where the oldest fronds are badly affected it is better by far to remove them at once, provided they can be spared; the cleaning in many cases of such is a waste of time. The under fronds will be those most likely to be attacked; these in most cases can be spared if seen to in time so as not to cause the removal of too large a quantity. For the thrips nothing surpasses a good syringing or dipping in a weak solution of soft soap and Tobacco water, or where possible fumigating two or three times. Either remedy should be given in time so as to avoid repeated applications.

OVERCROWDING the plants is another mistake. This may possibly result from a previous luxuriant growth or by reason of having a larger stock than can be conveniently accommodated. It is well to have the plants thriving as it is to have them in good numbers, but when it comes to crowding the plants there are drawbacks that point to plants of less size or fewer in numbers. A deal may be done towards remedying this by shifting the plants to other quarters. These Ferns, for instance, which are wintered and grown in the spring in the open and that are known to be tolerably hardy can be kept for some months in a cooler and drier atmosphere with advantage both to



Clematis Miss Crawshaw. From a photograph by G. A. Champion.

growing this climber with Ivy, the rich green foliage bringing out the intense depth of the flowers. A light loamy soil is best for all the Clematises, and the growth is stronger and the display of bloom more profuse if a little lime is mixed with the loam. There is one thing to guard against—i.e., an over-saturated soil, and it is thus necessary to have a well drained material to promote vigour, which must be maintained by a good dressing every year of manure, or on a heavy soil leaf-mould.

PRUNING.—In the case of the types represented by the lovely *C. montana*, that sheets many a garden wall and cottage with white flowers in spring, *florida*, *patens*, and *lanuginosa*, cut out in February or March weak or overcrowding growth, laying in the strong and well-timbered one-year-old shoots. To cut care

the type that everyone knows we have a white form, its early flowers, however, appearing pale mauve in colour, but those subsequently produced are white, as indicated by the name; *Alexandra*, reddish-violet, the well-known *velutina purpurea*, *tunbridgensis*, mauve-blue; *rubella*, claret; *Gipsy Queen*, very deep purple; and *ingulfica*, purple barred with red, are the finest, whilst those in the *Viticella* group which should have recognition are *Thomas Moore*, violet with white stamens; *Viticella rubro-grandiflora*, claret-red; *Lady Bovill*, blue-grey; and *Mrs. James Bateman*, lavender. One of the great classes is the "patens," those varieties that bear large flowers in the spring of various shades. *Standishii* (blue-purple) is one of the most charming. The *Queen* (lavender) and *Veitchii*

themselves and others remaining in warmth. Again, other Ferns grown as a rule in a temperate house can be accommodated in a cool-house and others in frames and pits even; anywhere, in fact, that is at all suitable rather than allow overcrowding, with its attendant evils, to ensue. In this removal to other houses there are many advantages, the plants becoming hardier and more enduring in growth, whilst additional material is also afforded for the conservatory or show house when flowering subjects are neither so much required nor any too plentiful.

WATERING, too, calls for increased attention now, the pots being (or, at least, should be) well filled with roots. Ferns at any time do not look well if in pots or pans of excessive size, nor are they any the better for overpotting. It is far better to have the plants well rooted, so that they will take a liberal supply of water without that fear of softening the soil that is ultimately the case when overpotted. There is a wide difference in Ferns as to the quantity of water they will absorb, but in no case is a dry course of treatment now to be recommended. Gymnogrammas with healthy roots take a large supply. When these Ferns are neglected and the fronds begin to curl, it is a difficult matter to bring them round. Nephrolepis, too, take a liberal quantity. These Ferns do not show symptoms of distress so soon as many when in reality they are suffering, the result being seen a few weeks afterwards in the pinnae turning yellow and dropping off. In no case is it advisable to let Ferns droop before they are watered; some may come round again and not feel the effects, but the majority do so. The conditions of the house or fernery as to atmospheric moisture have an immediate bearing upon the plants in this respect. In a dry, airy house the plants will require almost twice the amount of water at the roots that others of the same kind would do in a moist atmosphere, yet if well attended to the former would thrive as well. This results from the roots in the former instance having more work to do, less absorption taking place through the fronds than under more congenial conditions. Where Ferns are found to dry up rapidly, it is a good plan to stand the pots in pans of water. Maiden-hair Ferns, for instance, which are well rooted may be safely stood in saucers filled with water. Where it is not desirable to actually allow the pots to stand in water, it is a good plan to let them stand over it and upon bricks or rough drainage. D.

TREES AND SHRUBS.

MAGNOLIAS.

BEAUTIFUL as are many of the flowering trees that adorn our gardens and pleasure grounds, there are none that can rival for size of blossom or for effective display some of the Magnolias. No more exquisite sight can be imagined than a fine tree of the Yulan (*Magnolia conspicua*), some 30 feet in height, in full bloom against a background of flixes. The blossoms are produced early in April while the branches are still bare of leaves, and, every spray being covered with the pure white flowers, the tree looks like a suspended snowdrift, thrown into high relief by its dark setting. Another spring-blooming deciduous Japanese Magnolia is *M. obovata*, of rather dwarf habit, bearing flowers white within and purple on the outside. *M. o. discolor*, or purpurea, is a form of the last, with larger flowers of deeper tint. *M. Soulangeana*, almost as well known as *M. conspicua*, is a chance hybrid between that species and *M. obovata*, and bears white flowers with a pink flush on the outer side of the petals. *M. Lenei*, with flowers of a deeper hue than those of *M. Soulangeana*, is a hybrid between *M. conspicua* and *M. purpurea*. It has the decided advantage of usually bearing a second crop of blossoms in the autumn. *M. Alexandrina*, with very similar flowers to the last-named, is the earliest bloomer of the Japanese hybrids, of which *M. Osaka* has deep purple-maroon flowers. *M. stellata* or *Halleana* is a charming shrub, flowering in March before the leaves appear. It bears small starry flowers about 3 inches in diameter, which are pure white when they expand, but afterwards assume a pinkish tinge. *M. Watsoni*, a later introduction, is very beautiful, but, unfortunately,

are cup-shaped, 6 inches in diameter, pure white in colour, with deep rose-coloured stamens. *M. parviflora* is very similar, but has smaller flowers; both flower in May and June. *M. grandiflora* is, perhaps, the best-known Magnolia in this country, and is generally trained against house walls. In the south-west, however, there are many standard specimens, some of which have attained a large size. The Exmouth variety bears the finest flowers. In the neighbourhood of Torquay there is a standard tree of this Magnolia about 25 feet in height and 30 feet in diameter, which bears hundreds of its great, ivory-white, scented chalcids in the season. Generally commencing to bloom towards the middle or end of June, it flowers continuously until October or November. The individual flowers are often fully 8 inches in diameter, and the petals are of greater substance than those of any other Magnolia. *M. macrophylla* is a splendid tree, but is little known in this country. There is, however, a fine specimen, 40 feet in height, at Claremont. It is deciduous, and bears immense white flowers nearly a foot in diameter, with its handsome leaves, bright

pointed "Baron Ed. de Rothschild." It was a Rhododendron as we consider them, not at all resembling an Azalea, a large bush, and very striking amongst the usual whites and pinks. L. R.

Cutting down Laurels, etc.—I have in a grove adjoining the house a good many old Laurel-trees and some other evergreens, which have long, bare, and twisted stems. I have been advised by a visitor that to cut these down, close to or near the ground, would make the most showy young growth, which would greatly improve the look of the grove. The questions are: 1st, Is this most probable? 2nd, Should the Laurels be cut close to the ground, or at about what height? 3rd, At what time of the year should the cutting take place? Information is also asked as to the most advisable time of year to plant evergreens from enclosed garden ground into grove. In this case I have in a garden Escallonia planted from cuttings, and now five or six years old. At what time would it be best to remove these into the plantation, which it is proposed to ornament with them?—K. G. H.

(Old Laurels will, as a rule, break out freely if cut back hard, not close to the ground, but leave about 18 inches of the old stumps, so as to be from these (not from the roots) that the new shoots are pushed forth. The best time of the year to carry out this operation is in the month of April, as they have then a long growing season before them. The Escallonias may be



Magnolia buds.

green above and silvery beneath, are from 15 inches to 2 feet in length and 6 inches in breadth. *M. Fraseri* is another deciduous species, bearing pale yellow, aromatic-scented flowers, 6 inches in diameter. *M. Umbelliflora*, from the Sikkim Himalayas, bears rosy-crimson flowers, 8 inches in diameter. It is only hardy in the warmest districts in the south-west. Other species are *M. acuminata*, *M. cordata*, *M. glauca*, *M. hypoleuca*, *M. Kuhnii*, and *M. tripetala*.

The blossoms of Magnolias are without peers for indoor decoration. *M. conspicua* and its hybrids, *M. Soulangeana*, *M. Lenei*, and *M. Alexandrina*, are equally acceptable in the house, as are the massive blooms of *M. grandiflora*, the white cups of *M. Watsoni*, the pale yellow flowers of *M. Fraseri*, and the giant blossoms of *M. macrophylla*. S. W. F.

NOTES AND REPLIES.

A yellow Rhododendron.—I see in *GARDENING ILLUSTRATED*, of June 21st, "E. A. R. W." asks for the name of a yellow Rhododendron. At the flower show in Paris, May 21st and following days, there was a beautiful orange Rhododendron shown by Moser, of Versailles. He called it Azalea

removed at the end of October or in November, but as they have stood five or six years from the cuttings without being shifted it is very probable some of them will die. In nurseries where plants are grown for sale they are removed generally every year—or, at all events, every two years—in order to keep the roots dense and compact. Take care to plant firmly, and should the weather be at all dry give a good watering, as this tends to settle everything in its place.]

Magnolia falling.—I have taken in your valuable paper, *GARDENING ILLUSTRATED*, for some years, and have read with interest many of your answers to enquiries respecting the culture and growth of plants and the cause of failure, and I shall feel very grateful if you will give me your opinion as to the decay of the enclosed specimen of a Magnolia, which up to the spring of this year has grown beautifully and been perfectly healthy. It was planted on the southern side of my house about eight years since in a clay subsoil. It has grown nearly 12 feet high and broad in proportion. The year before last there were two or three very fair blossoms on it; last year there were several very fine, large, healthy ones. The plant was through the winter well, and there were blossoms beginning in April last; the end of the month the leaves began to die and turn brown in the centre of the tree. After a short time my gardener cut all the dead part out, leaving the other healthy and well; but very shortly one led after another became brown, and the whole tree went. I had the tree left till this morning, hoping that it would break out again, but it is so thoroughly dead and is so unproductive that I have now had it dug up. The roots

the gardener may, are healthy, but all the stems coming from them are dying or dead. You will, I hope, forgive my troubling you with this long letter, and if you can tell me what you think the cause can be I shall be so much obliged to you. On the other part of the wall I have a white Banksian Rose, planted between four or five years since. It has grown immensely, being between 30 feet and 40 feet high; the foliage is thick and beautiful. Last year it bore two or three very small flowers; this year there is not a sign of a bud. It has been properly trained, but not pruned.—ELIZA M. BARTON.

[No doubt the roots of the Magnolia had gone down into the cold clay subsoil and become waterlogged. One thing the Magnolia must have is good drainage, and this very probably is what your plant feels the loss of in such a soil as you have. The Rose evidently wants the exhausted wood thinned out, the growth being too thick for the wood to ripen properly, hence the failure to bloom.]

GARDEN PESTS AND FRIENDS.

Madonna Lilies diseased.—My Madonna Lilies are more diseased this year than I ever saw them; so are many of the other Lilies. Will you tell me what to do with the bulbs and when? The plants have been syringed with an insecticide several times. What causes the disease? Hollyhock disease, too, is dreadful this year.—YVO VILK.

[Lifting the bulbs and shaking them up in a bag of sulphur has sometimes proved a remedy, while, in other cases, lifting and baking in the sun, afterwards replanting in fresh quarters, have also proved efficacious. It is, however, very difficult to suggest any remedy for this pest, which is really a fungus.]

Insects on Apple-trees (J. Baster).—The insect infesting your Apple-tree is the Apple aphid (Aphis mali). During the winter—that is, any time between the fall of the leaf and the first signs of the buds opening in the spring—the trees should be sprayed with a caustic alkali wash, and in the spring, as soon as any signs of the aphid can be seen, the leaves should be sprayed with a solution of paraffin emulsion. These insects breed with such astonishing rapidity that it is very essential to kill the first that appear. Any shoots that are badly attacked should be cut off and burnt at once. This insect, though nearly related to the American blight, is quite a distinct species, and its habits are very different.—G. S. S.

Snake millipedes.—I enclose two specimens of a small garden pest, which is extremely common this year. It abounds both in the greenhouse and outside, and has destroyed many Scarlet Runner seedlings by eating through the stem as soon as they appear. I find them easily trapped in pieces of Potato, but shall be glad to hear of another cure, and also the name of the pest.—CARR.

[The two specimens of a small garden pest which you find very common this year are snake millipedes, commonly known as flattened snake millipede or galle worm; their scientific name is Polydesmus complanatus. They are most destructive pests, and will feed on the roots of most plants, preferring those that are somewhat succulent. I know of no better way of destroying these millipedes than trapping them with slices of Potato as you have done, but you might use Turnips, Mangold, or Carrots in the same manner. After an infested crop the ground should be followed and well dressed with gas-lime.—G. S. S.]

Plant bugs.—I enclose an insect resembling both a beetle and butterfly in certain particulars, and shall be glad to learn its name and a little of its life history.—CLAR.

[The insect that you suggest resembles in some particulars both a butterfly and a beetle is one of the "plant-bugs," and belongs to the family Pentatomidae. The plant-bugs can hardly be said to be "garden pests," as it is seldom that they occur in sufficient numbers to be the cause of any appreciable injury to plants, at the same time they are occasionally. They mostly feed on the juices of plants, which they obtain by piercing the leaves or young shoots of plants with the probosces or beaks with which their mouths are furnished. Several species feed on other insects, and some, including members of the family to which the specimen you sent belongs, suck the juices of either plants or caterpillars, apparently without showing much preference for an animal or vegetable diet. If these insects are very numerous on your plants and you wish to destroy them, I should shake the plants over an open umbrella or a butterfly net, and then syringe or spray the plants with a solution of

paraffin emulsion or some similar insecticide containing soft-soap, of which there are several kinds in the market, and though they are more expensive to use than paraffin emulsion, the trouble of making the emulsion is saved, and if only a small quantity is wanted the difference in price is hardly worth considering.—G. S. S.]

VEGETABLES.

SAVING BROCCOLI SEEDS.

MANY are inclined, when among a bed of Broccoli there happens to be an unusually good head, to allow this to go to seed with the prospect of getting a good stock for future sowing. The object is a very good one when carefully carried out. An instance occurs to my mind of a gardener who once did this, having among a breadth of Late Queen and Model some uncommonly fine Broccolis. In his effort to save his own seeds he neglected to protect the flowering head from the bees which were numerous in the neighbourhood. The result was a disappointment, for the

trouble of enclosing individual plants as a precaution is not taken, and yet they do not suffer the disappointment already noted. In these cases probably the district is not frequented by bees. At the same time, apart from bees, there is a risk of growing seed when the sowing is of so doubtful a nature.

W. S.

NOTES AND REPLIES.

Handlights in the garden.—I often think when looking round gardens that we overlook the usefulness of some of the simple appliances in our haste to try modern innovations. Since the introduction of cheap moveable frames, handlights appear to have lost favour. This is to be regretted, seeing that these can often be used where frames cannot. I prefer handlights for protecting vegetables, as they are far more convenient, seeing they can be placed over anything that is not too tall, and they will bring it on rapidly in spring. All through last winter and spring I have been more than ever impressed with their value for protecting Parsley. I always



Magnolia Fraseri in the Azalea Garden at Kew. (See page 258.)

following year after the sowing of the home-saved seeds his Broccoli, which was promising enough up to a certain point, turned out to be a kind of moulge—neither a Cauli-bage nor a Broccoli—nor could it be used as a substitute for either. Fortunately all the eggs, so to speak, were not placed into one basket, or the result would have been even worse than it was. Should any reader of GARDENING ILLUSTRATED desire to save his own seed of any special selection the foregoing should be a lesson, especially if bees have access to the garden. The hive may not be in the garden, for it is well known bees travel long distances in search of food and honey flowers, and they have a marked partiality for the Brassica tribe. Some muslin or other fine meshed netting ought before there is an open flower to be fixed over the plant so that there are no apertures for the bees to take advantage of. The same care would be needed in the case of several varieties being seeded, or they would become so much intercrossed that no reliance could be placed on the stock of seeds thus procured. It is true one sometimes meets with instances, among cottagers in particular, where seed is saved annually, and where, too,

sow a little Parsley seed with my spring Onions, and allow a few plants to remain singly and grow up amongst the Onions. When the Onions are harvested, spring Cabbages are planted, all the large leafage of the Parsley being cut close off, and by winter there is a very nice crop. The land being good and the plants standing singly, the Parsley makes fine growth. Before frosts set in I put a handlight over each of the best roots, and it is astonishing the amount of nice Parsley I get through the winter and spring. Early Lettices and Endive may be treated in the same way, and, when not wanted in spring, handlights are useful for pricking out things under, and are excellent for rooting many cuttings in.—F. A. C.

Asparagus on the French system.—In your issue of the 11th inst., in "The Coming Week's Work" for June 18th, mention is made of growing Asparagus on the French system. Would you be good enough to let me know how this is done?—T. F. C.

[What is termed the French system simply means planting in well prepared huml in trenches at wide intervals. Many English growers who are working on these lines do not give so much room as is allowed on the continent, but are sowing with the rows 3 feet apart

and 18 inches between the plants, very good heads have been obtained. Let the plants have room to do their best, and there will be more profit and more permanence.—E. HOBNAV.]

GARDEN WORK.

Conservatory.—One well-grown plant will give more satisfaction than a dozen weedy things that have been spoiled by overcrowding. No person of taste can look upon a lot of pot plants crowded together with any feeling of comfort or satisfaction. It may be necessary in some places to crowd a little in winter, but even then it would be better if one had the courage and resolution to clear out some of the old plants at the approach of winter, to do justice to those which are left. The permanent things in the horders increase in size from year to year, and require more room even if judiciously pruned. There is no excuse now for overcrowding, because most greenhouse plants for the next three months will be better outside than under glass; but the majority of plants which flower in summer will be better in our climate under glass. I am, of course, referring to tender plants only. There is no doubt the shelter of a roof does improve the flowers when they burst into blossom, but at this season the lights should, to a certain extent, be open night and day. The soft, humid air of the night, when constantly in circulation, is beneficial to all plants under glass, and it is very seldom we close the lights of our plant houses, except it may be during a gale of wind. Thus, though the plants which have completed their growth and those which are preparing for winter are better outside, the chief part of the flowering plants will come finer and better when sheltered from the weather and shaded from hot sunshine. The usual time for repotting specimen plants is as soon as they begin to grow, and though this is well enough as a general rule, it will not meet all cases. Many of the fast growing things may require more than one shift in a year, and I would rather do this than adopt what was known at one time as the one-shift system. There is often danger in large shifts of the soil getting soured by injudicious watering. In shifting on Cyclamens and other winter-flowering plants, do not crowd. Very often the plants are placed close together, with the view of opening out later, but if this opening out is delayed the plants receive permanent injury. Again, heavy shadings are not required—only just enough to break the sun's rays—and on mild, warm nights the lights may be drawn off to let the night dews fall on the foliage. The open air at this season, now that the weather is more settled, cleanses and hardens the growth.

Stove.—Be very careful about the syringing water. Unless rain water can be obtained it will be better to discontinue syringing the plants and obtain the necessary humidity in the atmosphere by damping the floors and stages. Basket plants are a great attraction where there is head-room. The *Torenia*s, especially *T. asiatica*, make nice basket plants. *Russelia juncea* is a good companion. Both are of easy culture and graceful habit, and both are old-fashioned things that have pretty well disappeared from the stove. Among fragrant plants, *Pergularia odoratissima* is a desirable thing to have. It is a fast-growing climber, and the roots should be kept under control. We have had it planted in a small bricked pit in loam and peat, where it flowered freely and filled the house, especially at night, with its fragrance. The flowers of a peculiar greenish-yellow colour are, except for their fragrance, not suitable for cutting, according to present ideas. Still, it is a desirable plant to have in a good-sized stove. We have discontinued fires for the time being, but are always ready to light a fire if there comes a change in the weather. Still, as a rule, we can do without fires in July and August. More ventilation can be given, and less water thrown about. This will hasten the plants and prepare them for removal to the conservatory or elsewhere for a time.

Cucumbers.—There is generally plenty of Cucumbers in frames now, and where there is only one house for Cucumbers the frame supply gives a chance of clearing out the

house and preparing for a fresh start for autumn and winter. Cleanliness is very important. If possible, the house should be painted, or, at any rate, if painting is not required the woodwork should be scrubbed with soap and water, the glass washed, and the walls lime-washed. The beds also should be cleared, so that all harbour for insects should be removed. It will soon be necessary to sow seeds for planting out in September. Telegraph is a good winter variety. Do not plant in very light soil. The plants bear better and are more permanent when there is a fair amount of body in the soil. Bone-meal is always useful. The best way to prepare soil for Cucumbers is to place the loam and what manure is used in a ridge-shaped heap some months before required for use. The same class of material will do for other things besides Cucumbers.

Work among Pines.—This is the time when successions are placed in fruiting pots and suckers receive a shift. Pines require a good turfy loam, not too light and suitably enriched. Bone-meal, at the rate of a 6-inch potful to a bushel of soil, is a suitable manure. Soot, also, may be added in small quantities. As regards other manure, the best time to mix that with the loam is when the loam is cut and stacked—a layer of loam or turf with a thinner layer of manure. This should be done six months before required for use, and then it becomes blended, and is ready for use when chopped down. Firm potting is necessary, and at each shift the plants should be dropped a little deeper in the pots, removing a leaf or two if necessary, so that roots may form higher up the stem. It always benefits the plants to replunge them in a stirred up and replenished bed; growing plants require more room from time to time. We need hardly say that after repotting, until the roots are working in the new soil, very careful watering is necessary, and the syringe should be used with judgment. In hot weather a light shade is necessary. Night temperature, 65 degs. to 70 degs., the last set of figures for the fruiting house, air to be given at 80 degs. to 85 degs. Close early enough in the afternoon for the thermometer to rise in a saturated atmosphere to 90 degs. or 95 degs.

Window garden.—The window garden should be treated on the same lines as the conservatory; only those plants kept inside which are effective. Others will be better outside, either in shade or sunshine, according to their needs. The routine work, such as watering, syringing, etc., should never be relaxed if the plants are to be kept in health. This is the time to give weak stimulants to plants which have consumed most of the food in the pots.

Outdoor garden.—One of the brightest objects in the garden now is a mass of Paul's Carmine Pillar Rose. It is not a fiery shade of colour like the scarlet Geranium, but a pleasant shade of carmine which does not unduly tire one's vision. Other and quieter tones are a mass of *Dictamnus Fraxinella*. This, without being bright, is interesting and curious, and it is one of the plants which is best without disturbance at least for several years. Top-dressings are good for it, as they are for *Pæonies* and other things that one can leave unmoved for a long time if their wants are well attended to, and their wants are simplicity itself—first, a thorough preparation of the site, and then an annual top-dressing. There is abundant occupation for the industrious among insects and weeds. Roses on walls will require syringing with something to destroy green-fly. Of course, this ought to be taken in hand at the time the first fly is seen and carried on persistently, and, when the victory is won, the plants will still retain their freshness. As a rule, when insects attack a plant mischief is done before the flies are dislodged, because valuable time is lost before the attack is begun. Weeds are less harmful than insects, because one can clear them off and convert them into manure; but insects have no redeeming feature. Late-sown annuals should be freely thinned. Give liquid manure to Sweet Peas. Mulch Hollyhocks and Phloxes with good manure. Phloxes are lovely border plants, but are not lasting enough for cutting, and are, besides, too massive. For cutting we want long-stalked flowers, light in build, and clear in colour.

Fruit garden.—Where Strawberries are planted for the purpose of producing runners only the first season, all flowers will have been pinched off and the runners encouraged. This it will be quite safe to do if the runners were taken from a prolific stock. The cause of what is termed blindness in Strawberries is a somewhat difficult one to trace in each particular instance. We know that badly-ripened plants when placed in heat may go blind or the blossoms may refuse to set, but we have to absolute proof that blindness is permanent. When plants are set out in very rich, loose ground, the chances are the growth will be disorganised and the plants will not bear fruit, and the wisest course is to pull all such plants up at sight. Careful cultivators are not troubled much with blind plants when good runners are selected. The summer pruning of wall and other trained trees may soon be taken in hand, beginning first with those trees much crowded with growth. There is room for discrimination in their treatment, and as the season is a backward one we need not be in a hurry. The evil of leaving the summer pruning till growth is finished is that, if persisted in, it must be followed by root pruning, but the whole business of fruit growing requires very careful individual study.

Vegetable garden.—There is always a certain amount of sowing and planting to do, but after the middle of July, even in sheltered gardens, Peas will not pay to sow, though there is plenty of glass a sowing of a dwarf early kind may be made in a frame or pit at the end of the month, leaving the lights off till later in the season. Of course, such crops offer another chance of getting a late dish or two, but they do not pay. I do not think late sown Peas do pay unless the season is a favourable one; but we have to take our chance in such matters. On difficult soils one has to rely on Spinach substitutes, and the best of these are Spinach Beet and New Zealand Spinach. The former, if sown in April or even later, will now be producing large leaves of a succulent character. A further sowing may be made now. In some districts this is used with Parsley and other herbs for stuffing meat, and is much appreciated. In late districts a good sowing of Cabbages should be made about the middle of July, and a small second sowing about the 25th of the month. In early districts make the first sowing about the 22nd, and the second first week in August. If one only sows a small packet of seeds, it is best to divide it and make two sowings, with an interval of ten or twelve days between. Sowing Lettuces and Endives for autumn and winter salads is very important. We begin to include the black-seeded Bath Cos now, and make several sowings from this till the end of September. The last sowing is left in the seed bed all winter. Endives should be sown and planted in quantity now, as the plants will not bolt. One can scarcely do wrong in sowing Turnips freely now. The Chirk Castle Blackstone is the hardest Turnip I know, and the flavour is excellent, though the hulbs do not grow to a large size. Continue to plant out Leeks and Celery. If Leeks cannot be planted in manured trenches, plant with a large peg, make holes deep, and leave the stems free. E. HOBNAV.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

July 14th.—Made a last sowing of Peas, an early kind being selected. So far as is possible, we mulch all Peas, and, if the manure gives out, something else is used. We believe in mulching anything that requires moisture. The Chrysanthemums have all been arranged in rows on coal-ash beds, with the tops of the stakes fastened to wires capable of resisting winds. At present we have not had much trouble with insects, and we have seen no rust.

July 15th.—Cut back early-flowering Fuchsias to get cuttings. We always strike Fuchsia cuttings early in August for the early-flowering batch, and, by cutting back now, plenty of young shoots is produced. Sowed Herbaceous Calceolarias. These are sown in pots in cool-frame, covered with squares of glass, and are grown cool all through till they flower. The first batch of Cinerarias has been pricked into boxes, 2 inches apart, in a cool frame.

July 16th.—As fast as the early Potatoes are lifted, the ground is prepared for cropping again. A part will be planted with Strawberries, and a part sown with late Turnips early next month. We are securing Strawberry-runners as speedily as possible for forcing and planting outside. Royal Sovereign will be grown largely for forcing, but it flowers rather too early outside. Early blossoms get cut by frost.

July 17th.—Sowed Brown Cos Lettuce. This is still one of the best autumn and winter Lettuces. We also grow Tom Thumb. It turns in quickly, and does not run so soon as the large kinds. Another look round has been given to Peach wall to tack in young shoots. The finishing touch has been given to fruit thinning. We have not done any summer pruning yet as the growth is backward; but it will not be delayed much longer.

July 18th.—Made a first sowing of Tuberges. Shifted on Begonias, chiefly Gloire de Lorraine, into 5-inch pots. Moved several specimen Bougainvilleas to conservatory. We are layering Strawberries into small pots as fast as possible. Made a last sowing of No Plus Ultra French Beans on South border. Shall sow later in pit for late use. Finished potting Tree-Carnations for winter flowering. The plants are now on coal-sheds. Mulched Tomatoes with manure. Shifted on Aralias into 3-inch pots.

July 19th.—Made up several Mushroom beds in shady spot on north side of building. Thinned shoots of Figs on south wall, and tied on to trellis. Earthed up late Potatoes. Liquid-manure is given to early Celery. Wrapped paper round to commence blanching. Nets have been placed over ripening fruits. Thinned the young wood of Red and White Currants. Insects were making an appearance on several bushes, and these have been dealt with. Made a last sowing of early Horn Carrots for drawing young.

POULTRY.

Death of hen (E. T. F.).—There is no doubt that liver disease was the cause of this bird's death, and it would be advisable to reduce the diet of your poultry both in quantity and quality, during the summer at least, or you may lose many more fowls from this complaint. It is advisable to add a good portion of Pollard or Sharps to the Barley-meal, as the meal alone is of too fattening a nature at this season of the year. This disease is hereditary, but it can also be induced by feeding on too rich foods. The best treatment of fowls showing symptoms of this disease is to give some aperient medicine, followed by a couple of grains of calomel every other day for a week or ten days. This can be given in the soft food. The homoeopathic tincture of Podophyllum is also a most useful remedy for this complaint. Dumbfles, cut small and given in abundance, together with a good supply of sharp grit, will also prove beneficial.—S. S. G.

BIRDS.

Death of Nonpareil (Zitella).—We can only repeat that the cause of the death of so many of your birds is from their being kept in a conservatory, in which position the direct rays of the sun upon them through the glass would bring about heat apoplexy. It is to be feared that the death of the inmates of your aviary will continue unless ample shade is afforded.—S. S. G.

Bullfinch with swollen claw (M. A. Matthers).—When your bird "got hung up in his cage," the joint of the claw now swollen, most probably became dislocated. You should, by careful manipulation, endeavour to return the misplaced bone to its socket, and then put the bird into a small cage without perches, and with the floor covered with Moss or some other soft material. Leave it in a quiet position where it will not be disturbed, giving it a sufficient supply of food and water within easy reach. In a few days you will in all probability find that your Bullfinch has regained the use of its leg. The red swelling may be an active ulcer brought on through the damage to the foot, and would require a soothing mode of treatment, and to be dressed with some cooling application, such as zinc ointment or spermaceti, while means must be taken to prevent the bird pecking or scratching the affected part. Let the diet be of a cooling nature (scalded

Rape-seed is the best food for these birds), giving twigs of some fruit tree as green food.—S. S. G.

Death of foreign birds (Zitella).—A conservatory is not a good place in which to construct an aviary unless the roof can be covered to obviate the direct action of the sun, as in such a position birds are subject to heat apoplexy. When so attacked they are found putting at the bottom of the cage or aviary in a paralysed condition, and if the attack has been a severe one, a speedy death follows. The same thing often happens when a cage is hung in the full glare of the sun. All that can be done in a case of apoplexy or sunstroke is to immediately remove the sufferer into a cool position, giving a little lukewarm water to drink, putting its feet into water at blood heat, and, in the case of larger birds, a little castor-oil will sometimes prove beneficial; but it is seldom that recovery is effected. I should certainly advise you to remove your birds from the conservatory, unless some means can be devised for shading from the direct rays of the sun.—S. S. G.

LAW AND CUSTOM.

Notice to quit.—If a tenant gives a quarter's notice now, he can legally remain in possession until September 29th next, or should he give up possession on or before September 20th next.—W. W.

(If the tenancy began on September 29th, or, having begun on some one of the other regular quarter days, is determinable by a quarter's notice, the tenant may, of course, keep possession until September 29th, although the notice was given on or before June 24th.—K. C. T.)

The rating of a market garden.—Eighteen months ago I took of a gentleman his kitchen garden, comprising half an acre of land, at the yearly rental of £12 10s. The garden has on it a vineyard, and some glass-houses, polling-sheds, etc., and is divided by a highway from the private grounds of the landlord. I grow Tomatoes, Cucumbers, bedding plants, etc., for sale, but the garden is not rated as agricultural land. My landlord occupies about 6 acres of land as lawn and private grounds, which are all rated as agricultural land. Should not my garden be rated as agricultural land also?—MARGARET GIBBERNA.

[If your statement be accurate, and there are no qualifying circumstances omitted, your garden should be rated in two parts. The glass-houses and other buildings should be valued separately from the rest of the garden, and should be rated in the same way as other buildings, while the remainder of the garden should be rated as agricultural land. The sum of the gross estimated rentals of the glass-houses and of the remainder of the garden should be £12 10s. If this be not so, you should give the assessment committee and the overseers written notice that you object to the valuation list, and you should appear before the assessment committee in due course in support of your objection. The lawns, flower-gardens, and other pleasure-grounds of your landlord should clearly be rated in the same way as buildings for the purposes of the poor rate.—K. C. T.]

A tenant's claim for compensation.—In 1901 I took a farm for 10 years under an ordinary farming lease, having power to cultivate 25 acres in the ordinary three or four course rotation, with permission to sell all produce; the remainder of the farm (over 100 acres) to be permanent Grass, no mention being made in lease of compensation for improvements. Independently of this written agreement, I got verbal permission from the landlord and the agent to cultivate the arable land as I thought fit and to develop a market garden, the landlord buying the fruit-trees for this purpose, in addition to which I have planted some 2,000 fruit-bushes and other garden produce. It is now proposed by the landlord to take (with my consent) some of the Grass land from my farm and make out a new lease. What form of clause should I endeavour to get inserted in the new lease to give me security for my improvements, bushes, etc., and, failing getting a new lease with such a clause inserted, what value is there for me getting compensation at the end of my existing lease for the improvements I have already made?—YORK.

[The mere verbal permission to cultivate the arable land as you choose and to develop a market garden will not give you any claim to compensation for your improvements on the expiration of your lease, and you can claim no compensation under the Agricultural Holdings Act unless you are under the Market Gardeners' Compensation Acts. You should get your landlord to insert in the new lease permission to cultivate the holding or any part of it as a market garden, and a clause to the effect that on the expiration of the lease the landlord shall pay to you the value of the fruit-trees and fruit-bushes planted by you, and the value of any improvement caused by the planting of such vegetable crops as continue to be productive for two or more years.—K. C. T.]

CORRESPONDENCE.

Questions.—Queries and answers are inserted in *GARDENING* free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of *GARDENING*, 17, Finsbury-lane, Holborn, London, E.C. Letters on business should be sent to the Publisher. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as *GARDENING* has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Insects on a Cactus (C. R. R.).—The Cactus is attacked with mealy-bug. Lay the plant on its side and well syringe off all you can; then wash it with strong soap-suds and Tobacco-water, taking care that none of this reaches the roots. Afterwards look daily for the insects, and kill every one that makes its appearance.

Leucophyllum Brownii (B. W.).—This is a plant of extremely easy culture. It is best wintered in a cool greenhouse or frost-proof frame, and is easily propagated at any time during the summer. It makes an extremely neat and effective edging to flower beds during the summer season, and is much employed in carpet bedding.

Plants for a fernery (Fern Lover).—Of flowering plants few will thrive well in the partial shade which prevails in a fernery; but we think you might successfully grow several kinds of Dracaenas, *Aspidistra lutea variegata*, *Nertera depressa*, *Saxifraga sarmentosa*, *Urtica dioica* plants, the Cape Sundews, and fine-leaved Begonias.

Creeping Speedwell (Veronica repens) (D.).—This is a dense, close-growing creeper, covering the soil as it proceeds with a perfect soft carpet of bright green foliage, and it only needs a little occasional trimming to keep it in place. It seems to thrive well on soil that is moderately dry, and it very rapidly covers the ground. Anyone in want of a good carpet plant should try this Veronica.

Delphiniums from seed, etc. (P. S. D.).—Yes, the Delphiniums are easily raised in great variety from seed. If the flower-stems are cut down promptly after blooming the plants flower again in autumn. Rich soil or a place in the rhododendron border is not even necessary for them, though they are well worth both. They will be freely without attention or staking, either in strabuttins or boxes, and also well in open situations.

Bamboos for the conservatory, etc. (S. H. S.).—When well grown in pots the smaller Bamboos make admirable plants for the conservatory or greenhouse, or for standing in rooms; they may be used with advantage. Sprays of their glossy foliage are also among the best material which can be used in large vases of cut flowers. The kinds most favoured for the purpose in view are *Bambusa nana*, *B. mitis*, the *Trine B. nigra*, and *B. arundinacea*.

Unhealthy Marguerites (Marguerite).—The leaves are badly attacked with the grub of the Marguerite Daisy-fly (*Phytomyza affinis*). The best plan is to pluck each portion of the leaf where the grub is seen at work between the thumb and finger, and thus destroy it. Also some of the worst leaves had better be picked off and burnt. The pinching of the leaves must be followed up regularly, and the plants should not be crowded, but should have plenty of water, with some liquid-manure occasionally, and abundance of air.

Green-fly and caterpillars on Roses (F. C. B.).—If you allude to the grubs that infest the Rose buds when opening, we cannot hold out any hope of their recovery, as you overstate them by hand-picking. The tree must be gone over every day, and the grubs picked off and destroyed. Green-fly may be killed by dissolving 4 oz. of soft-soap in 1 gallon of water, straining it and syringing with this for some two or three days running, and well washing with clean water after the fly is destroyed. Colonies of caterpillars that prey upon the foliage may be destroyed by syringing with the same.

Double Zinnias (S. C.).—These plants require a deep, loamy soil, and if other conditions are suitable they will bloom freely from July until the first cut them down in autumn. There is now a very fine collection to be had, the flowers of many being as large as those of the China Aster, perfect in form, and varying in colour. For cutting they are so valuable, for, in addition to supplying so many colours, they last for a long time in water. In order to grow Zinnias well a warm situation and abundance of water are necessary.

Globe Amaranthus (Gomphrena) (A. R. S.).—These very pretty and useful warm greenhouse or tender annuals with over-lifting flowers of various shades of colour. Sow the seed in the spring—April—in pots or boxes of light soil, prick off the seedlings when large enough to handle, and afterwards pot on singly as required. Grow in a gentle heat, such as that of a hotbed frame, and remove to the greenhouse when coming into bloom during the summer. Equal parts of loam, peat, and leaf-mould, with plenty of sharp silver-sand added, will grow them well. The pots should be well drained.

Course of Grass on lawn (Z. H.).—The course running Grass on your lawn, sample of which is sent, is *Agrostis canina* (L.) Nees, and is a creeping perennial. It is most likely that pieces of the roots of this

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PLANTS AND FLOWERS.

OUTDOOR PLANTS.

"A GLIMPSE AT THE 'FLOWERS OF THE SPRING.'"

THERE is no prettier sight in springtime than a grassy bank with the early flowers showing their varied colours on this green carpet—great patches of the common single Snowdrop, varieties of the Dutch Crocus, which are lovely, deep yellow, purple, white, lilac, and white with lilac stripes. The early Crocus, *C. imperati*, I grow in the flower borders with the large-flowering Snowdrop *Elweii*. They look very well together, and come into bloom at the same time—the end of January. The grassy slope also affords a good home for some dwarf Daffodils, *Irish nans* (all yellow), common Lent Lily (*Pseudo-Narcissus*), that grows wild in many woods in England, both north and south. It sows itself and increases rapidly on my "bank." The Winter Aconite is best placed at the edge of a wood or shrubbery. The *Erythroniums* (*Dog's-tooth Violet*), their pretty green leaves spotted with brown, and flowers of a soft pink, are useful in the Grass. There is also a good white variety. Common yellow Primroses, and some of the white and lilac varieties, all single, help to adorn the Grass, and I must not omit to mention the sweet-scented Cowslip, both yellow and red tipped, and large colonies of *Aemonea spennia*, of dazzling blue, with here and there a white one. Later on the taller varieties of Daffodils, such as *princeps* and *Stella*, make their appearance. The rosy hue of the dwarf *Cyclamen Coum*, and great masses of *Cyclamen hederifolium*, which bloom in the autumn, but show well in spring, look well. This grassy bank has but a very shallow depth of earth, not more than 3 inches or 4 inches, the subsoil being shingly limestone, but it has the advantage of no long, luxuriant Grass overgrowing to smother the flowers. The bulbs have to be planted with a little good potting mould in each hole. In the borders the Snowflake (*Leucojum vernum*) is one of the early flowers, and, later, the tall *Leucojum aestivum* follows its namesake in about three weeks. Lenten Roses, planted along the border of a shrubbery, are beautiful in February and March, pure white, Apple-blossom, and deep purple being perhaps the prettiest. I have had in my garden as many as fifty blooms on one plant. They make excellent flowers for table decoration at a time when flowers are scarce, but the stems must be split up to make them last in water. They can be easily raised from seed sown as soon as ripe, but take three or four years before blooming. The stately heads of Crown Imperials (*Fritillaria imperialis*) look best on a height at the top of the grassy bank, and when the sun shines through the deep red or orange bells the effect is charming. Should you have a rather moist spot in your garden, the smaller *Fritillaria Meleagris* and *F. M. alba* will flourish there and look well with their

drooping bells or chequered flowers. There are also two other varieties—the yellow *Moggridgei* and *pallidiflora*; but I found them delicate, and they died off after a year or so. There are many kinds of hardy *Anemonea*, such as the double white *Wood Anemone* (*Anemone nemorosa alba fl. pleno*). A. *Robinsoniana* (most lovely), and the single yellow *A. ranunculoides* (this latter I have only grown in the border), that can be easily grown and naturalised in the Grass. The early Greek variety, *A. blanda*, comes into bloom at the same time as the *Winter Aconite*, and does best on a sunny border or along a south wall in rich, sandy loam. *Anemone fulgens*, the dazzling scarlet of which is well known along the Riviera, does best, I think, in well-sheltered beds, as it seems to die out if planted in the Grass. The different colonies of *Anemone coronaria* are most charming, and look very well in the beds of the spring garden. It is best to keep up the stock by sowing some every year, and pricking out the young plants in the autumn. The fair and sweet *Scillas* must be given a place. They are all charming, from the little early *biifolia* and *sibirica*, which look well just inside the green Box edging. The white var., too, is good. Then, later, you can have the *campanulata* var. or *S. nutans*, *nutans curvula* being the *Bluebell* of the English woods. There are several varieties of the white and also some mauve, such as *campanulata lilacina* and *rubra*. The early wild Tulip (*Tulipa sylvestris*), sometimes called *Duck's-bill*, the shape of the flower rather reminding one of that bird's beak, and the splendid *Oculus-solis*, deep red with black eye, very early, and therefore named *præcox* in some catalogues, are also very pretty. *Trillium grandiflorum* (the American Wood Lily) is suitable for the edge of a wood, and is very pretty. Those I have come from Canada. I am rather fond of the little grassy-leaved *Iris tuberosa*, with its green and black velvet-like flowers. It is called "*La Vedova*" in Italy, where it grows wild. I have found it growing wild in Devonshire, but I think it must have escaped from some garden.

I must mention two or three other bulbs, even at the risk of wearying my readers. *Muscari botryoides* (the Star Hyacinth) and its white variety are very pretty, and *Chionodoxa Lucilie* and *sardensis* are a great acquisition to a garden. The old-fashioned *Ornithogalum nutans* (*Star of Bethlehem*) is a pretty flower and quite hardy. Should this peep at my spring garden help any beginner in his work, I shall be only too pleased that I have noted down my small experiences.

Belleek Manor.

M. S. K. G.

SWEET PEAS—NO ADVANTAGE IN EARLY SOWING.

The present season has shown that there is little or no advantage in sowing early in the hope of obtaining an early supply of blossoms. In the early days of February I sowed my first batch, and in a temperate usually observed in a cool greenhouse the seeds quickly germinated, and the young seedlings also quickly

went ahead. In a little while the plants, which were in 5-inch pots, five to six in each pot, were placed on shelves near to the glass roof of an unheated glass-house. Here sturdy growth was developed, and the hardening off in cold-frames subsequently was easy. The first batch was placed in their flowering quarters during the latter part of March and early April. Although the cutting winds and frosts gave trouble for some weeks subsequent to the planting out, with the first experience of more genial weather their appearance quickly changed for the better, and in a comparatively short time each clump was represented by growths of an exceptionally strong and vigorous character, engendering well for a superb display a little later. These same plants are now from 5 feet 6 inches to 8 feet in height, and until July 3rd it was not possible to gather anything like a decent bunch of blossoms. The second batch of seed was sown a month later than the earlier one, and the resulting seedlings were accorded exactly similar treatment to that given to the first batch of plants. Sturdiness and progress in growth were all along aimed at. This second lot of plants was planted out in clumps in well-tilled soil, and their growth, although not quite so strong and sturdy as that of their earlier rivals, is very satisfactory indeed. In this instance the height of the plants is some 12 inches less than that of those in the first batch. The third sowing was made in late March and early April—some two months later than the earliest lot—and, although the resulting plants appeared to make but little progress at first, they were excellent when planted out in early May. Three feet or rather more is allowed between each clump of Sweet Peas when they are planted, and about 3 feet or 4 feet between the rows. This, I find, is ample space to allow. Referring again to the last batch of this year's seedling plants, their height, as may readily be imagined, is considerably less than that of either of those which preceded it. As a matter of feet, they do not exceed 2½ feet in height, and I shall be much surprised if they ever attain to the splendid proportions of the first two lots. As a rule, the earliest batch of plants comes into flower during the earlier days of June, and this has been the case when the first sowing has been much later than that observed in the present season. As was mentioned earlier in this note, I could not gather a really good bunch of flowers until the 3rd of July—almost a month later than usual. The strange part of the whole matter is, there was no difference in the time at which the respective batches of plants came into flower. The first, second, and third sowings gave exactly the same results. No one batch was earlier than the other. After all the elaborate preparations and the extra early work, to say the least of it, it is very disappointing. There may yet be an advantage, but time will tell.

The failure to produce an early crop of Sweet Peas must be attributed entirely to the vagaries of our English climate, and against these we have no remedy. The hot weather we are now experiencing has necessitated watering. Each clump is watered at least

twice a week, first with half a gallon of clear water, and an hour later with half a gallon of manure water.

D. B. CRANE.

IRISES.

Wishing to have a selection of Iris in my garden (not the large blue Flag). I thought, if not troubling you too much, you would kindly give me the names of the different sorts? Also would you please say if the yellow Iris, which is now in bloom on the banks of the river, will grow in a garden?

—FRANK WILSON.

[The genus Iris is so extensive that we hardly know what you require by a selection of these plants, omitting "the large blue Flag." If by this term you only require the typical Iris germanica to be left out, the selecting is an easy matter. If, however, you would omit all the Flag Irises, the case is not so clear. We will, therefore, assume the former, and, if wrong, must ask you to repeat your question, with fuller particulars. We may say, however, that the Flag Irises, so called, are made up of a large number of cross-bred kinds that for years past have been raised from a large number of species, though notably from such as squalens, variegata, amona, aphylla, germanica, etc. It is the numerous cross-bred forms of all these types that are collectively known as germanica or Flag Irises, and it is these of which we give you a collection, omitting the large blue that is generally regarded as typical germanica. To make the selection of general service to those requiring a set of these beautiful flowers, we give them in their sections.

In the common germanica or early-flowering group, alba, Kharput, atro-purpurea, and Purple King are the best. In the aphylla set we take Gazelle and Mme. Chereau as the finest, the latter a finely pencilled flower. In amona, Mrs. H. Darwin, a wonderfully free kind, Thorbeck, Victorine, and Duc de Nemours. In the pallida section, which is, perhaps, the boldest of all, we place pallida and pallida dalmatica at the head; to these we add Imogene, Queen of May, Mme. Pacquette, and Walmer. In the squalens section, containing the shades of bronze, copper, crimson, etc., we take Arnold's, Dr. Bernice, Jacquimiana, Judith, and A. F. Barron. In the variegata group, in which the erect petals are of yellow and allied shades, we take Darius, Hector, Honorable, aurea, Adonis, Abou Hassan, Enchantress, and Gracchus.

In addition to these are many handsome kinds that should not be absent from any garden, such, for example, as I. albicans or Princess of Wales, flavescens, aurea (a tall species, not allied to a plant of the same name in the variegata set), I. orientalis, I. sibirica orientalis, etc. Then, in the Spanish and English bulbous Irises there is a wealth of beauty not easily matched. These bulbous kinds can only be planted in early autumn, whereas the above kinds may be planted for several months in the year, and, indeed, could be now replanted if given every attention after. The yellow Water Iris (I. Pseudo-acorus) may be grown in the garden in any quite wet position, and frequently in rather heavy soils.]

AURICULAS AND POLYANTHUSES.

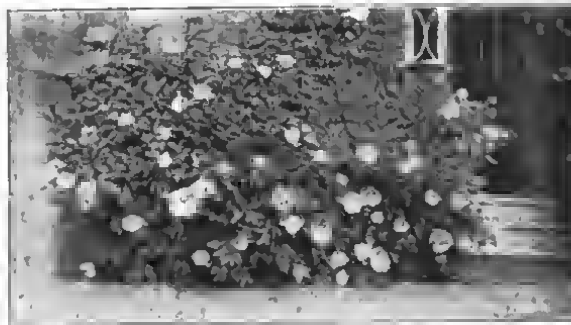
Now that these hardy spring flowers have done blooming it is wise, if it is desired to increase any of the plants, to lift them, first picking out the flower stems, then dividing the plants into single crowns with a portion of root attached to each, and at once dibbling them out into fresh, well-manured soil under a north wall or where it is shaded during the day. The soil is now so moist that new roots will soon be formed and good growth follow. Plants thus treated, if cared for during hot weather by giving them an occasional watering, will flower well the following spring if transplanted with balls of soil in November. But it is desirable to take as much trouble as possible

really good varieties, as both plants can be so easily raised from seed. I have invariably found spring dividing and replanting give better results than doing it in the autumn, as whilst new roots are always formed in the spring, none are formed in the autumn, hence then the plants are dependent on their old roots. These will, if transplanted with balls of soil attached in the autumn, soon become established in the soil, and carry fine heads in the spring. Where annual seed saving from a few specially selected and marked plants is practised it is well to gather off all seed-stems from other plants, as seed bearing is somewhat exhaustive. Those carrying seed will greatly benefit if they occasionally have during hot, dry weather a soaking of water, and that may be followed by putting a thin dressing of old pot-soil round each plant. In each case the pods carrying seed should be not only allowed to become brown, but even to partially burst, as in such case the seeds are thoroughly matured. The entire truss of seed-pods may then be gathered and be laid out on paper to ripen. Sow the Auricula seed in shallow pans or boxes in August, and keep in a frame for the winter, but the Polyanthus seed may be sown also then outdoors for the plants to stand the winter.

A. D.

A FINE TREE PEONY.

My sister (aged 12) and I (aged 10) are sending you this photograph of our Tree Peony for your paper. It grows on the south side of our house in the gravel, and is very lovely. It



Old Tree-Peony by doorway. From a photograph sent by Mrs. Lowndes, Little Comberton Rectory, Peshore.

must be very old, as when our great grandfather lived here he was very fond of it, and used to have the women out of the village up when it was out in blossom every year, and make them count the number of blossoms, and to the one who counted them right he gave a prize. This year we counted 172 blossoms and buds. We are sorry to take the photograph before more blossoms were out, but we are going to school to-morrow.

W. L.

TUFTED PANSIES.

SOME GOOD YELLOW SORTS.

SINCE the introduction of rayless Tufted Pansies some few years ago there has been a wonderful advance in those of a yellow colour. Charming as are the older rayed sorts, as represented by Lord Elcho, Bullion, and a few others still in commerce, they cannot compare with the rayless varieties of recent introduction. It must be admitted that of the large number of new sorts added each year to the list of those already in commerce one here and there will not fulfil all that is expected of it. In this way, therefore, those of sterling worth remain in cultivation, and of such sorts there is now a goodly list. Various raisers have done much in recent years to improve these flowers. Good varieties in this colour which have come under my observation are:—

SUNSHINE.—A large, handsome rayless flower of splendid substance, and of a deep yellow colour. The habit is not so good as in many others, but its constitution is robust.

KLONDYKE.—Like all Dr. Stuart's novelties, the habit of this plant is all that can be desired. It is tufted and compact, and develops

its blossoms on erect foot-stalks well above the foliage. The flowers are of good size.

Mrs. E. A. CADE.—This is an ideal sort for the flower garden, blooming freely on stout, erect foot-stalks, and possessing an ideal tufted habit of growth. Its constitution is robust, the smallest pieces quickly developing into pretty plants. Grouped in dozens, this variety makes a most effective display, its bright yellow blossoms, with an orange eye, and of circular shape, possessing plenty of substance.

NELLIE RIBING.—In this variety we have another splendid Tufted Pansy. Both early and late in the season the blossoms are slightly rayed, but in the warmer weather they are quite rayless.

MELAMPUS.—Although this variety was introduced in 1830, it is comparatively unknown. Its habit of growth is perfect, and each flower stands up erect.

PENSEE D'OR.—This is one of the best of the late Dr. Stuart's gems. When in good form the plant, which is not so robust as one would like, is literally covered with dainty and somewhat fragile-looking blossoms of the richest golden-yellow. The colour is beautifully clear and rich, and the footstalks are rather slender. In its colour, it may be safely stated, it is one of the best of its kind.

KITTY HAY.—Although one of the earliest of the rayless yellow sorts, this is still one of the most effective kinds we have. On one occasion, when quite a large number of yellow sorts was planted in beds consecutively, the brilliancy of this variety was most pronounced.

ABOLLY POPE.—This, another of the earlier-raised rayless yellows, has taken some years to become known, and now it is being largely used. At Waterlow Park this variety is being freely planted, and already its large, handsome golden-yellow blossoms are making a welcome display.

PEMBROKE.—This variety has been more instrumental in popularising the rayless Tufted Pansies than any other. Its habit is not so dwarf and compact as one would like to see, yet it is a beautiful plant when plenty of space is accorded it. It is very free blooming, and each flower is borne on a long, erect footstalk.

SYDNEY.—The blooms of this plant are identical in form with those of Pembroke. It is said to be a seedling between the variety mentioned and A. J. Rowberry. The colour, in this instance, is a distinct shade of bright yellow. In growth it is also similar to Pembroke.

D. B. CRANE.

CHINA ASTERS.

To see China Asters at their best they should be planted in beds, or in large masses on borders, as in the illustration. It is useless to expect this, or any other similar plant, to produce a good effect in the garden when planted singly, or in twos or threes, as is frequently done. Straight lines or rows of them are even worse, but, unfortunately, very common in gardens. This kind of planting cannot be too strongly condemned, since it produces formality, which should be rigidly excluded from the garden. Besides planting them in masses from 1 yard to 2 yards or more in diameter on the mixed border and margins of shrubberies, they may also be grouped among Roses on beds or borders. This method of planting China Asters should be more common in gardens, for they do much towards brightening the beds and borders at a time when colour in them, so far as Rose-blossoms are concerned, is at a discount.

CULTURE.—China Asters require a rich, deep soil. It should be heavily manured and deeply dug the autumn previous to planting, and then, if otherwise judiciously managed, a very fine effect will be produced. Grown on poor soil, the plants generally present a miserable, starved appearance, looking but little better than a mass of weeds. The best Asters I ever saw were growing on a newly-made Vine-border, with which enormous quantities of bone-meal and half-inch bones had been incorporated. The plants were remarkably vigorous and the flowers unusually fine, but, of course, the practice of growing them on Vine-borders is not to be recommended. Another point that requires close attention is the raising of the plants from seed. There is no doubt the majority of growers sow the seed too soon, the result being weakened plants and consequently poor

blooms. Seed sown in well-pulverised soil on a south border in April will give much better results than that which is sown in heat in March. If considered necessary, and it is a good plan to adopt in late localities, the seed may be sown in fine soil and covered with a handlight, or in shallow boxes, and placed in unheated frames. In either case it should be sown thinly, and thus the labour of transplanting averted. Of course, to prolong the season of flower, it is advisable to make one or two sowings—say, from the end of March till the last week in April. In this case a little heat is beneficial for the first batch. When raised thus under glass, however, the plants should have a plentiful supply of air, so that they may be from the first hardy and sturdy. In this practically lies the secret of Aster cultivation. If ready, the plants may be transferred to their flowering quarters any time after the second week in May. As to

VARIETIES, these are numerous and sufficiently varied to suit the tastes of the most fastidious. There are among the taller-growing kinds the Chrysanthemum-flowered, the Peony-flowered, and the quilled Asters, all useful in their way, but scarcely so good for garden decoration as some of the dwarf and more compact varieties. For growing in beds

bulbs must not be disturbed. If growing in a loose, friable soil, let them stay there until by their leafage they show that the soil is exhausted. They are so very cheap that it pays well to plant every year, and so make sure of their flowering—i.e., if good, strong bulbs are purchased.)

Pyrethrums.—A cutting away of spent foliage and blossoms at once will ensure Pyrethrums blooming again in the autumn, more especially if, as new growth proceeds, the plants are given liquid manure. Although double sorts are very beautiful and free blooming, one cannot overlook the fact that every year the taste for single varieties is increasing, and this is not surprising when one remembers how light and graceful they are, and altogether better adapted for cutting. Reine Blanche, pure white; Gorgo, carmine; Ayrshire, crimson; Jubilee, crimson-scarlet; Mary Anderson, flesh; Warrior, purple; Alsica, white; Othroleuca, sulphur-yellow; and Behnke, bright rose, edged white, are some of this deservedly popular section. Pyrethrums grow rapidly when planted in good loam into which has been dug rotted dung, and are a feature in many a border. The fact, however, seems to be lost sight of that useful blossoms may be gathered in the autumn if after flowering in June and

their colours are rich and varied. Those who have never grown them should sow seed now. —WOODBASTWICK.

Iris pallida.—Will you kindly advise me what treatment to give to a plant of *Iris pallida* that has been in one place about ten years? It looks perfectly healthy, but seldom throws up more than one flower spike. Ought it to be manured or re-planted?—M. J. V.

[You ought to divide the clump into single crowns and move to fresh quarters, which should be deeply dug and well manured. The best time to move Irises is just as flowering is over, and, if well attended to during the summer in the way of water, many of the crowns that have been moved will throw up bloom in May and June of next year. Your soil is exhausted, hence the failure to bloom.]

Rockets.—As with other garden flowers, the season has been a late one so far as Rockets are concerned, and June was well advanced ere they bloomed. I am old-fashioned enough to still cling to these blossoms that thirty years ago were considered indispensable in the borders, and, though time has brought about many changes, the white Rocket is yet highly esteemed by many. The double white variety of *Hesperis matronalis* is compact in growth, may always be depended upon to flower, and, when understood, is not difficult to manage. I have



China Asters in the border. From a photograph sent by Mrs. F. C. Watson, Great Stoughton Vicarage, St. Neots

one are better than the dwarf Victoria and the smaller forms of the Chrysanthemum-flowered. Many of the pompon kinds are also effective when seen in masses, though I like better the recently-introduced Comet. This is one of the finest Asters in cultivation, and can scarcely be too extensively planted. It is rather a tall grower, but the blooms are charming, being of a white and light pink shade, and closely resembling those of a Japanese Chrysanthemum. It is invaluable for cutting as well as for making a good display in the flower garden. No matter what varieties are used, the practice of mixing the colours should be discontinued. By this method the China Asters will be seen at a disadvantage. Masses or groups of one colour in each are much more effective in borders than three or four plants and of as many shades. The same applies to them when grown in beds. No one ever thinks of mixing various colours of Pelargoniums in one bed, and therefore why should Asters be seen in a mixed medley of colour? Planted in groups of one colour only, the China Aster is one of the most showy flowers in the garden in late summer. T.

NOTES AND REPLIES

Spanish Irises.—What is the best thing to do with Spanish Irises after flowering? Will the bulbs flower again next year?—E. M. M.
[The new roots of this Iris begin to move before the flower stalk has withered, and the

July the old foliage is cut away to make room for new growth. Dividing the roots in the spring is the mode of propagation most in favour, and is, perhaps, the readiest, but Pyrethrums may be raised from seed with little trouble, and the time for sowing is the present, on a warm border out-of-doors, subsequently pricking them off and planting in autumn. One of the greatest mistakes that can be made with them is to leave plants to themselves for years without dividing. They not only monopolise too much of the space in the borders and thereby liable to swamp other things, but become weak in growth, the flowers puny, especially those proceeding from the centre of the clumps which fail to get sufficient nutriment. Divisions at stated periods should be made, as it is only by so doing that one is able to procure good blooms.—TOWNSMAN.

Pentstemons.—Some Pentstemons, rich in colour and flowering freely, which I saw recently were propagated last August from cuttings and kept in a cold frame all winter. As is known, they may also be raised from seed, and if sown now and afforded some slight winter protection will furnish plants for another season. Too many forget these charming old flowers, and instead of encouraging biennials are content to grow the same beds of annuals year by year. I always recommend Pentstemons because they are not liable to any particular disease, may be grown with the merest winter covering, flower abundantly and

heard some people complain of their inability to keep Rockets beyond the second season, but the one thing needful is to see that they are annually taken up and replanted in fresh soil, trimming them and taking away any old portions, planting the new crowns in fresh quarters, and, as stated, in new material which should be fairly well manured. All the failures I have met with have been amongst plants that were left to themselves, and have, as one grower put it to me, "cankered." That is why in some gardens one may find newly-imported plants flowering. Autumn is a convenient time to split them up. The single sorts, both "whitish" and purple, though not nearly so compact as the double, are very sweet, and some in bloom in my own garden have been much admired. Seed may now be sown for another year's flowering. The single sorts are perfectly hardy, and will stand unprotected the severest winter.—LEAVERST.

Photographs of Gardens, Plants, or Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

The Prize Winners this week are: 1, Miss Mabel Gaisford, The Grove, Dunboyne, for *Scilla campanulata* in the rock garden; 2, Mr. Geo. E. Low, Dublin, for *Schizopetalou* in the rock garden.

RES. OF ILLINOIS AT
URBANA-CHAMPAIGN

INDOOR PLANTS.

HERBACEOUS CALCEOLARIAS.

By the time the latest plants have passed out of flower the gardener must think about sowing seed for next year's display. Various dates as to the time the seed should be sown are given by different growers, some saying towards the end of July or even the middle of August is soon enough. I like my seed to be sown before the month of June is out, seeing the plants require a long season of growth, and are not likely to get too large if given quite cool treatment, as they should have from the time the seed is sown until the plants are thrown away. Coddling in any shape or form is detrimental to the Calceolaria and a sure forerunner of aphid, the greatest enemy the plant has.

SOWING THE SEED.—The seed is best sown in pans, which must be clean and well drained and filled to within an inch of the top with fairly fine loam and leaf-soil, with a little sand, after placing a little rough leaf soil or Moss over the corks. Make the surface of the soil even, and water a few hours previous to sowing, using a fine rose on the can for the work. If the pans are stood in a frame kept close and dark, it is seldom any water is required until the seedlings are through the soil, germination taking from a fortnight to three weeks. Do not cover the seed with soil, as it is so very minute the merest sprinkling of fine silver-sand will suffice; in fact, unless in experienced hands, it is wisest not to put any, but as soon as the seed has germinated sprinkle a pinch through the finest sieve. Remove the covering immediately the little plants appear, and tilt the lights a bit for a few days, carefully watering, or damp will set in and the plants soon disappear. Also keep an eye that no slugs are about, as they very soon devour the seedlings.

POTTING.—As soon as large enough to handle, and they require the greatest care just then not to bruise them, prick them out into pans of light soil 2½ inches to 3 inches asunder, water in, and shade from the sun at all times during the summer. By the time the foliage meets they should be placed in 3-inch or 4-inch pots, carefully lifting with a label, and taking care not to break the foliage in the operation. At this potting the soil need not be rich. To 2 bushels good loam add three parts of a bushel of leaf-mould and sand (coarse silver or river) to keep it porous. For the final potting rather over a peck of well-decayed cow-dung will make with the above a good compost. After potting place the plants on a cool north border under a frame or in a brick pit in a similar aspect. Shade for a few days and keep close, but give abundance of air when once growth has started again. In this position the shade can be dispensed with earlier in the afternoon, and the plants should be dewed overhead two or three times daily, and constantly examined for aphid, shifting them into a house and fumigating at once if Tobacco-powder will not destroy them. At the next potting 5-inch and 6-inch pots are large enough, and these should carry them on until spring. Keep the plants in the pits or frames until hard weather sets in, as they thrive much better here than on shelves.

INDOOR TREATMENT.—When brought indoors, place in as light a position as possible and within a foot of the glass-roof, using no artificial heat unless really necessary. The house should be fumigated about every ten days, as it is much better to keep aphid away than to try and eradicate it when once it has got a footing. Dew the plants overhead about 10 a.m. on fine mornings, as they dislike a dry atmosphere. Towards the end of February shift the plants into 7-inch and 8-inch pots, potting fairly firm and guarding against too free a use of the water-pot, only giving a supply when really on the dry side, or the plants will soon get sickly, and no coddling will bring them round. Speaking generally, by the middle of March the plants can again be placed in pits or frames if carefully matted at night, and, while a few degrees of frost do them no harm perhaps, they are certainly no better for it. When you find the roots working around the side of the pot, a weekly application of weak manure-water may be given, but avoid strong doses at all times. Secure the growths to neat stakes by means

and place in the conservatory or greenhouse as soon as the blooms begin to open, keeping a dry atmosphere overhead now, or the flowers soon spot and decay. Though it takes nearly a year from the time the seed is sown to have the plants in bloom, a batch of Calceolarias, well grown and nicely flowered, is admired by everyone, the varied markings and colourings arresting attention. J. M. B.

SPIRÆA JAPONICA MULTIFLORA COMPACTA.

In this, which is very compact in growth, the flowers are produced in denser plumes than in the type, their colour similar to that of the ordinary form so familiar to all. It is certainly worth growing for its distinctness, and is just as easily forced as the ordinary *S. japonica*.

HEATING A LEAN-TO.

(REPLY TO "BELFAST.")

In respect to the boiler, you had best effect a sort of compromise by half sinking it. There is no advantage in having the pipes quite near the floor. At the same time it is not desirable that the pipes should be so near the staging as to cause constant drying up of the plant-thereon, and in turn necessitating much excessive watering. Therefore, if on entering the house your top or flow pipe is 1 foot high, you will, by giving each pipe a ½-inch rise in its length of 9 feet, get to the other end without much trouble. But you must ever bear this in mind, that the more the boiler is under its work, so much easier is the working and so much quicker the circulation. Quick or rapid circulation in such case is responsible for keep-



Spiræa japonica multiflora compacta. From a photograph sent by Mr. W. Johnson, Trafford Hall, Chester.

Some admire it, but in my opinion it is not equal to the ordinary kind, forming, as it does, a much denser mass of bloom, and consequently, when at its best, it is wanting in the lightness and elegance of the type. There is little doubt that it originated from the golden-veined variety, which, except in the marking of the leaves, is a counterpart of the other. The golden-veined variety is an old inhabitant of our gardens, and is during the first part of the season very pretty, for by the time the flower-spikes are fully developed the leaves are far greener than when they at first expand.

T.

As many of the most interesting notes and articles in "GARDENING" from the very beginning have come from its readers, we offer each week a copy of the latest edition of either "STOVE AND GREENHOUSE PLANTS," or "THE ENGLISH FLOWER GARDEN," to the sender of the most useful or interesting letter or short article published in the current week's issue, which will be mailed to you.

ing up a better heat, the water getting back to the boiler but little reduced in temperature, whereas in a slow or sluggish working the water may be nearly cold on returning to the boiler. Indeed, this quick rise into the chief or first flow pipe, and the subsequent rapid rise, are among the chief factors of satisfactory heating. It is where the water gains or receives but little impetus from boiler to pipe, and where there is no corresponding fall of the return pipe, that much sluggishness of action and general unsatisfactoriness ensue. If, therefore, you have an idea for working the flow pipe off the boiler nearly at dead level, we say, don't, but so sink your boiler that a 6-inch rise is afforded either at the boiler itself by means of a bend or swan-neck connection or the like, or as soon as the house is entered. It will be easier to attend to these details now than to have the trouble later. With the pipes fairly high, as suggested, it is

possible you may keep up to 45 degs. with the one flow and one return on one side, but it would be easier done, say, with two 3-inch pipes on top running parallel as flow pipes, discharging into one 3-inch return below them. The radiating surface from a single 3 inch pipe is not great, and it would mean, if you maintain the heat, not only much attention to the fire, but also that the pipes of necessity would be heated up to an excessively high, and heat, the latter the plague of the amateur plant grower, and also the forerunner of hosts of shortcomings in the plants and of the appearing of not a few insect pests. Therefore, a few pipes overheated are quite opposed to success generally. The pipes can readily be disconnected, though you may have to sacrifice a portion here and there where cutting becomes a necessity. In the new work we suggest the use of rubber rings as not only more economical in point of actual cost in time, etc., but their use renders very easy any future alterations.

THE STAR CINERARIA (CINERARIA STELLATA).

To those who have partially tired of the perfection of form (so called) of the florists' type of Cineraria has been afforded no small amount of pleasure in the introduction of the star-like varieties. The florist, no doubt, who adheres rigidly to the rotund form of blossom, with its almost mathematical shape, will not view with any special interest this more recent introduction, but look upon it with disfavour. Without attempting to detract from the merits of the florists' type as now grown, it must be stated that this new development of the Cineraria has very much to recommend it. To many it will come as a welcome relief, affording fresh variety to a charming class of spring-flowering subjects. As conservatory plants they are specially to be recommended, being more easily associated with other and taller subjects than the florists' Cineraria. Already there is a pleasing variety of colour. When cut, these Star Cinerarias have much in their favour, being better for arranging in many ways than the others are by reason of the length of stem; whereas, from the point of effect also an advantage is gained by the less density of the corymbose heads of flowers. The cultivation needed is nearly the same as for the usual run of Cinerarias. Whilst smile to a certain extent is beneficial, too much will be harmful. Overpotting, again, should be guarded against, also overcrowding.

NOTES AND REPLIES.

Hemanthus Katharinae.—I herewith send you a photograph of a plant that I should be pleased if you would kindly give me the botanical name, cultural details, etc. It is beautiful mixed with other plants in my greenhouse. I have taken GARDENING for some years, and find it excellent for reference. I am 81 years of age, and still am able to look after my greenhouse and part of my garden, my gardener doing the rougher work.—CHAS. GOOD.

[The plant represented in the photograph is *Hemanthus Katharinae*, a native of Natal, from whence it was first sent to Kew in 1877. The genus *Hemanthus* is an extensive one, all the members of which occur in the southern half of Africa, some of them which are natives of Cape Colony succeeding with greenhouse treatment; but for those from the Congo district a stove is necessary for their successful culture. Some of the species are difficult to grow, while, on the other hand, many of them readily conform to ordinary treatment. One of the most amenable to cultivation is *H. Katharinae*, which will thrive either in a greenhouse or under warmer conditions. The soil best suited for this *Hemanthus* is two-thirds good yellow loam to one-third well-decayed manure, or, failing this, leaf-mould, with a liberal sprinkling of silver-sand. Repotting, if necessary, should be done as soon after flowering as possible, but it resents disturbance at the roots more than is absolutely necessary, and provided the drainage is good and the roots healthy, it may be kept in the pot

several years without repotting, but should be assisted during the growing season with an occasional dose of weak liquid-manure. After flowering encourage the plant to make healthy growth by giving it a good position in the greenhouse and keeping it properly watered, then, as autumn comes on, less water will be needed. During the latter part of the summer it should be well inured to sunshine in order to thoroughly ripen the bulb. Throughout the winter scarcely any water will be needed, but with the return of spring the supply must be increased. Then the leaves and flower spike will in time develop. In winter the temperature of the structure in which it is kept should be allowed to fall but little if at all below 50 degs., though if the soil is very dry 35 degs.

over when new growth has fairly shown itself, for at this time of the year, when so many stand them out-of-doors, one is tempted to give them insufficient water. It is the greatest mistake to administer mere surface-sprinklings, as all subjects potted for the most part in peat, like Azaleas, should be thoroughly saturated when watering is needed at all. Keeping them in a partly shaded aspect will minimize considerably the labour involved in watering, and assist the plants also.—W. F.

Hiding an edging in greenhouse.—Will you be so kind as to tell me what you consider would be the best and most practical (2) most quick-growing, (3) and hardiest species or trailing plant to train along and over the little wooden ornamental edging to the stages of my conservatory? The edging is 5 inches high, it looks very neat as a finish to the stages or shelves, and hides the



The Star Cineraria (*C. stellata*). From a photograph sent by Messrs. Wehl & Bois, Stourbridge.

may not cause any ill effects. Other reliable species that may be grown in a greenhouse are the Blood-flower (*Hemanthus coccineus*), with bright red flowers usually at their best in August, and *H. albidus*, in which the blossoms are white.]

Azaleas.—It depends largely upon the summer treatment of Azaleas as to their chances of blooming another year. More plants are starved in the summer than are killed by frost in winter. In many instances, instead of being kept in the greenhouse after they have done blooming to encourage young wood, they are sent straight away into cold-frames, where, owing to neglect in watering and a too radical change of atmospheric conditions, they either die off or fail to produce buds for another season. Nor is the danger

pots newly that stand behind it. At the same time, a friend has suggested that pretty a grass-creep would be trained upon and along it, and says *Asparagus Sprengeri* was most successful and rapidly growing thus used in a small conservatory she had one to do with. I have an *Asparagus Sprengeri* in a hanging-basket, but I cannot say time has gone rapidly, and, at the same time, the branches stand up rather stiffly. I shall be much obliged for your advice.—A WATERER.

[Your best plan will be to grow *Isoplexis gracilis*, *Panicum variegatum*, *Helianthus* or such as *Campanula isophylla* and *D. l. Mayi* in pots, standing the pots behind the wooden edging and allowing the plants to hang over. In this way a fine effect ought to be produced.]

An unhealthy Camellia (*C. K.*)—You do not say how the *Camellia* has been treated as to its roots. Probably the soil in the centre of the ball of roots is dry, and, if so, that would account for the failure. Examine the roots, and, if dry, place the pot in a cask or large tub of water for a few hours, until all the earth has been thoroughly moistened. The pots should be well drained, and the plants pressed down firmly around the roots in the repotting.

ROSE NIPHETOS IN THE OPEN AIR.

I see in a recent issue "Woodbastwick" asks us to the experience of others with Niphetos, and another just below speaks of the failure of Climbing Niphetos in a cold greenhouse. They may like to know that here, on a cold part of the Wiltshire Downs, 400 feet above the sea, I have had a Climbing Niphetos for eight years on the south wall of my house in full and lovely bloom every year, with the great white bell-like flowers hanging down among a mass of other creepers. It rises up to the roof, and I thought after the bitter cold of the whole year, from January to June, I should have few blooms, but directly the heat began the buds opened among the tangle of Clematis montana and Honey-suckle, and now it is beautiful to see the pure white large blooms mixed with W. A. Richardson covering the higher part of the house, while below I have Safrano, l'eshunt Hybrid, Climbing Capt. Christy, l'elme Forester (also up to the roof), General Jaqueminot and the old Pink China, all on a background of Ampelopsis Veitchi and Ivy, and I think the Roses rather like the shade of the leaves and the shelter. Reine Marie Henriette also does grandly on my stone porch. The soil here is all chalk, and I often wonder the Roses do so well with such shallow earth above, but where Ivy and creepers help to impoverish. I often give some gallons of seullery sewage on the south border during the dry season. — *GEORGINA H. OSBORNE, Salisbury.*

— "Woodbastwick" asks if anyone can report well of Niphetos as an outdoor Rose. I live in E. Devon, and had a Niphetos Rose against the north wall of my house, which reached to the upper windows, and last summer it was a mass of enormous flowers. The tree was unfortunately killed, and last winter I put a very small plant of the same kind of Rose in its place. It has grown very well, and had a dozen or more good blooms this summer. — *TALBOT.*

— I see in this week's issue of GARDENING your correspondent "Woodbastwick's" enquiry about the Niphetos Rose flowering out-of-doors. It may interest him to know that in my garden in Bovey Tracey, South Devon, I have a Niphetos Rose which has been flowering freely for the last three weeks. It is growing up the outside of the house, and is a good height. The house wall faces due south. The Rose is unprotected, except by the side of house and window angle. I have lived here for more than six years, and I think each year the Rose has flowered well. I wish I had a good photograph to send to show you how well the Rose has grown, but I enclose a had little "print" which may give you some idea. — *E. M. ANDERSON, Pimley, Bovey Tracey, S. Devon.*

— Having seen "Woodbastwick's" note in GARDENING ILLUSTRATED for July 5, re "Niphetos as an Outdoor Rose," I write to say that I have seen this Rose blooming in profusion this year at Ilitcham Rectory, Suffolk, on the south-west wall of the house, also on the high wall of the kitchen garden, south aspect (a very warm corner). The blooms on both trees were mostly $3\frac{1}{2}$ inches across, all pure white, with strong stems. Hundreds of blooms have been cut, and this is about all the pruning they get, except cutting out the old wood. I have never seen such perfect blooms of the Niphetos before, not even in a greenhouse. I only wish I could have enclosed a photograph of one or other of the trees. The one on the house was planted four years ago in a border about 2 feet wide, with Climbing Lamarque and the Crimson Rambler quite near it. No particular care has been taken as to soil, etc., as this part of East Anglia is noted for good Roses. The soil suits them so well, the famous Rose nurseries at Colchester being within twenty miles of us. — *HOPE COCKBURN, The Cottage, Brideston, Ipswich.*

— In your "Notes and replies" in GARDENING ILLUSTRATED of July 5, "Woodbastwick" asks if any person has been successful with a Niphetos Rose in the open after the terrible spring we have had this year. I have

in the open a Niphetos planted three years ago last October. Last year I had quantities of beautiful blooms off it, and it grew to about 7 feet high, and I trained it on fan-shaped wires. In the autumn I protect it as I do the other Teas—viz., 6 inches of rotted manure round the roots. It suffered very much this spring, and I had to cut away a lot of dead wood; but now it is recovering very fast, and has seven beautiful huds on it, and it is throwing up beautifully healthy new shoots. The soil is very poor, and I am at least 500 feet above sea level. I have also been very successful with a Maréchal Niel against the house. I have gathered about thirty beautiful blossoms off it this year, and it looks extremely healthy. Oddly enough, delicate Teas do better with me than those marked "hardy." Will you be kind enough to answer the enclosed list of questions in an early number of your valuable paper, to which all true flower gardeners look forward with pleasure to receiving each week? — *BROOMCLIFFE, Llandiloes, N. Wales.*

ROSES FOR EXHIBITION.

(REPLY TO "WOODBASTWICK.")

THERE is a growing desire for exhibiting Roses, and we are very pleased to note it, as it must tend to good cultivation, although it should not deter us from planting the many beautiful garden Roses that yield, perhaps, the greatest amount of pleasure to the grower. We hope to have an article very shortly dealing with all that appertains to the cultivation of the Rose for exhibition. In answer to your queries, we should say if you are prepared to wait two years, it would be highly desirable to plant some well selected stocks in your prepared beds and bud them there, but by so doing you would lose a season. For our part we should rather plant the beds this autumn with good one-year-old plants from a reliable source, and plant some stocks in a reserve garden to provide good blooms of such kinds as are best on maiden plants. If you adopt the practice of severely cutting away all old wood and rely upon the young wood for your blooms, you will be able to exhibit on an equal footing with your rival who grows a number of maiden plants, and in some seasons, such as the present, you would have a better chance, as it is mainly from cut-backs that exhibitors are showing, the maidens being very late this year. One well ripened growth upon each plant is preferable to a number of small shoots. This one growth will produce two or three other growths, each carrying a bloom, and this is quite sufficient for one plant to bring to perfection. It is for this reason that exhibitors will plant their bushes close together, rarely placing them more than 18 inches apart. You say your new ground is especially suitable for Teas and Hybrid Teas. By this we presume the soil is inclined to be light. You would do well to grow a good number of the best Hybrid Teas, and you cannot discard the Hybrid Perpetuals; indeed, they should predominate. In the collection of 72 varieties that gained the champion prize at the National Rose Show this year 38 were Hybrid Perpetuals and 22 were Hybrid Teas. What we should strongly urge you to do would be to grow about 50 good kinds, and have as many of each as you have room for, 10 to 20 of each being none too many. We should also recommend you to peruse the little pamphlet on planting Roses issued recently by the National Rose Society. It can be obtained from the Hon. Secretary, Mr. E. Mawley, Rosebank, Berkhamsted, Herts, for seven stamps.

NOTES AND REPLIES.

Yellow Roses for light soil.—Will you kindly tell me what are the best yellow Tea Roses for growing in a very light soil 600 feet above sea level? I find Tea Roses do better than H.P.s.—*BROOMCLIFFE.*

[The following kinds are all good growers, and should succeed well with you if the soil is carefully prepared by deeply digging and freely manuring it with well decayed cow-manure. Procure the plants on the Brier if you cannot obtain them on their own roots. The varieties we advise are as follows, taking them in their order of merit: Rêve d'Or, Céline Forester, Duchesse d'Auerstadt, Solfaterra, Billiard and Barré, Belle Lyonnaise, E. Veyrat Hermanos, Climbing Perle des Jardins. We also think

you would be able to grow the charming little Cluster Rose Claire Jacquier, and also Gardénia, a most beautiful canary-yellow bud. Why not try a Maréchal Niel? Select a really nice sunny corner, and plant a well-rooted half or dwarf standard. If the soil is light, Tea Roses should flourish admirably, but, of course, they want more liquid-manure than Roses in heavier and more retentive soils.]

Rose W. A. Richardson in a light soil.—What is the best mode of growing W. A. Richardson Rose in a light soil? The aspect is S.W. to S.E.—*BROOMCLIFFE.*

[We have found this Rose succeed best in a strong, clayey loam of good depth, and plants should be either on the seedling Brier or hedge Brier. You would, of course, need to make special preparation for a plant of this Rose, as your soil is so light. If you dug out a hole, 3 feet wide and 3 feet deep, and filled this with a similar amount of clayey loam, with which some well-decayed cow-dung is incorporated, you would find no difficulty in the successful culture of this lovely Rose. As a rule, such clayey loam is obtainable in almost any neighbourhood, and the local nurseryman would doubtless procure it for you. Failing this, a liberal amount of cow-manure incorporated with the present soil, adding some turf that perhaps you can obtain, would answer nearly as well, especially if the Rose has copious waterings of liquid cow-manure from end of May until blossoms show colour. This and similar Roses when planted against hot walls should be carefully watched and afforded plenty of moisture at the root. Unless a really vigorous growth is produced, good quality blossoms cannot be expected.]

Rose Niphetos in a pot.—Would you kindly tell me what is the matter with my Rose Niphetos? It is in a large pot, and was repotted last year. It throws out fresh shoots and buds, and, except that a few leaves have a tendency to curl up, looks healthy; but the buds drop off before opening—one or two of them when opened were found to be decayed inside. There is no green fly on the leaves, and I cannot think what is wrong with it. There is a nice profusion of green leaves. I am sending you a bud, though this one does not look decayed inside as the others did that fell off. I took this off, thinking it would have gone like the rest; but it does not seem to have commenced decaying yet. Last year two Roses dropped off in the same way, but they had begun to unfold. The year they drop when quite small and green, I keep the tree in a very sunny window facing south.—*NURSERIES.*

[This beautiful Rose is not at all a suitable kind to grow as a window plant; in fact, few, if any, of the true Teas can be cultivated in this way. Some of the sturdier Hybrid Teas would doubtless succeed better. From your account of the buds decaying we should say that the roots are kept too wet, resulting, possibly, from insufficiency of drainage, or it may be you have given the plant too large a pot. When Roses are grown under adverse conditions, as, for instance, in rooms or windows, it is always desirable to keep the pot rather small and endeavour to have it full of roots. Such plants do not require repotting very frequently. Every second or third year would suffice. If possible, we should advise you to plant out this Rose into the garden at once. It would recover far better than if you keep it in the pot. Dig out a hole 2 feet wide and 2 feet deep. Return most of the soil, leaving a hole a little larger than the ball of earth. Save removing the crocks, you must not disturb the ball at all. After setting in the hole, tread the soil firmly round the plant. A position sheltered from north and east would suit the variety best.]

A new Polyantha Rose.—One can imagine a mass of the beautiful little novelty, Schneewitchen, to resemble a miniature snow storm, the flowers being produced in such rich profusion. It is a seedling from Aglaia crossed with a seedling, the parentage of this latter being Parquerette and the Tea Rose Souvenir de Mme. Lévet. The new comer has the charming creamy-yellow buds of Aglaia, and every tiny bud is as perfectly formed as the Tea Rose just mentioned. The fine clusters when expanded are in effect white, although on close examination one detects a suffusion of palest yellow. The fragrance is that of the Musk Roses. Although this Rose owns Aglaia for parentage on one side, it inherits none of the shy-blooming propensity that this latter exhibits in its early stages. I believe Schneewitchen will be in great demand for massing in quantity, and as a pot Rose it must also be a favourite.—*ROSA.*

FRUIT.

MULBERRY TREES.

We are so exercised by the names of all sorts of new things—conifers, shrubs, Japanese and American—that very often some of the best things are forgotten, and among them the Mulberry, which there does not seem to be the same habit of planting as in old times. Old Mulberry-trees, like old men and women, die, and we do not often see them renewed, nor is it common to see good stocks of them in nurseries. This should not be, for a more beautiful and fertile tree does not exist for the warmer parts of our country, and the fruit, if well saved, is delicious. Among the most beautiful Mulberry-trees we have seen of late are those standing in the kitchen garden at

suddenly cutting away half of the shoots and leaves; this gives the trees such a rude check that it takes half the season for them to recover from it. As different kinds of trees need somewhat different treatment, I will briefly allude to the needs of the most important classes of fruit-trees grown in our gardens—viz.:

APRICOTS.—These are about the most precocious of all our wall-trained trees, both in regard to flowering and wood growth; consequently, need attention early in the season, as they bear fruit freely on spurs. They are usually trained in the fan shape, as this allows of any failing branch (to which the Apricot is especially liable) being removed, and the tree reformed without much difficulty; but it is advisable to have a good lot of young intermediate branches laid in between the main limbs, as they not only bear the finest fruits, but are especially valuable for converting into

shade the fruit to no good purpose. Gooseberries, if trained, need the young growth shortening back to four leaves.

CHERRIES of all the sweet, dessert kinds crop freely on spurs, and are mostly trained on the fan system. The Morello, that bears its finest fruit on the preceding year's wood, must have plenty of the current year's growth retained; but it need not be nailed in or tied until later in the season.

PEACHES AND NECTARINES require, and will pay for, a good deal of attention in the early part of the summer, for once get them started into a clean healthy growth, and little more will be needed; but neglect them for ever so short a period so that the leaves get curled up, blistered, and full of fly, and there will be a season's work to get them clean again, and then without the possibility of thoroughly ripening the current year's wood, and on this the success



Old Mulberry-trees at Glynde Place, Sussex. From a photograph by G. A. Champion.

Glynde in Sussex, which are certainly the most picturesque and tallest we have seen for many a day. We show them in their early spring aspect, when the leaves are just in the budding stage, and one could hardly see a more beautiful group for the centre of a garden.

SUMMER PRUNING OF FRUIT-TREES.

(REPLY TO "G. H. C.")

SUMMER pruning cannot be done all at once if the well-being of the trees is studied, but must be carried out by degrees through the entire growing season, according to the vigour of each tree. No hard-and-fast rules can be laid down. The operator himself must judge as to each tree's special needs, but the worst kind of pruning, and that which cannot be too strongly condemned, is that of letting the trees grow into a tangled mass of breastwood, and then

main branches when any old ones are removed. Pinching back the foreright shoots requires frequent attention.

APPLES need attention directly they have set their fruit, for, if fine fruits are desired, the branches must be thinned out to one or two of the most promising; and the foreright shoots that are not needed for extending the tree should be pinched in when they have made half-a-dozen leaves.

BUSH FRUITS, although not usually summer-pruned, are greatly benefited by it, especially Red and White Currants, that should have the leading shoots cut back to about six leaves, as this not only concentrates the vigour and ensures the thorough ripening of the buds at the base of the current year's wood, but allows the fruit to put on a much richer colour. Raspberries should have all the surplus young canes that spring up at the base removed at once, as they only rob the fruiting shoots and

of Peach culture depends. Directly there is leaf-growth enough to see, look over the trees almost every day, and every leaf that curls up should be picked off at once, and if any trace of black-fly is visible dust with Tobacco-powder, and as soon as the fruit is set ply the syringe or garden-engine freely on them. Disbud by degrees, removing a few of the most prominent shoots that are not required at each time the trees are examined, until only the shoots required for laying in are left. Do not crowd the young wood—it is only a waste of force to lay in two shoots where there is only space for one. Mulch the roots and water freely if dry weather prevails.

PLUMS are almost invariably trained on the fan system, and the principal attention they require is to pinch in the points of the foreright shoots at about six leaves from the base, only leaving the leaders on those required to fill up gaps at full length. Should there be

any shoots getting bare of short fruitful spurs it will be well to train in another at the base, so that the old branch may be removed at the next winter's pruning.

VINES on walls are much neglected; they should be disbudded the same as those under glass, and directly the bunches are visible pinch out the point of the shoot, one joint beyond the bunch, only allowing shoots to extend that are needed for new fruiting canes.

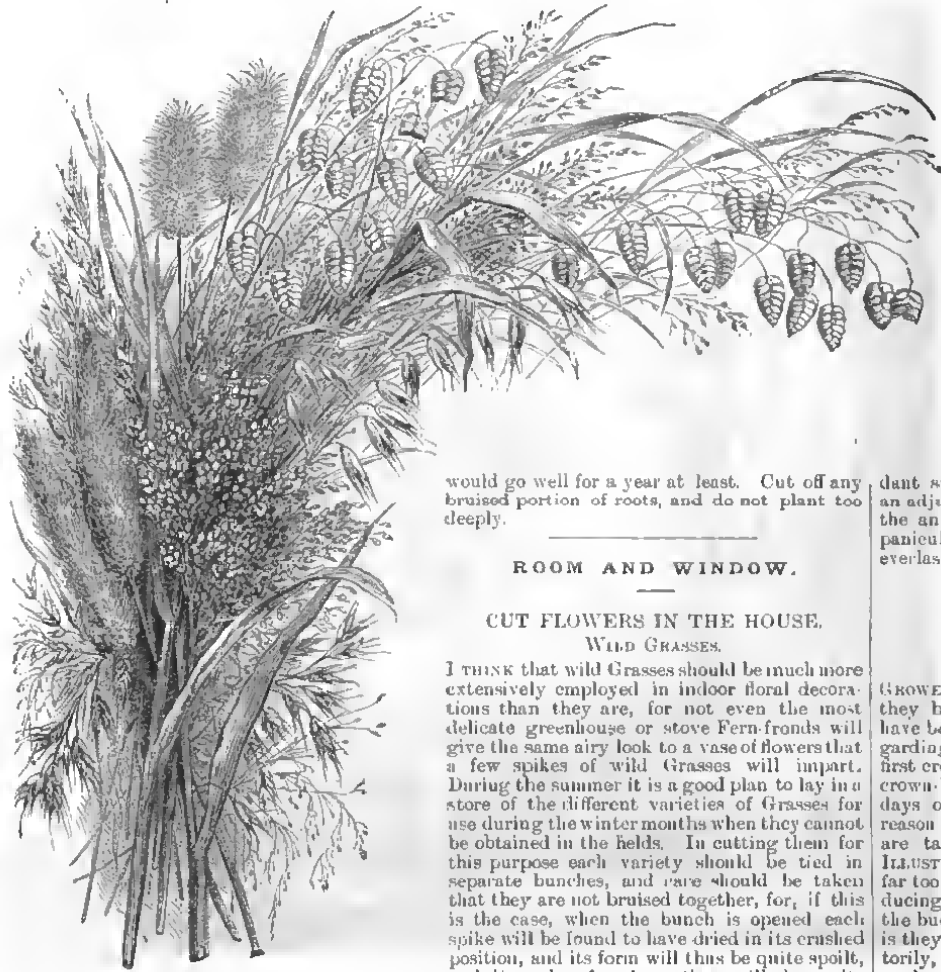
NOTES AND REPLIES.

Lifting Peach-trees and making border (S. J. A.).—It is not safe to commence the lifting of Peach-trees until November, unless those entrusted with the work are men of experience. Some gardeners carry out lifting in October, but, at some-times this is a sunny month, much harm may

using, is the most important item. Lime grit, preferably that obtained from old, demolished buildings, is a necessary addition to the soil. A little burnt ballast or refuse from a garden smother, together with the lime, will suffice, if the soil is of good character, to form a suitable Peach-border. Grossness is an evil to be avoided in Peach-trees, and which is sure to follow in an over-rich border. It is better to feed in after-time, when there is a declining vigour apparent. One important point is firmness of the soil. This cannot be overdone, provided the soil is on the dry side. Raming and treading as the soil is filled in promote short-jointed growth. A great extent of border is not necessary at the outset, and it may be more advantageous to extend the supply of new soil periodically as the roots extend outward. So long as there is ample width for the existing roots to be laid in, all

the green of the other Grasses, flowers, and foliage employed in its decoration. For a trumpet vase the graceful drooping Oat-Grass is best adapted. The common Horse-tail is also not to be passed over, as it, like the Grasses, forms a valuable addition to floral decoration, and may be found growing in moist places in country lanes, or sandbanks by the sea. The accompanying illustration shows some of the best of the Wild Grasses for the purpose of room decoration.

It is chiefly those who recognise the advantage Grasses are in connection with table decoration who grow them. The amateur, who at times is at a loss for some light, fragrant material as an adjunct to his vase of cut flowers, forgets the beauty there is in ornamental Grasses. One has only to try the effect of a few sprays of *Eragrostis elegans* or *Avena sterilis* in a vase of Iceland Poppies, or *Braux maxima*, or *Lagurus ovatus* among Sweet Peas, to be convinced of their utility. The commonest Grasses of the field when rightly used are an aid in many cases to cut flowers, and there are few gardens where those mentioned will not succeed.—TOWNSMAN.



Some Grasses suitable for arranging with cut flowers.

would go well for a year at least. Cut off any bruised portion of roots, and do not plant too deeply.

ROOM AND WINDOW.

CUT FLOWERS IN THE HOUSE.

WILD GRASSES.

I think that wild Grasses should be much more extensively employed in indoor floral decorations than they are, for not even the most delicate greenhouse or stove Fern-fronds will give the same airy look to a vase of flowers that a few spikes of wild Grasses will impart. During the summer it is a good plan to lay in a store of the different varieties of Grasses for use during the winter months when they cannot be obtained in the fields. In cutting them for this purpose each variety should be tied in separate bunches, and care should be taken that they are not bruised together, for, if this is the case, when the bunch is opened each spike will be found to have dried in its crushed position, and its form will thus be quite spoiled, and its value for decoration will be quite destroyed. All Grasses should be dried in an upright position, particularly those of a drooping character. Oats, while still green, are very pretty in large arrangements, especially ears of the Black Oat, which I have but very seldom seen used; this Oat forms a charming contrast to ordinary Grasses and Sedges, and I have constantly used it myself when I have been able to obtain it. The great value of Grasses is, that in addition to giving a light appearance to a vase, a large plume of handsome Grasses and Sedges enables one to dispense with many flowers. To some this may be no object, but to many it must be a matter of consideration. My attention has been directed to the usefulness of the bloom of the Ribbon Grass for mingling with flowers, and I can bear testimony to its utility for this purpose. The bloom has a silver-like lustre in some stages of its growth, whilst in others it assumes a rosy-pink tint, which is equally pretty. In the trumpet of a March vase, which has been dressed with pink and white flowers, a few spikes of the Ribbon Grass bloom help to carry up the colour with charming effect into

Gypsophilas in the house.

Gypsophila elegans is an annual that ought to be cultivated by all who delight in cut flowers for home decoration, as the miniature white blossoms are very beautiful when arranged with vases of Irises, Poppies, Sweet Peas, and, indeed, with almost any flowers. It may be sown even now in the borders with a certainty of coming in useful in about a month's time. Those who have not hitherto grown the perennial form, *Gypsophila paniculata*, should not forget to procure plants this autumn, as, when once established, it provides one with an abundant supply of foamy flowers, invaluable as an adjunct to a vase of blossoms, and well the annual form. The blooms of *Gypsophila paniculata* keep for months when cut, being everlasting.—LEAUCREST.

CHRYSANTHEMUMS.

SEASONABLE HINTS.

GROWERS of large blooms, no matter whether they be wanted for exhibition or otherwise, have been anxious during the last few days regarding the question of the development of the first crown-buds on their plants. If the first crown-buds were developed during the closing days of June or early July, there is every reason for being pleased with the course events are taking. Many readers of GARDENING ILLUSTRATED may not be aware that it is yet far too early to think of retaining buds for producing exhibition blooms in November. When the buds retained at this time the probability is they would ultimately fail to open satisfactorily, and would also come with hard centres or else develop into hen-and-chicken buds. A their best the resulting flowers would most likely be quite out of character, and their colour very poor and washy. For this reason the first crown-buds which have so far developed should be pinched out, and the strongest individual shoot of those surrounding the bud be grown on with all possible vigour. These same shoots will quickly attain desirable proportions, and by the third week in August or near to that time the long-looked-for second crown-buds should make their appearance. Buds developing at the period just mentioned as a rule give very handsome flowers. They open kindly, and the colour is good, and the flowers are also large and of good form. This now brings us to a period in the history of some Chrysanthemum plants where no first crown-bud has developed, and there may be those who are in doubt how to proceed under the circumstances. Plants which have not yet developed the first crown-bud should have the points of their shoots pinched out without a day's delay. This manipulation of the shoot will induce them to break out into fresh growths in the axils of the leaves immediately

be done should the trees not be in a good state at the roots, and not carefully nursed afterwards. In November the leaves are falling naturally, which is a period when some deciduous trees form new roots, and by moving them at that time they become somewhat established and ready for starting strongly into growth in spring. A semi-circular trench should be dug at a distance governed by the age of the tree and extent of roots of the tree, these being preserved as much as possible from injury. The digging fork is the better implement for this work. A distance of from 2½ feet to 3 feet from the stem should be allowed in opening a trench, and as deeply as roots are found. As soon as these are well raised, protect them with a covering of some kind to exclude air and to keep them moist to prevent their extremities shrivelling. The border need only be of simple construction: good loamy turf of a calcareous nature—put early so that the Grasses destroyed prior to

below where the pinching took place. In a little while select the strongest shoot on each stem, rubbing out all the weaker ones, growing on the one retained with all vigour. High culture is essential to success, and from this period until the flowers are fully opened care must be given to the plants. Keep the shoots carefully tied out, as every endeavour must be made to ripen the wood. Without this important factor in the culture of the Chrysanthemum it is impossible to attain success. Watering is another important item in successful culture, a few hours' neglect sometimes causing a failure. Manure-water need not be given until the pots are pretty well filled with roots. In all cases when watering it is well to go through the plants a second time. A single application of water is really very superficial, and in hot and trying weather its evil effects may be traced in the plants themselves. Always thoroughly moisten the ball of soil. Keep the surface soil free from weeds, as they may cause much inconvenience later. Keep green fly and black fly under by a dusting with Tobacco-powder occasionally. Water overhead with clear water from a fine-rosed can in the evening of hot days. E. G.

— Now that the warm weather has come in earnest growers of Chrysanthemums will have to keep the water-pot going at least twice a day, and where a number of plants is grown this means additional work. Taking everything into consideration, however, the extra labour expended well repays itself in the end in the shape of robust plants and plenty of bloom. With good attention, the growth of the plants is very rapid now, and the shoots, as they grow, must be tied to the stakes, or else grievous havoc will result should a gale of wind come unexpectedly. No plant should be stopped or pinched later than the third week in June, and encouragement should be given to promote healthy growth by giving a little scot water about once a fortnight, on no account letting the plants have any other stimulant, which at this season would do more harm than good by promoting rank, useless growth. I have always found it pay well whenever possible to give the plants plenty of room in their summer quarters. Top-dressing is very beneficial, but is not to be recommended, nor is it necessary when the plants are merely required for decoration. It is essential, however, from an exhibitor's point of view. —D. G. McI., B. of H., N. B.

Fixing "sports."—Many amateurs and others may have an opportunity when the season comes round of fixing a sport, and a simple means of doing so I will now describe. If a certain plant should throw a bloom of a different hue on one of its stems, and the said bloom be of good shape and form, preparation should be made to fix the sport. In order to do so, loose the stem from which the sport issues from the stake, cut off all the others close to the soil, reserving only this one. Prepare a shallow box about 3 feet long, put a layer of rough soil in the bottom for drainage, filling up with nice light sandy soil. Peg down thereon the sported stem, still keeping the roots intact in the pot, and finally scatter a little sharp sand over each joint, damping all down through a fine rose. The soil must be kept moderately moist and preferably in a little heat. Shoots will soon be encouraged to spring from the axils of the leaves, which should be taken off with a sharp knife when about 1½ inches long and inserted singly in thumb pots of sandy soil. They may be rooted now in gentle heat, and afterwards grown on in the usual manner. It is advisable to allow them to grow naturally from the beginning. When the sports bloom they often go back to the original colour, but should the sport come true it may be said to be fixed—for the time being, at any rate. I have seen instances of sports going back to their original colour after three years. If after such a period elapses and the sport continues true, and is thought to be an improvement on existing varieties, blooms should be sent to any of the meetings of our Chrysanthemum societies, along with description, height, habit, etc., when the sport will be judged on its merits. —D. G. McI., B. of H., N. B.

TREES AND SHRUBS.

THE MEDITERRANEAN HEATH.

ALL the hardy Heaths are very beautiful plants as grown on suitable soils, and this species (*E. mediterranea*) is one of the best and most showy. It is a native of western France, Spain, and the Mediterranean region, but is a free and luxuriant grower on non-lime containing soils elsewhere in Europe as a garden plant. A very distinct form of this plant is found wild in Ireland, in Galway and Mayo, in boggy heaths, but not elsewhere in Britain. The type plant, as shown in our illustration, attains a height of 6 feet to 8 feet, or even more in sheltered positions, flowering profusely in April and May. The Irish plant is more dwarf in habit, rarely exceeding 3 feet in height, and having a more virgate habit of growth, with more grey or glaucous leafage, and the flowering growths are shorter and the flowers paler in colour. The late Prof. Boswell Syme considered the Irish plant to be a distinct species, and called it *E. hibernica*, but

order succeed. They also grow on loamy soils on the granite and sandstone formations, in beds or borders enriched with leaf-mould and cow-manure, on a moist bottom. As grouped with other kinds near natural rocks they are very handsome. Other good kinds are *E. carnea*, white and reddish-purple; *E. stricta*, rose-coloured; *E. vagans*, white, or rose-purple forms; and *E. hybrida*, one of the earliest and best of the dwarf kinds, said to be a cross between *E. carnea* and *E. mediterranea*. The largest and most fragrant of all the Heaths is *E. arborea*, from Greece, where, as at Mount Athos, it grows 20 feet to 30 feet in height. In Co. Wicklow this Tree-Heath of Eastern Europe is often very sweet and beautiful, growing from 6 feet to 12 feet high, and in April, when covered with myriads of white, almond-scented flowers, it is a great attraction to the bees. The celebrated honey of Mount Hymettus is said to obtain its delicious flavour from this plant, just as the Heather honey of Scotland and the north of England is valued for a similar reason. Our illustration is from a photograph taken by Mr. Geo. Farmer,



Erika mediterranea in the Botanic Gardens, Glasnevin, Dublin.

Hooker calls it *E. mediterranea* v. *hibernica*. According to Moore, in the "Cybele Hibernica," it is very local, being found on boggy mountain heaths near the coast line in Mayo and Galway, flowering in April. It was discovered at Urrisbeg by Dr. J. T. Mackay in 1830, and since that date it has been found in other places by various collectors, as on the western declivity of Urrisbeg Mountain, near Roundstone, Connemara; on Mweelrea Mountain, at the mouth of Killery Harbour, Co. Mayo; at Mulraun, opposite Achill Island; on the north side of Clew Bay, at Curraun Achill, and Burreishool Lake, all along Achill Sound on the shore of the mainland opposite Achill Island, and thence near the shore as far as the north end of the Carrowmore Lake, in Ennis, the plant here being a dwarf variety, with flowers of a deeper purple than in the Urrisbeg plant.

Both the Mediterranean and the Irish forms of this beautiful Heath are very hardy and long-lived on sandy peat or light boggy soils, and thrive best in sheltered places wherever Rhododendron, hardy Azaleas, Pernettyas, and other lime-hating plants of the

in May last, in the Royal Botanical Gardens at Glasnevin, near Dublin. F. W. E.

Honeysuckle not flowering.—Will you kindly tell me what would be the best thing to do with a Honeysuckle that for the last three years has not flowered, but is covered with blight? It is quite ten years old, and used to be a mass of bloom very early in the spring. It is trained up part of the house, S.E. aspect. We have manured the roots and syringed at times. Had we better cut it down? —AUGUS THOMSON.

[You had best thin it well out, laying in as much of the young wood as you can, and then syringe freely with paraffin-emulsion.]

Ceanothus rigidus.—The number of outdoor shrubs with blue flowers is very limited, being principally confined to the different kinds of *Ceanothus*, and as this is the first of the genus to unfold its blossoms, it is for this reason valuable. This *Ceanothus* is not so hardy as some of the others, but is well worth the protection of a wall. It forms a neat, freely-branched bush, thickly clothed with small deep green leaves, while the flowers are of a deep purple-blue. This *Ceanothus* is a native of California, from whence it was introduced in 1843. It is often employed for covering under the shape of neat

bushes profusely bloomed, and in this way is widely removed in general appearance from the whole of its associates. All the different species of *Ceanothus* are very pretty shrubs, while the numerous garden varieties claiming parentage from *C. azureus* and *C. americanus* yield several distinct shades of colour.

VEGETABLES.

EARLY CABBAGES.

Now is the time to think of the next spring supply if this useful vegetable is required in quantity. To get an early supply, the time of sowing in most cases should depend upon the district and the soils in which the Cabbages are grown. In late districts the last week in July is none too early to sow. The chief point is getting sturdy plants that will stand the winter. To obtain these I advise pricking out as soon as the plants are large enough to handle. I have often seen large breadths of this favourite spring vegetable with scarcely a plant left at the end of February. I do not see how it can be otherwise when the plants are left crowded in a small seed-bed till, perhaps, late in October before planting-out takes place. If, by chance, a mild winter should favour them, they invariably succumb to the fierce blasts of our March winds, which we rarely ever escape. I should, therefore, advise two sowings, one at this date and another two or three weeks later. I find that the seedlings are much better when pricked out on land that has been manured for a previous crop, as it given fresh manure the growth is too quick for the winter plants. For spring growing quick growth is necessary, as the plants only remain a short time on the ground; but it is different when a short sturdy growth is required. The ground, before pricking off, should also be made rather firm. I think the best plants for early spring use are the small kinds. I have observed that these suffer much less than the larger varieties, and in private places I consider a large, coarse Cabbage of no use. Many gardeners have their own special varieties, and I certainly advise them to keep to them when they have secured a good early kind. Of late years several good kinds have been sent out, but some of them are old favourites under new names. Still, a step in the right direction has taken place, many of the large coarse kinds grown a few years ago having been discarded for the small compact varieties. *Ellam's Dwarf Early* is a good kind for sowing at this date, followed by a later sowing, in three weeks, of the old true *Nonpareil*, thus forming a succession. An excellent Cabbage to succeed the *Nonpareil* is the *Early Dutch Drumhead*. This is handsome and productive, and one of the best of the early round-headed Cabbages. When strong, sturdy plants are secured for planting in their permanent quarters early in September in ground deeply dug and the plants thickly planted, say, 12 inches apart from plant to plant, and 2 feet in the rows—I advise 2 feet, as it allows plenty of soil to form a ridge for protection against east winds—every other plant may be used very early in spring, and thus allow the remaining ones room. I do not advise too much manure, but prefer it deeply dug in, so that the plants can obtain assistance from it at the time most required—namely, when starting into growth in early spring. If on the surface, it only excites a premature growth likely to be destroyed by the first frost that comes. W.

A good Broccoli.—Where a large and continuous supply of Broccoli has to be maintained, it behoves those responsible to select suitable varieties. There has been this past winter such weather that only the hardiest of Broccoli could survive the ordeal. There have been, it must be said, worse winters, and effects more disastrous than in the past one, but there has been a great thinning down of the beds which, without a goodly number of plants and an assortment of hardy varieties, would have told seriously on the daily demands. One that has proved itself absolutely the most hardy is *Continuity*. This has survived almost to a plant, and, while it possesses this great resisting power against frost and cold, it is perhaps the purest coloured of the *Broccoli*.

young state it is almost as white as an early Cauliflower, the curl very compact, and this well protected by foliage. Many Broccolis, when matured, expose the flower to every morning frost and sun ray, making them liable to damage from both. Not so *Continuity*. Its name is derived apparently from the continuous nature of its supply, which extends over a long period. This can be strongly recommended for May cutting, and, if seeds are sown by the end of the month of May, there will be ample time. My present stock was planted on an old Strawberry bed, where, naturally, the soil was firm, a point of much importance in winter Broccoli culture.—R.

GARDEN PESTS AND FRIENDS.

The spotted ladybird.—Enclosed are specimens of insect which appears to feed on the aphid infesting Apple and Plum-trees. Would you kindly tell me the name, and if I am right in supposing it preys on the aphides?—N. OSUDA.

[The insects you sent are the grubs of the common two-spotted ladybird (*Coccinella bipunctata*). They feed, as you imagine, on the aphides infesting your fruit-trees, and destroy large numbers of them. Ladybirds and their grubs are most useful insects in gardens, and should be encouraged in every way.—G. S. S.]

Geranium leaves, fungus on.—I am sending some leaves of Geranium which seem affected by a blight or insect, and also two Begonia leaves which may be suffering similarly. The Geraniums are very tall ones for a wall, and have been out three weeks.—M. N.

[Your Geranium and Begonia leaves are attacked by a fungus belonging to the genus *Cercospora*. Pick off the leaves that are badly attacked and then spray the plants with Bordeaux mixture, and see that there is due ventilation and that the plants are not kept too damp. The spraying should be done every week or ten days while the disease continues to spread.—G. S. S.]

Romneya leaves, insects on.—I shall be much obliged if you will kindly tell me what is the name of the insect on the Romneya leaves enclosed, and the best means of destroying it without injuring the plants? Last year every flower was spoiled by these caterpillars, and a spraying of weak insecticide did more damage to the buds than to the insects.—H. A.

[The caterpillars on your Romneya leaves are those of a small moth belonging to the family *Geometridae*, but I cannot give you their name more definitely, as they are apparently in such a juvenile condition. The most certain way of destroying the caterpillars is picking them off by hand, but it is a tedious process. Spraying with a weak insecticide should not do harm. It should be applied with a syringe with a spray nozzle, and should not be used when the plant is in flower unless the blooms can in some way be protected. Watch the plant in the spring, and kill any moths that you see flying about or settling on it. The chrysalides are probably formed in the soil, in which case it would be well to remove about 1½ inches of the soil in the winter.—G. S. S.]

Fungus on Strawberry leaves (John Hobbs).—The substance on your Strawberry leaves is a fungus, one of the "slime fungi," known as *Spumaria alba*. This fungus will not injure your plants in any way, though when it decays it may spoil some of the fruit. It appears to be very common this year. These fungi are very curious. At a certain period of their existence they are in a somewhat jelly-like condition, and are then able to crawl along the moist earth and up anything they may come across. The jelly-like mass then assumes the form in which you found it, and is then practically a mass of spores. These spores when they reach the ground after a time burst, and a little gelatinous body is produced, which has the power of movement on and in moist earth. Frequently many of these join together, and form the jelly-like mass already mentioned. Pick off and burn as many of the masses of fungus as you can find.—G. S. S.

Green-fly.—What is the origin of green-fly, and what are its various stages? I have a new greenhouse, and I find them on Roses which, apparently, were clean when planted.—YEWCLIFF.

[Green-fly, like all other insects, undergoes certain transformations, but some of these are not so well marked as in the case of most insects. The females lay eggs in the autumn, which hatch in the spring. The insects that are produced are all, or nearly all, females.

These do not lay eggs, but produce live young ones, and at a most astonishing rate. I have watched one give birth to three within an hour, and these, when three days old, will begin to breed at the same rate, so that, though your Rose was apparently clean when planted, if it had only one green-fly on it or one egg, it might soon become covered. During the spring and autumn many of the green-fly become winged, which is evidently a provision of nature to enable the aphides to found new colonies on other plants, so as to ensure the preservation of the species. As a rule, the true sexes do not appear until the autumn, when the females lay eggs, that, as before mentioned, do not hatch until the following spring.—G. S. S.]

Insects on Apple-trees.—Will you kindly tell me what species of insect pest this is on the enclosed Apple leaves? There were a brilliant show of blossom, and promise of a very heavy fruit crop, then came the late frosts and high east winds of May last, and those insects appeared. Tell me whether they or the weather are responsible for the destruction of the fruit? The brown, shrivelled flowers still adhere to the trees, but drop at a touch. Should the trees be treated in any way to prevent, if possible, a recurrence of these pests next year.—MAREL.

[The leaves of your Apple tree are infested with the Apple aphid (*Aphis mali*). The blossoms are so dead and shrivelled that I cannot say what has injured them, but I should think the weather was probably responsible for the mischief. I should, if the size and position of the tree will admit, pick off all the dead flowers and the leaves that have been much injured, and then spray the tree with a solution of paraffin emulsion. When the leaves fall, collect and burn them. In the course of the winter give the tree a good spraying with a caustic alkali wash. Aphides of various kinds seem unusually abundant this year, which seems strange, as one would have thought that the cold, wet spring would have been detrimental to them.—G. S. S.]

Mildew on Roses.—What is the cause? I have a Rose planted outside the greenhouse with one branch outside and one branch inside the house; the foliage is mildewed in both cases, but more so inside. The Rose-tree planted inside the same house does not suffer from mildew.—YEWCLIFF.

[The spores of the mildew are probably floating everywhere in the air and settling on everything. Wherever a spore finds itself in a congenial situation it germinates and begins to grow, and the more suitable its position and surroundings the faster it increases; the less healthy a plant is, like human beings, the more liable it is to be attacked by disease. The Rose in your house is evidently in a more healthy condition than the one outside, and the mildew finds that out, or, rather, the spores do not germinate on the healthier plant. From the fact that both the outside and inside branches of the outdoor plant are mildewed shows that either the soil or the atmosphere in the latter case does not suit the Rose so well as, the same circumstances indoors; but perhaps both are not of the same kind, and it should always be remembered that some kinds of Roses are more liable to be attacked by mildew than others.—G. S. S.]

Insects on Black Currant-bushes.—The enclosed shoots are off my Black Currant-bushes, which, having dropped all their fruit, are now losing their leaves as well. Will you be kind enough to say what is the matter with them? There has been a great deal of Black Currant disease in the neighbourhood, and this spring all the buds on these trees which were affected were pulled off and burnt. Is this a further development of it, or something else?—R. A. ALLISON.

[Your Black Currant bushes are attacked by one of the aphides, probably *Myzus ribis*. I was unable to find any live ones, as they had all been killed by the grubs of the Two-spotted Ladybird and the grubs of one of the "Horseradish flies" belonging to the genus *Syrphus*, of which there were several specimens among the shoots. The former are small black or slate-coloured insects spotted with yellow, and about 3-10 of an inch in length, and are very active; the latter are yellowish plump grubs about ½ inch long, tapering very much towards the tail. A sharp look-out should be kept for these aphides in the spring, and as soon as any of them are noticed the under sides of the leaves should be sprayed with a solution of paraffin emulsion or some other insecticide in which there is a certain amount of soft soap. If the aphides are allowed to curl up the leaves before the spraying takes place it will be impossible to make the insecticide reach them.

The only thing then to do is to pick off the leaves and burn them. In the course of the winter it would be well to spray the bushes with a caustic alkali wash. This pest has nothing to do with the "Currant gall mite," which is the cause of the swollen buds. — G. S. S.]

GARDEN WORK.

Conservatory.—The early-flowering Pelargoniums which have been ripened by exposure outside may now be cut down and the cuttings put in. They will strike outside on a coal-ash-bed, dibbled firmly into sandy soil round the sides of 5 inch pots. *Hydangea paniculata grandiflora* is now finely in bloom in 6-inch pots. After flowering the plants may be plunged or planted out. To keep the plants compact rather than hard pruning is necessary when the plants are lifted again in autumn. The plants should be brought on quietly, not forced much. The Scarborough Lily is one of the brightest and most useful of the Amaryllis family. Being an evergreen, it does not require drying completely off, but after growth is finished less water will be required. The best way of giving the rest which is needful to produce many flower spikes is to turn the plants out into a cold-frame, with the lights off after the first week, giving water enough to keep the foliage fresh and green. By the end of September the flower-spikes will be showing, when they may be taken indoors. When I first grew this plant many years ago it was commonly treated as a stove plant, but it does better under cool treatment, with a couple of months' exposure in summer. Cuttings of *Salvia grandiflora* rooted now, pinched twice to make them bushy, and grown cool, will make nice plants in 5-inch and 6-inch pots. The early-struck plants may be shifted on into 3-inch and 8-inch pots. Older plants which have been cut back and planted out in an open, sunny position will make very large specimens. Double white Primulas that were mulched with Cocoa-fibre or Moss will now be in condition for cutting up. Start them in small pots in equal parts of loam, peat, and leaf-mould, with plenty of sharp sand to keep the soil open and sweet. Place in a frame and keep close and shaded for a time till roots are forming, and water when dry only. The peat in the compost will help to retain moisture, and much watering only sours the soil. The *Stachys* are a very useful family now. *S. profusa* and *S. Holfordii* are two of the most useful; both will make good specimens and come in useful at the summer exhibitions when well done. *Trachelium coeruleum* is a useful blue-flowered umbelliferous plant, easily raised from seeds and cuttings.

Stove.—Ventilate this house with more freedom now to ripen growth. The nights and days are as warm as they are likely to be, and soft, warm air circulating among stove plants will have a beneficial effect. By way of experiment we have in years gone by turned various stove plants outside, especially such hard-wooded plants as *Gardenias*, *Franciscas*, etc., for a couple of months with considerable advantage as regards flowers the next winter, and this treatment has a hardening, cleansing effect. The stove *Hibiscuses* are benefited from an outing for a month. The *Eucharis* family flowers all the better for a rest in a lower temperature, but should not be dried off altogether, as it is a true evergreen. We have completed our stock of *Poinsettias*, and the earliest rooted plants are in a cool-pit, lightly shaded from the hot sun in the middle of the day, with a notch of air on at the back. This ensures sturdy growth, and the leaves under such treatment will not fall prematurely. Liquid-manure may be given to plants which have filled the pots with roots, but it should be in a clear, weak state. There are bright bugs among the Clerodendrons, such as *C. fallax* and *squamata*, which might be added to the collection with advantage.

Orchard-house.—Use the syringa freely now, and see that the roots of the trees, whether grown in pots or planted out, are kept moist. This is the time when the red-spider makes its appearance if a tree has received a check from any cause, or if there is a deficiency

of moisture anywhere. Liquid-manure may be given freely now to the late varieties. Early sorts, even where no fire has been used, will be ripe or ripening, and a deluge of water at such times will spoil the flavour. To obtain flavour there must also be very free ventilation night and day. The night ventilation will be less in quantity, but the circulation must be kept up. If the potted trees are at all crowded, it will be possible to take out late Plums and plunge them outside, and the trees from which the fruit has been gathered, such as the Early Rivers' Nectarine, will be better outside.

The Rose-house.—If I were now building a house for Roses, the roof should be movable, and should now be taken off and the plants exposed to ripen the wood. One does not want many Roses under glass when there is plenty outside; besides, the plants under glass should be resting now for the work in winter. All plants in pots should be plunged outside, but not forgotten or neglected.

Late Melons in frame.—Keep the growth thin, and if top-dressing is required, use yellow loam, and mix a little bone-meal with it. The loam should be adhesive, not sandy. To do Melons well they must have a firm root run. Should canker make its appearance, attack it at once with quicklime, changing it from time to time as required until the disease is killed. The nights have been cold lately, and mats are still used, but must be removed early in the morning, and a crack of air given along the back. Melons require less water when planted in heavy loam, but enough should be given for healthy growth, and a stimulant should be included when the fruits are swelling. Sprinkle every bright day when closing.

Window gardening.—Cuttings of most of the plants grown in windows will strike now outside in a shady place, except Pelargoniums, which seem to enjoy the sunshine. Use rather small pots and sandy soil made firm, with a layer of sand on the top. The principal reason why so many fail with Heaths and Azaleas is, they are forgotten and neglected after flowering. This is the time when extra care should be given, especially as regards watering and damping the foliage. The plants now are better outside, but should not be left altogether to the mercy of the wind, or dependent upon showers for the water supply.

Outdoor garden.—The hoe should be used freely among growing plants. If it should be necessary to water, stir up the surface next morning with the hoe. This will check evaporation. The best time to water is in the evening, between 5 o'clock and 8 o'clock. Mulch all strong-rooting things, such as Hollyhocks, Dahlias, and Phloxes, with manure. Moss-litter manure is suitable for mulching, as it lies close and is not so untidy looking as straw-litter. Give liquid-manure to Tea and other Roses growing on elevated beds and borders. One of the finest masses of Tea Roses I saw last season was growing on a sloping bank facing south. The ground had been well prepared, and the plants were well nourished. It is the preparation of the ground in the first place and giving proper surface nourishment afterwards when the buds are visible that bring success. There is a dearth of blossoms among shrubs now in the dry eastern counties, where the soil is not suitable for the *Rhododendron* family, but there are compensations in the Rambler Roses and Honeysuckles when planted freely. Peonies, too, are lovely, and all the hardy flowers thrive when properly treated; but there is no manure so suitable for a dry district as that from the cow and the pig. Iceland Poppies are making a brave show now.

Fruit garden.—Raspberries look promising, and will pay for a mulch of manure. There are insects on Red Currants, which should be promptly dealt with by pruning back and thinning the summer shoots, following up with a wash of soft-soap, 2 oz. or so to the gallon, applied somewhat forcibly with the syringe. Follow up the spraying of fruit-trees with an insecticide. There are suitable things for washes without using arsenic, though the latter is safe enough in careful hands; but a Petroleum of Quassia wash will answer the same purpose. This has been a peculiar sea-

son as regards the weather. For many weeks we were pierced through with the east wind; now we are being roasted with a tropical sun, which is drinking up all the moisture from the soil, and when mulch is not used, and the hoe remains idle, things—even hardy fruits—must fall, and they are falling in considerable numbers in some gardens. Summer pruning of wall and other trees which are more or less trained may begin now. Do the top of the trees first, and leave from four to five perfect leaves on the spur. Where Plums are much infested with insects the summer pruning will clear off many, and some of the curled leaves may be removed also. Try the effect of Tobacco-powder on those trees with curled foliage; it is more penetrating than a wash.

Vegetable garden.—As the early Potatoes are cleared off, give a dressing of soot and superphosphate. Hoe it in deeply, and the land will come in for Turnips, Celery, or Strawberries. In the case of Celery the top-dressing and hoeing may be omitted; but Celeries, which does not require trenches, may be planted on the top-dressed ground in rows 2 feet apart. There is generally a demand for Globe Artichokes at this season and later, and to ensure well-developed heads the plants must be well nourished. To make sure of useful heads all the summer always have young plants coming on, and feed them with rich mulchings and liquid-manure. Sow Radishes on the north side of a wall. These north borders will be valuable now if this hot weather continues for Caulflower and salad plants. It will be wise to sow a good brown Cos Lettuce now with the green-leaved kinds. The brown-leaved kinds are hardy and reliable. Tom Thumb Cabbage Lettuce is an old favourite with many. A sprinkling of nitrate of soda will help the Onion crop. If Mushroom-beds are made up now, they should occupy a position in a shady spot on the north side of a building or wall. Mulch Tomatoes, and keep the main stems trained and free from side growths. E. HOBDAV.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

July 21st.—Sowed Brown Cos and Tom Thumb Cabbage Lettuces. Shifted Cinerarias from the boxes where first pricked off to 3½-inch pots, the soil used being two-thirds best loam and one-third very old manure and sand. The pots were well drained. Thinned the young wood of Gooseberries and Red Currants to let in the sunshine. The bottom leaves of Tomatoes are thinned and shortened as the fruit colours, but plenty of foliage is left on to carry on the work of the plants. Sowed Eillam's Early Cabbage.

July 22nd.—The earliest Celery is being blanched with paper wrappings. This permits of water being given for some time longer. The final blanching will be done by earthing up, but the paper begins the forcing by excluding the light. We are busy securing Strawberry runners for forcing. Royal Sovereign is the favourite for early work. In addition to mulching Hollyhocks, Phloxes, Sweet Peas, and other things requiring it, as far as the supply of manure goes, liquid-manure is given.

July 23rd.—A little earth has been hoed down round Leeks planted in trenches, and liquid-manure is given occasionally. Hoeing and thinning Turnips. Late Peas have been mulched with good manure. We are now summer pruning wall-trees and espaliers, but not cutting very hard back. We want to let in air and sunshine without causing much late growth. In the case of trees which are making much growth upwards, the bottoms of the trees are left unpruned.

July 24th.—Removed the seed-pods from Canterbury Bells and Antirrhinums, both of which have been very bright in the borders. The last of the hard-wooded greenhouse plants have been placed outside. Scarborough Lilies have been placed in a cold-frame with the lights off. Cyclamens which are now in 5-inch pots are freely ventilated. On calm nights the lights are drawn off to harden and dwarf the

foliage. Made a last sowing of Bridesley and Horn Carrots.

July 23th.—Thinned the shoots of Dahlias, and, in addition to the central stake, four other stakes are placed round each plant to keep open and support the main shoots. Fruits of various kinds have been netted up to protect from birds, and a few bottles half filled with treacle and beer have been hung up on walls to attract stray wasps. Put in cuttings of choice Links under handlights in the shade.

July 24th.—A second look round has been given to choice dessert Pears to thin off a few more fruits where crowded. Butted a few standard Briers where the bark is ready. Faded flowers are removed from Roses frequently. The borders of conservatory in which climbers are growing are kept moist. Roses in pots which have done flowering have been plunged outside.

Wire hurdles for Peas.—The remarks of "Y." show both their advantages as well as their disadvantages, for it becomes patent to all gardeners that the wire hurdle possesses both. As "Y." says, the advantage comes in where Pea-sticks are difficult to procure, and which it often is near towns and in districts where there are no woods which have their undergrowth cut periodically. Even where there are woods there is often such a demand for Pea-sticks that the supply does not meet the demand. This, in fact, happened last year in my own case, and would each year, if a sufficient stock were not procured early in the season. There are an expense and a proportion of labour connected with sticks which are felt in spring time, but Peas seem to do better when they have stakes provided, and, though costly in the first instance, are useful after as firewood. The advantages of hurdles are that they will last almost a lifetime with careful use. They can be stored away when not in use in any dry place. It is better that they be kept dry, and, if possible, painted, as this not only gives them a better appearance, but prevents rust. They do not afford the Peas the same shelter and protection during early spring as do sticks, nor do they lend an aspect to the garden that can be claimed desirable; at the same time, where sticks are difficult to procure, these overcome the attendant worry once and for all.—W. S.

BIRDS.

Death of grey Parrot (E. Sic).—This bird died in a fit of epilepsy, to which Parrots are rather subject. This trouble is often brought about through the derangement of the digestive organs in consequence of unsuitable diet, while sudden alarm is a frequent cause in a bird predisposed to an attack. In his "Diseases of Cage Birds," Dr. Greene says the first thing to be done when a bird falls down in a fit of epilepsy is to put it in some soft, secure place where it will not injure itself during its convulsive struggles, but, if none be at hand, it is well to wrap it up in a towel and hold it carefully but firmly in the hand, care being taken to avoid the beak, as an epileptic Parrot may bite severely. Before the fit, and while the bird is in the preliminary stage of restlessness that often precedes the attack, a sedative may be administered with advantage, and impending fits may be diverted by a dose of from 1 grain to 5 grains of bromide of potassium, dissolved in a little syrup; and this may be continued once a day for a couple of days. Care must be taken to suitably regulate the diet, to see that the bird is not unnecessarily alarmed, and is not exposed to insidious surroundings.—S. S. G.

Canary ailing (Miss R. Grosvener).—The irritable condition of the skin, causing the bird to peck itself, may arise from indigestion or from the presence of insect parasites in the cage. You appear, however, to feed judiciously, although you may add a little Lettuce-see to the diet, this acting as a mild purgative helps to cool the system. You would also find a piece of cuttle-fish bone placed between the wires of the cage for the bird to peck at of great service in keeping it in health. A few drops of Parrish's chemical food daily in the drinking water would assist in the same way of

the feathers, as this excellent preparation contains all the elements necessary for the elaboration of new plumage. But you should first of all make sure that there are no insects in the cage. Should you find any indications of the presence of these pests, the cage must be scalded or baked, and then well painted internally with paraffin, while the bird should be dusted under the feathers with Pyrethrum-powder. A metal cage is much less liable to become infested by parasites than a wooden one. The presence of these pests may be ascertained if a white cloth be placed upon the cage at night and examined in the morning.—S. S. G.

LAW AND CUSTOM.

Giving up garden.—I am engaged at 15s. a week, with cottage and garden bound, but no contract for any particular notice to leave. I have received a month's notice to determine my service. My garden is well planted. When I leave, on the determination of my service, can I claim for the produce?—J. B.

[It is very doubtful whether you can claim under the Allotments and Cottage Gardens Compensation for Crops Act any compensation for the crops growing in your garden, but you may claim compensation for the labour of planting and for the cost of the seed, etc., and, if I were you, I should apply to the justices to determine the compensation under the above Act if your employer refuses to give you any.—K. C. T.]

CORRESPONDENCE.

Questions.—Queries and answers are inserted in **GARDENING** free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of **GARDENING**, 17, Furnival Street, Holborn, London, E.C. Letters on business should be sent to the Publisher. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as **GARDENING** has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received many queries on this subject, but we are sorry to find that in many cases no trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Woodlice (Anziano).—Woodlice generally are found at the base of a wall or in other positions, and may be killed by pouring boiling water over them. They may also be trapped by laying bricks, tiles, or pieces of slate or boards near their haunts, which they will creep under and may then be destroyed.

Rose Dr. Rouges (Anon).—Many prefer this Rose to the ideal. Certainly the fine branches shown at the Temple recently were of a most attractive colour—rich red, shaded with copper-yellow. The form is quaint, sometimes pointed like a Cactus Dahlia. This Rose is well known as a half-climber, and, of course, succeeds well as a standard, as do all these half-climbers.

Raising Hardy Cyclamens (H. T.).—These are best raised from seed sown as soon as the seed is ripe in well drained pots or pans of light soil. Cover the soil after sowing with a little Moss to ensure uniform dampness, and place in a frame. As soon as the seedlings begin to appear gradually remove the Moss. When the first leaf is developed they should be transplanted about 1 inch apart to seed pans filled with light, rich soil, and encouraged to grow as long as possible, giving the shelter of a cold-frame, but always allowing abundance of air. When the leaves have fallen in the following summer they may be planted out or potted, as the case may be.

Zonal Pelargonium for winter (B. C. R.).—If you have any old plants of Vesuvius that have been recently cut back they will give the best results; failing these, good strong young plants will do. Repot them out once into 5-inch or 6-inch pots in good loamy soil, and when started into growth again plunge them out-of-doors in ash in a very sunny place. Give water moderately, and pick off all flower-buds as soon as they can be seen up to the end of September. Early in October (sooner if cold weather) take them indoors, and if placed in a sunny window of a warm room and freely watered with a little liquid-manure now and then they will bloom well for some time.

Planting Roses (Over 20 Years' Subscriber, Belfast).—The Roses may be planted as near the wall as you choose without, of course, disturbing the footings in any way. The item is not important in itself so long as the plants are trained against the wall. They are better than if a current of air be permitted along the back. You may, therefore, drive your wooden plugs nearly home, and with every advantage to the plants, so long as sufficient room is left for tying. In your selection of Roses for the

house, *Niphetos* is good and *Maréchal Niel* unique, though we would plant *Pere de Mars* in preference where a long supply is required. For your last one, *Reine Marie Henriette*, we should substitute *Bridesmaid*, an exquisitely-formed Rose, and beautiful in every way.

Rose Pink Roamer (F. L.).—This pretty Rose about which you inquire, is well named. It is indeed a roamer, making rapid growth in a season, and when planted so that it can run over roots and branches of dead trees, the lovely mass of blossom has no equal among Rambler Roses. The flowers are perfectly single, and of an intense crimson-pink in the younger stage, changing to paler pink, with clear white centre, as they develop. It possesses the true Dog Rose fragrance, but is not so powerfully endowed with scent as its rival, *Wichuriana rubra*. This latter is a Rose worth possessing. It has the light green foliage of *Crimson Rambler*, to which it owes its existence, the trusses of single flowers much resembling *Pink Roamer*, albeit, the Violet-like fragrance is almost as powerful as in the white *Banksian*.

Treatment of Fancy Pelargoniums (E. S.).—These plants, as they are now going out of flower, should be set out-of-doors for a rather less supply of water than usual, and should have a rather dry them off. In about a fortnight after being put in the open air they may be cut back, leaving three or four eyes beyond the old wood. Place them in a frame with plenty of air on, and keep just moist at the roots until they begin to grow freely, and when the young shoots are about 2 inches long they should be shaken out of the old soil and be repotted into small pots as the roots can be got into. Use a rather light, loamy compost, and put them again in the frame, keeping it close and slightly shaded from hot sun until the plants are rooting freely, when they may have all the sun and plenty of air.

Management of a Fern-case (C.).—One of the most important points to attend to is to secure in the first place thoroughly efficient drainage. To effect this place over the bottom of the case some 3 inches of crock broken brick, or any such material, on a layer of broken brick, for the purpose. On this drainage put some pieces of turf peat, so that the finer particles of the soil cannot well mingle with it. The compost itself should be the best peat, adding to it plenty of silver-sand and some fragments of sandstone or some clean pebbles. The soil, not being exposed to the influence of the exterior atmosphere, there will be no need for frequent waterings and which should at no time be of a heavy nature. The box of the case should be opened for an hour or two in the morning to allow of the air there being changed.

Plants for sunless windows (A. R. J.).—Ferns, Mosses, and other fine foliage plants will grow in the north windows, or, to come to details, try the following:—Ferns: *Asplenium marinum*, *Oxyria*, *Filix-mas cristata*, *Polystichum angulare cristatum*, *Scopolopodium vulgare multifidum*, *Adiantum pedatum*, *Cyrtium falcatum*, *Mosses: Selaginella Kraussiana*, *Grass: Isoplepis gracilis*, *Finch-leaved plants: Cyperus alternifolius*, *Bracea indivisa*, *Fartugium grande*, *Ficus elastica*, *Grevillea robusta*, *Coprosma Baueriana*, *Abutilon Thompsonii*. Many of the dwarfier forms of Cacti will do if kept dry, and moved into the sunshine for a month or two in the year to ripen their growth. All the *Mimulus* family will flower in the north windows, including *Harriet's Musk*.

Rose La France with hard buds (Miss Paris-shire).—We fear the main cause of the buds on this Rose failing to expand is owing to the plants being excessively manured, which has caused a very gross growth. *La France* expands very indifferently in the early summer, especially if we have a cold June, such as this year, and the artificial manure would tend rather to aggravate matters, for it merely enlarges what at all times is a very double Rose. We presume you are sure the variety is *La France*. There is a Rose which much resembles it, named *Danmark*, that is most hard to open, but this one has a different habit from that of *La France*, being produced by stiff stems, and the buds are borne more erect than those of *La France*. If the buds still show no signs of opening, we should advise you to cut all off and prune the growth back to the first promising wood bud. The second blossoms rarely give any trouble in expanding freely.

TREES AND SHRUBS.

Growth on Lime-tree leaves (A. Greening).—The growth on the leaves of your Lime-tree are galls, commonly known as *Nail galls*. They are formed by a very small mite (*Phytopus tilie*). The best way to destroy this pest is to gather the infested leaves and burn them.

Failure of Acacias (J. G. K.).—The Rose *Azalea* propagated both by grafting and budding, and there is no apparent reason why your grafts have all failed. As they have done so, your better way will be to bud the stocks, which the present rain should make ready for working. Cleift-grafting is the method generally followed for the increase of this *Rubus*.

Hardy Azaleas (A. Z.).—The hardy *Ghent* or *Japanese Azaleas* will do well out-of-doors planted in beds of peat or other good turfy soil. They may be lifted and potted for forcing in autumn. They do not require much pruning, though a straggling shoot may be removed when necessary. They will spring from cuttings of half-ripened wood; but they are best increased by layering.

FRUIT.

Strawberries failing (Strawberry).—The frost in May did incalculable damage in many gardens, and it had not appeared to have crippled the fruit where it did not destroy it altogether, and it is as a result become misshapen, and did not swell up properly. From the appearance of the leaves sent, your plants seem to have been attacked by mildew. Keep the plants clean, and they will probably do well next year. It is possible that they may be dry at the roots? If so, this would cause the fruits to fall to swell.

Summer-pruning Currants (C. J.).—This, although a good practice if judiciously, is liable to do more harm than good if carried to excess. The effect of cutting off nearly all the growth, as we have sometimes seen done, is anything but beneficial to the bushes. It would strongly advise, however, the stopping of the shoots early on trees trained on walls, as if this is left too long

the lower leaves drop off, and without good foliage the fruit never ripens well. On open banks in the open country...

Management of fruit-trees, etc. (Amateur Grower).—From the appearance of the leaves seen it is evident that the trees are swarming with fly (aphides), and for this they should be well and frequently washed...

Figs falling (A. Martyn).—Fig-trees only ripen their fruit in the open air when planted close to a warm south wall, and to the branches called in thinning so as to allow...

Treatment of a Peach-tree (E.).—It would be a good plan to give a thoroughly good soaking of water to the roots of the Peach-tree. Some weak, clear manure-water...

Treatment of Vines (V.).—The Vines should have been "dabbed" soon after they broke into leaf, in accordance with instructions frequently given in GARDENING ILLUSTRATED.

VEGETABLES.

Late-sown Parsley (V. A.).—Yes, where large quantities of Parsley are required at this season it is a good plan to make a late sowing...

Nitrate of soda for Asparagus (E. M. M.).—About 5 oz. of this is sufficient as a dressing to each square yard for Asparagus-beds, spread evenly and in a thin powdered state.

SHORT REPLIES.

G. Dutton.—The only thing you can do is to put your birds (so often mentioned in these pages) round the stem of the tree early in October. Pick off all the ripened fruit and burn it.—F. J. S.—You ought to put screens in the house now, and if opening too quickly for winter purpose, shade them.

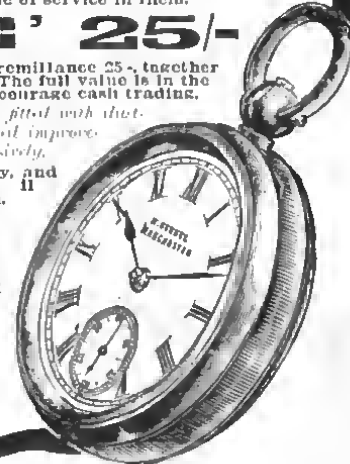
uncommon. We have it at present in bloom in a London garden, and have had it sent for name on several occasions lately.—Dora H. Lunt.—Certainly not. A shallow rooting annual will do no harm, but strong rooting plants will cripple the Vines.—E. W.—Cut away all the young canes, leaving only five or six of the very strongest to produce the crop next year.—D. Shubbrook.—See reply to "E. A. R. W." re "Rising Rhododendrons from seed," in our issue of June 21, p. 219. Yes, it is honest, but you ought to get it analysed.

NAMES OF PLANTS AND FRUITS.

Any communications respecting plants or fruits sent to name should always accompany the parcel, which should be addressed to the Editor of GARDENING ILLUSTRATED, 17, Furnival Street, Holborn, London, E.C.

Names of plants. G. H. C.—Rose fallen to pieces. Rev. R. Stowell.—Kindly send again, and mix a number in each specimen. See our notices to correspondents.—L. H. R.—3, Philadelphus grandiflorus; 2, Philadelphus coronarius.—Huetulius.—We cannot undertake to name Roses, being unable to compare them in any way.—M. Harker.—We cannot name florist's flowers.—Janice Lower.—1, Habena bifida; 2, Habena viridis; 3, Ophrys aquile; 4, Ophrys maculata var.; 5, Histeria orata; 6, Ophrys pinnatifida; 7, Ophrys coarctata; 8, Not recognised, too small; may be a form of No. 4.—Jimmy Pip.—1, Ribus odoratus; 2, Delastria scutellaria; 1 and 2, Spiraea sorbifolia; 3, Thalictrum lucidum, probably. It is not possible accurately to name such things without foliage.—Tie.—Raphiolepis japonica (ovata).—Delta.—3, Anthericum Liliastrium.—F. L. Smith.—1, Campanula Medium; 2, Specimen insufficient; 3, Delphinium Belladonna; 4, Aquilegia canadensis, poor form.—Jack.—1, Schizanthus retusa var.; 2 and 3, We cannot undertake to name Roses.—A. E. G.—Masterwort (Astrantia major).—A. Lover of Roses.—We cannot undertake to name Roses.—C. J.—Polemonium Richardsonii.—Mrs. R. Eversley Jones.—1, Lychnis Viscaria fl. pl.—B. and S.—1, Linnaea borealis.—Barkham.—The Ramanas Rose (Rosa rugosa).—R. V. S.—1, Taxodium sempervirens; 2, Veronica longifolia subscissilis; 3 and 4, Forms of the Evergreen Oak (Quercus ilex).—W. Thos. Colson.—A. A. of the Peruvian Lily (Alstromeria). It is unfair to send only single pups without any foliage when you want us to name plants.—Fennel Piper.—1, Quite dried up; 2, Sidalcea candida; 3, Inula glandulosa; 4, Comanthus sp.—no flower remained. Your specimens with numbers rolled and tied up give much unnecessary trouble.—A. G. J. W.—So far as we can determine, the specimens belong to the "Star of Bethlehem," or Ornithogalum, a very extensive genus of hardy and hull-hardy bulbous plants, some of the hardy kinds being of a very weedy nature. It has certainly nothing to do with Asparagus, and we would not care to partake of such doubtful food.—Puzzled.—1, Wall Pellitory (Parietaria officinalis).—Lupitree.—1, Should like to see specimen with complete flowers; 2, Cephalaria tatarica.—A. B. N.—1, Geranium steircicum; 2, Geranium arvense; 3, Cephalaria tatarica; 4, Veronica longifolia subscissilis.—Miss Burr.—We cannot undertake to name Roses.—G. M. S.—1, Campanula capitata alba; 2, Ornithogalum pyramidale; 3, Aconitum ochroleucum; 4, Sedum pulchellum.—J. L. Reid.—Evidently Campanula persicifolia fl. pl., but hard to say from a single crushed bloom as you send.

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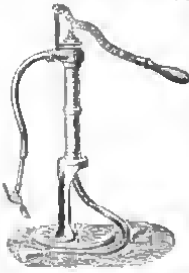
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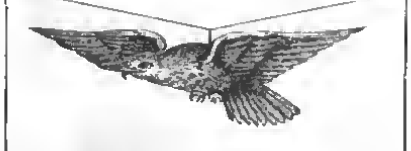
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JULY 26, 1902.

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FRUIT.

STRAWBERRY TIME.

It is the time of flowering, Strawberries in field and garden in this neighbourhood promised well—at any rate, young plantations. The successive frosts occurring then had a most depressing effect on all concerned, and the prospect seemed to have suddenly dropped from a high standard to that of very low degree. In early districts, and where there was no shelter, no doubt a great proportion of the forward flowers, open and on the point of expanding, were destroyed. Despite the untoward weather, however, it is surprising how well and how bounteous is the Strawberry crop. Large fruits, it is true, are in the early crops wanting, but, all the same, there is a very fair sample to be gathered. Royal Sovereign has become the universal favourite, taking the once-honoured place of St. Joseph Paxton. This with some still claims some favourable notice, though to a much less degree than, say, five years ago. The same may be said of Vicomtesse H. de Thury, President, and Noble, once such standard sorts. Royal Sovereign is a bright-coloured, good-flavoured sort that has come to stay—until, at any rate, the newer Laxton supplants it, which will require some years to effect. Leader, in my case, takes precedence over Royal Sovereign because of its freer cropping powers and earliness. This is not the experience of growers generally, but in isolated instances it is true, nevertheless. Much finer fruits of brighter colour and greater weight of crop are the attributes of Leader, when compared with Sovereign in this garden. It may not be so in my neighbour's case two miles away, but it would seem that Royal Sovereign has such firm hold on the grower and purchaser that one is grown because the other remains unproved. No one who sees them fails to admire the sample of Leader gathered here in a normal year, nor would there be any doubt about their marketable value pitted one against the other on equal terms, yet, for all this, Sovereign still holds the place of honour, and seems likely to do so for some time to come. There have been a great many varieties sent out by Strawberry specialists and raisers, and planted only to be cleared out after their first year's trial, not always, perhaps, because of inferior merit as a variety, but simply because in some constitutional degree they are not suited to the soil or neighbourhood. Time was when a great many varieties shared space now monopolised by Royal Sovereign, and despite the fact that there are almost, or quite, one hundred recognised sorts in cultivation, Royal Sovereign, though of so recent introduction, in some degree crushes a great proportion of them out of existence. There would seem to have been no other kind at any period that has taken so firm a hold on the English growing public as this one. In Scotland it may not be such a success, soil and climate having an influence on the ripening berries, which prevent their

proper maturity. No Strawberry can withstand continuous rain or soddened soil without loss from premature decay when they are allowed to rot on a straw bed, and Royal Sovereign, though such a favourite southwards, does not hold the same position, I am told, in the moister climate of Scotland. Next to those already named, Fillbasket would appear to be the favourite. This certainly is correctly named, for its cropping powers are extraordinary, and the vigour of the plant a strong point in its favour. Mentmore, another good variety, has the failing of being very thin and sparse of foliage. The old-fashioned plan of laying nets on the beds as a protection to the fruit against birds would in this case be useless. The leaves are so thinly disposed that they afford no shelter to the fruit, and the weight of a net bears them to the ground. Nets are always better supported on strong string or light rope, and carried clear of the plants, but it is particularly necessary in thin-leaved kinds, such as Mentmore. Trafalgar is under trial, but as yet not sufficiently proved to venture an opinion. Though Sovereign has a probable rival in the Laxton, needing only time to gain its position, the older Latest of All still holds its own as a large-fruited and later variety. Certainly it is not without its faults, but in some soils, at any rate, it is excellent. Two Strawberries largely grown in Scotland, Aberdeen Favourite and Eliza Rivers, both in my case promising well for late gathering, are as yet some time behind all others, even Latest of All.

Trounbridge, Wills.

NOTES AND REPLIES.

Planting Strawberries.—I am going to make a bed of Strawberry Royal Sovereign. Will you kindly let me know the distance I should keep them apart, and what would be the best manure and soil to plant them in?—G. WATTS.

[For growing Strawberries it is always best to choose soil that is inclined to be heavy than otherwise, but it should be well drained. Light soils may be made more suitable for Strawberry growing by the addition of loam of a heavy texture or road sidings. This should be well dug in and thoroughly incorporated with the staple. Such a dressing is better than applying quantities of manure. Heavy soils, on the other hand, are greatly benefited by being well manured, and the manure should be thoroughly decomposed. In choosing a site for a Strawberry plantation ignore low, damp situations, for although the Strawberries may succeed in a dry season, they would in a wet time fall a prey to mildew, and the fruit would rot. The digging done, matters may be left alone until the plants are ready for setting out, and then the soil should be made quite firm by trampling it evenly all over previous to planting. This will make a good firm bed for the plants to root into, and it will also in a great measure prevent the plants being thrown out or lifted by frost during the winter months. Some few hours before planting, the young plants should be well watered, and it is also a good plan to water them home directly the planting is completed. A trowel should be employed for setting out the plants and pegged-down runners.

and the soil must be made very firm about them. On light soils a mulch of spent Mushroom-manure or suchlike material spread round about the fresh set-out plants is of great assistance in preventing them drying quickly and needing so much water. On heavy soils, which naturally retain more moisture, mulching is not so essential. The usual distance for planting Strawberries is 2 feet between the rows for gardens and 3 feet for field culture, and the plants may be set out 18 inches apart. If planted closer than this every other plant would have to be lifted the second season.]

Peach Amsden June in cold-house.

—In gardens where there is no glass accommodation for forcing Peaches, or where there is a lot of cold-house or wall space devoted to Peaches, the early kinds can be recommended, as frequently there is a glut in the mid-season. But if room is given to the best of these early kinds, then fairly good fruit may be had from June till October, and this without the expense of fire-heat. Were I asked if I considered any of these early kinds good flavoured, my answer is they are not, compared with such as Noblesse, Diamond, and others of this type; nor can this be expected when it is taken into consideration the short space of time they take from the blooming to the ripening. Out of them all I consider the one above named the best, and when grown in a sunny position and the tree vigorous there is not much to complain of, either in size or colour. I have a tree 12 years old in a cold Peach-house (which is not one of the best constructed houses), and I generally can obtain the first dish during the last few days in June. This keeps me going till Hale's Early comes in. This is followed by Acton Scott and other old proved kinds. The tree with me is a good grower and fruits freely. It is not liable to bud dropping, which cannot be said of some others. When exposed to the sun the colour is good.—J. CROOK.

Renovating a garden.—I have been asked to plan out a fruit garden in Fife-shire, and would be obliged if any of your readers would help me. The place has been very neglected for many years, and overgrown with weeds. I thought of having it dug up and manured now, so as to make use of the ground as soon as possible. I am, however, told this would be a mistake and labour lost, and better left it be until October, when it would be easier to trench. There is an immense number of Red Currant-bushes, some 7 feet high. Would it be possible to cut them down now to about 4 feet? The bushes look healthy, but have hardly any fruit. Even if I cannot cut them hard back now, could I thin out some of the dried-up looking branches? Can I shorten new shoots at once, or after the fruit ripens?—FIFE-SHIRE.

[In so northern a district as yours we think the advice given you to have the garden overgrown with weeds dug up at once is best. You can begin by cutting down all weeds as close to the ground as you can, allowing them to partially dry, then burning them. Also cut down your overgrown Red Currant-bushes to a few strong young shoots at once. Then, if you can get the labour now—and all depends on that—have the entire area well trenched, burying the weeds and 4 inches of the top soil. The weed rubbish would then soon decay. Your best course would be to plant any description of winter greens, and keep the ground between them well hoed. In November you could plant fruit-trees and bushes

where needed, pulling up any winter greens if in the way. In any case you would both get some winter crop and keep the ground clean. In the spring give a dressing of manure, and plant early Potatoes between the trees; that would clean the ground thoroughly.]

PLANTS AND FLOWERS.

ROSES.

ROSES IN POTS.

WHEN a batch of plants has once been used for early forcing they naturally come to hand better for the same purpose another time, because the earliness of their growth allows of a corresponding earliness in ripening. Plants that were grown in heat all through the winter and early spring should be standing out-of-doors now, especially if a sheltered position can be afforded them. During the two or three months they are in the open it is necessary to be particularly careful as regards watering. If given too free a supply, growth will not cease in the gradual manner so essential in building up ripened wood for the following winter's forcing. On the other hand, almost as much harm may accrue from a little neglect, it taking but a short time for the soil to become so parched as to ruin a large number of the Rose roots. They may be allowed to get dry without being sufficiently so to show the effects, and it will be found much better to give a thorough soaking occasionally. It is advisable to have the pots about half plunged, and if this can be arranged upon a concrete bottom, so as to avoid worms, it will be still better. Standing the pots upon pieces of slate is not to be recommended, for a very little soil washed to the bottom will cause a stoppage. Worms, etc., may be kept out by sprinkling a layer of soot over the ground and standing the pots upon this. By partially plunging the pots, we avoid that sudden and injurious drought which comes on so unexpectedly after a few hours of dull weather, and as the most important roots of pot Roses are usually in the lower half, it behoves us to take due care of them.

IN THE TIME OF ROSES.

THERE is no period in the whole year so attractive as June—the time of Roses. Our collection may number hundreds of choice sorts, or, on the other hand, we may have perforce to be content with a few; but however well stocked our garden may be, if we really love Roses we cannot fail to display an eagerness in their welfare, and watch for the opening of the earliest blooms. It is a question whether any other subject responds to generous treatment so liberally as does the Rose, and in a similar degree it is one of the first to show signs of neglect; moreover, it often tries one's patience. Take, as an example of this, the experience of the past spring. One knows only too well, after the cutting back at the end of March and April our May weather was anything but mild and genial. Here, as I write, I am reminded that on May 15th we were visited by a snow-storm, with north-east winds for days that starved and almost completely killed some of the tender Teas, so that blooms this season are, generally speaking, backward; but, after all, Roses have wonderfully recuperative powers, and early in June it was delightful to notice that many of our old favourites, though somewhat behind, were little the worse for their experience of wintry weather in May.

When one comes to consider the all-round use of the Rose one cannot be surprised that it continues to be so popular, nor can one wonder that each year "new hands" in Rose growing are added. One cannot say of it that it is a town flower, because its liking for purity of atmosphere is so well known, but it is a fact that, nevertheless, some varieties give not a little satisfaction in places where one would hardly expect them. Three such are Crimson Rambler, William Allen Richardson, and Gloire de Dijon; but, given space away from smoke, how liberally the Rose responds. Whilst the Hybrid Perpetuals still retain with a considerable number their popularity, and will doubtless continue to do so, one

cannot shut one's eyes to the fact that the Hybrid Teas are fast gaining ground amongst growers, mainly, I think, owing to the continuous blooming propensities of some of them, and the lovely varieties which this class contains. Take, for instance, the following well-known sorts: Viscontess Folkestone, Mrs. W. J. Grant, Liberty, Kaiserin Augusta Victoria, Grace Darling, Clara Watson, Bessie Brown, Augustine Guinoiseau, Lady Mary Fitzwilliam, La France, Papa Gontier, Souv. de President Carnot. The Hybrid Sweet Briers are steadily gaining in favour, and the delicate flowers and deliciously scented foliage should commend them to all who are interested in Roses. In

PLANTING Roses, one should bear in mind the late-blooming qualities of many of our Teas and Hybrids, and with this end in view every collection should include Mme. Lambert, Hon. Edith Gifford, Safrano, Marie d'Orleans, Belle

Mme. Isaac Periere, that remain with us until late in autumn.

I have a friend who for many weeks during the past winter trudged in all weathers to his garden away from home to look after his Roses, some of them being newly planted and needing extra care in consequence of their late arrival. His beds of Teas were in November mulched with manure, and subsequently had a littering of straw amongst them, which shielded the plants during the cold periods in April and May. It was due to this attention that only an odd one or two succumbed; hence it is that now, as I write, his W. A. Richardson, Maman Cochet, La France, Réve d'Or, L'Idéal, and the rest of his favourites give promise, by their healthy buds and foliage, of a glorious display.

No, the Queen of Flowers will brook no neglect, and if we would have her in perfection in June, she claims our attention even when no



Tea Rose Niphetos in a pot.

Lyonnaise, Enchantress, Mme. Hosto, and Caroline Testout. As has already been remarked, Roses quickly show carelessness and inattention. Most of us have found this out at one time or another, in climbers or on house walls, but, on the other hand, the grower who evinces an interest in his plants the year round is the one who obtains the most satisfaction. Consider for a moment, too, the all-round fitness of Roses. Is it a wall, a porch, an arch, or an arbour one wishes to festoon, a bed or border one is desirous of beautifying? Then we may have varieties for each position, lovely buds peering out of leaves frail and tender, delicate clusters nestling under house eaves and around doorways, huge bushes like the Ayrshires, Polyantha Roses, of which Crimson Rambler and Aglaia are examples, China Roses of dwarfier growth, with fairy-like blossoms, single Roses, as Carmine Pillar, Bardou Job, a most charming class, and Bourbons, represented by Souvenir de Madame Paul, Purity, Mrs. Paul, Lorna Doone, and

tokens of blossoms are to be seen, and in proportion as we devote time and labour to her cultivation, so will our gardens be enhanced by her beauty. After all, it is the same old story. Dean Hole is right, for

"He who would have beautiful Roses in his garden,
Must have beautiful Roses in his heart."

LEAHUEST.

ROSES IN A HERTFORDSHIRE GARDEN.

TO THE EDITOR OF "GARDENING ILLUSTRATED."

SIR,—In the issue of June 25 "Rosa" expresses regret that this year he has only heard of Roses being in fine bloom in Devonshire, and that elsewhere only Scotch Roses, Rugosa, and Austrian Briers were fit to cut, so I feel inclined to say a word for the good Rose soil of Hertfordshire, and a word, too, for the cultivation of Roses in my quaint cottage garden. At this moment (July 2, only three days later than the letter referred to) the garden is simply a bower of Roses, and I must

try and describe them, and also the manner of arranging them, which is very successful. On the verandah of my house Reine Marie Henriette and Gloire de Dijon give us two colours that blend beautifully. In the drawing-room, which I have just decorated, a high old English table holds specimen glasses with fine blooms of pink Maman Cochet, La France, and Mme. Abel Chatenay. On a low, round table an Italian 15th century glass bowl shows perfectly shaped Kaiserin Augusta and white Maman Cochet. In a green bit of pottery, with a high arched handle, some well-coloured blooms of William Allen Richardson form a delicious background to a large oriental bowl full of Mme. de Watteville, with the mother of pearl delicate petals standing out strong and full to show the lovely tinted centre. On an old Italian stand in the window I have a white and gold miniature cradle with a glass lining, in which I have placed those perforated china holders that support flowers erect, where necessary, and have filled it with Mme. Lambert, Rainbow, and Dr. Rouges, supported on either side with large, brilliant blooms of Captain Hayward. One more gem still—a large Leeds bowl holds a vase full of Marie van Houtte. As I sit looking out on my garden my eyes turn to my pergola, and there the shining Carmine Pillar, Climbing Mme. Bizard, Austrian Brier, Gruss an Teplitz, and Gloire de Dijon, interspersed with Ikonysuckle and Sweet Brier Penzance Roses, rejoice my heart. I left a long border of Roses unpruned, and have been richly rewarded by such a show of bloom as I have never had before. I wanted for once to see if they would grow as they do in Bordighera, and I am revelling in the result. I think the desire to grow immense blooms for exhibition causes Roses to be pruned very hard and then ruthlessly disbudded, so as to produce one or two enormous blooms. It may be well for florists to do this in the hope of getting prizes, but surely it is most inartistic. A Rose-bush never looks so beautiful as when it is growing luxuriantly in a suitably chosen position, well nurtured, well opened out to light and air, and producing blossoms that may not be perhaps so enormous as those in exhibition boxes in a Rose show, yet large and sweet enough to fill a Rose lover's heart with delight.

LEILA.

NOTES AND REPLIES.

Rose Niphetos.—I have a Niphetos Rose here in the greenhouse. Should I pot it outside after flowering?

—(The ought to encourage new growth as much as possible by frequent syringing and a somewhat close atmosphere. Towards autumn endeavour to ripen the wood by partially withholding water and standing the plant outdoors until October. See article and cut of Rose Niphetos in a pot.)

Rose Gruss an Teplitz.—I planted out a bush of this Rose in the spring of last year, and it did splendidly. This year, however, it has not flowered, although making rampant growth. Ought I to do anything to arrest this and induce flowering? A bush of this Rose, planted out last November, is blooming well.—G. M.

[This Rose is really a half-climber, and produces its fine trusses of bloom at the ends of the strong growths. The plant you set out last year has now become well established, and in consequence is growing vigorously. These growths will flower, although somewhat later than those upon plants put out this spring. You will find it a good plan to loosely tie the long shoots to sticks for a season or two. When the growths produce laterals, then you will obtain many trusses of blossom on each growth, but we should not advise you to interfere with them now beyond tying as described.]

Budding Roses.—Will you kindly state what sorts are suitable to bud on to other classes?—i.e., will H.P.'s do if budded on Teas, and vice versa? Or Teas on Crimson Rambler? Or must one type be budded only on to another variety of same type? What is suitable for budding Penzance and Austrian Briers on to?—EUDINO ANITA.

[There is little advantage, if any, in budding Roses upon cultivated tribes. For instance, it would be unwise to bud H.P.'s upon Tea Roses, for the simple reason that the stock would be liable to suffer from frost. This is why some cannot grow Roses on the Manetti, this being rather tender. There are various species that could well be employed for stocks with considerable advantage. Many use Rosa polyantha as a stock, and it is first-rate if the plants are not transplanted from where budded. Strong growths of this planted deeply may be budded in the stem, and quite free-headed

half-standards are the result. The de la Grifferaie stock is also good for many of the strong-growing Roses of the Gloire de Dijon race, but for all general purposes no stock can surpass the Brier, either seedling, cutting, or standard. Crimson Rambler would make a good stock, as it roots so freely from cuttings. So also would some of the hardy Ayrshire and Evergreen Roses. Maréchal Niel and Cloth of Gold are often most successfully grown upon the yellow Banksian Rose, but in this case the latter must be well established. I have much faith in double budding some of our difficult to grow Roses, as fruit-growers do with their Pears. I once obtained a fine plant of Cloth of Gold by budding it upon a Chesbunt Hybrid, which was budded on the de la Grifferaie stock. Tea Roses would do well on Crimson Rambler, but they should not be transplanted. If you desire to bud the Penzance Briers, the Manetti is the best stock, but most of them strike freely from cuttings, and this is better in the end than budding. Austrian Briers must be budded on Manetti or Brier-stock.]

FERNS.

THE OAK FERN (POLYPODIUM DRYOPTERIS).

Of the four native species of Polypodies with deciduous foliage, the Polypodium Dryopteris,

cool, sheltered, moist places where the temperature is subjected to very little variation during the summer. In planting the Oak Fern, a spot where moisture and shade can always be depended upon should, if possible, be selected, and a shallow bed made of a compost of two parts of fibrous peat, one part of leaf-mould, and a free admixture of silver-sand, or, better still, of broken sandstone. If grown in pots for a cool frame or the greenhouse, where it makes a most pleasing object, as in the illustration herewith, the above mixture will be found equally suitable; but in either case avoid putting in too much soil; a depth of from 3 inches to 4 inches is quite sufficient. It is also indispensable that thorough drainage should be secured, for, although the growing plant delights in an abundant supply of water, yet water remaining about its roots is very injurious to it. In planting, great care must also be taken to prevent the rhizomes being buried too deeply, in which case they seldom grow; they must be only just below the surface of the soil, which should only cover them lightly, and through which it is advisable to let the tips protrude. After the planting, a moderate watering must follow, after which the soil requires to be kept constantly moist until the new fronds begin to unfold, when, as they increase in size, a free supply of water will be necessary to keep the atmosphere always moist about the plants. This Polypody is readily increased by division.



The Oak Fern (Polypodium Dryopteris) as a pot plant.

or, as it is popularly called, the Oak Fern, for which appellation there is no reason, unless it be that it is so named from being sometimes found among the Moss about the roots of Oak-trees, is undoubtedly the one most generally known, as it also is the one growing most abundantly in a less restricted habitat. On account of the peculiarly bright pea-green colour of its short, triangular fronds, which seldom exceed 10 inches in height, and also of its compact and close habit, it is much admired and generally used for forming in the hardy ferrocyedgings which all the summer possess a freshness looked for in vain among any other Ferns of dwarf habit. These ferns have, when only partially developed, a very peculiar aspect, as the pinnae on each branch are rolled up, resembling so many small Green Peas; they are, like the fronds of all the other Polypodies, produced on slender, creeping rhizomes, which, contrary to those of the evergreen species and varieties, are strictly underground. The Oak Fern is always found in perfect

Although totally deprived of foliage during four or five months of the year, the Oak Fern should never be allowed to get dry at any time, for the rhizomes soon shrivel up and the spring growth then only produces small or deformed fronds, and the plants are very much weakened. It is also advisable to give plants grown in pots a slight covering during the winter, though not requiring the same attention when planted out.

A small number of Polypodies, such as our Oak and Beech Ferns, are provided with rhizomes of a slender nature, which delight in running underground in partly decayed vegetable matter, but in the majority of cases the rhizomes of either a fleshy or of a woody nature prefer being kept above or close to the ground, to which they have the faculty of adhering very firmly. The Polypodies best adapted for pot culture are those in which the fronds are produced from a central crown, although those provided with underground rhizomes may be managed equally well in pots

or planted, according to their native habits, either in the stove, cool rockery, or outdoor fernery. The soil which suits these best is a compost of one part leaf-mould or fibrous peat, two parts fibrous loam, and one part silver-sand. For those species which are provided with rhizomes of a more or less woody nature, which keep near, or even on the surface of the

from 8 inches to a yard high in moist parts of valleys and woods in the Alps and Pyrenees, is too large for cultivation in the rock garden among the choicer and smaller things; but its double variety is a beautiful old border flower. The flowers are not large, but are white and double, and resemble a miniature double white Camellia. A rich, moist soil will be found to

moist with a surfacing of grit, sand, or small stones, till the plant grows into a little spreading tuft.

R. BILOBUS is another form from S. Tyrol. **R. ANEMONIFORMIS**, a native of the Alps of Styria and the Southern Tyrol, is a handsome species, with bluish-green leaves; flowers large, with numerous divisions, of a greenish white on the inside and pink on the outside, appearing before the leaves and very early. It does best in the rock garden in a cool place and in moist, porous soil.

R. BELLATUS (Marigold Buttercup).—A dwarf stout perennial, easy to cultivate, with showy double flowers, the blossoms as large as those of the double Marsh Marigold. The plant thrives in heavy soil. Division of the roots.

R. CRENATUS.—A native of granitic mountains in Styria, with roundish leaves, the flowers large, white, two or three together at the extremity of stem, 3 inches or 4 inches high in April or May. It does well in the rock garden in gritty or open soil.

R. ELVITALIS (Arctic Buttercup).—A well-named plant, as it is an inhabitant of very high places on the Alps, and may often be seen in flower near the snow and in the Arctic region. The flowers are large, white tinted, of a dull purplish-rose on the outside; the calyx with shaggy brownish hairs, the leaves smooth, deeply cut, and of a dark green. It will thrive in a cool spot in deep, gritty soil, moist during the warm months. I have seen it thriving with its roots below stones. On the Alps it blooms in early summer; in our gardens somewhat earlier. It is easily raised from seed, and in its native habitat spreads about freely. This is the plant which Mr. Ruskin met with high up among the icy rocks, near the margins of the snowy solitude of the Alps, and which pleased him so much there. It is often washed down by the rock streams and found in the river flats.

R. GRAMINEUS (Grassy Buttercup).—A graceful plant, which may well represent on the rock garden the beauty of some of the taller kinds that are too vigorous for it. Easily known by its Grass-like leaves, 6 inches to 12 inches high. The flowers in May are yellow. There is a double variety, but it is seldom seen. Southern Europe. Division. An easily-grown plant.



Lady Buttercup (*Ranunculus aplexicaulis*). From a photograph by Mr. D. S. Fish, Edinburgh.

soil, a material of a different nature is required, and they have been observed to grow more luxuriantly in a mixture in which good fibrous peat or half-decayed leaf-mould predominates and with a small portion of fibrous loam. In their case no silver-sand is required. The propagation of the species provided with rhizomes may take place almost at any time of the year by division, while the others are most rapidly increased by means of spores, which in the majority of cases germinate freely when sown in heat and soon after they are ripe. It is worthy of notice that the plants raised from seed are usually of better shape than those of the same species produced by division of the rhizomes.

OUTDOOR PLANTS.

ALPINE BUTTERCUPS (*RANUNCULUS*) FOR ROCK GARDENS.

THESE are alpine, northern pasture, water and waterside plants, many of the perennial and mountain kinds from their boldness, hardiness, and beauty admirably suited for the rock garden. Although as interesting as any of the great families of rock plants, they are not nearly so difficult to grow and keep if care be taken to prevent them being overrun by coarser plants.

Mr. W. A. Clark, in "Alpine Plants," rightly attaches importance to top-dressing some of the higher alpine species, and says "that great care must be taken to top-dress or replant just after flowering, as the plants work out of the ground, and this can be done before the hot weather begins. If left without top-dressing they will no doubt shrivel up with the sun, as the roots will have been left all exposed. A sharp look-out for snails is essential in the early spring, as they often eat out the crowns before they are fairly above ground, and the flowers are lost for the season. A little rough grit will do much to prevent this occurring; if placed over the crowns the fine must be taken out, only using the rough grit."

R. AMPLEXICAULIS (Lady Buttercup).—A beautiful plant, with large white flowers having yellow centres, one to five blooms being borne on a stem, which is clasped by smooth sea-green leaves, which set off its snowy bouquet of flowers. I know no more graceful plant for the rock garden. A native of the Alps, Pyrenees, thriving in light, rich loam, usually growing 7 inches to 10 inches high, flowering in gardens in April or May, and increased by seed or division. It is worthy of the best positions, and is very pretty grouped in a free way.

R. ALPINUS (Fair Maids of France).—This white flowered plant grows

suit it best on the shady side of the rock garden, and among bog-loving shrubs.

R. ALPESINUS (Alpine Buttercup).—A diminutive species, from 1 inch to 3 inches or 4 inches high, and forming neat tufts, each stem bearing from one to three white flowers in April. The leaves are of a dark glossy green, roundish-heart-shaped, and deeply divided. It is a native of most of the great mountain ranges of Europe, in moist, rocky places on the higher pastures, and one of the best plants for the rock garden. It is not difficult to grow in moist, sandy, or gritty soil, in positions exposed to the sun and moist in summer.

R. TRACNFELNERI seems to be a diminutive



Arctic Buttercup (*Ranunculus glacialis*).

of the preceding, the whole plant, even as we have observed it in cultivation, being not more than 1 inch high. The same treatment will suit it; but, being smaller, it will require a little more care in selecting some firm position fully exposed to the sun and air, but kept

R. LVALLII (Rockwood Lily).—Dr. Hooker calls this plant the "most noble species of the genus"—"the Water Lily of the shepherds." Indeed, even in the dried specimens, of which there are many in the Kew herbarium, the resemblance to our common white Water Lily

is striking. The plant is said to grow in moist places in the Southern Alps, the Wurunui Mountains, in the glacier regions of the Forbes River, near Otago, and elsewhere in the Middle Island of New Zealand, at heights of from 1,000 feet to 5,000 feet above the sea. In habit it seems almost identical with our Marsh Marigold, but it is twice or thrice

as large. The leaves are circular, 12 inches to 15 inches in diameter, peltate, as in the Nelumbium, the flowers borne in panicles; each flower of the purest waxy white colour, 3 inches to 4 inches across. To raise a stock it has been recommended that the seed be sown in well drained pans or boxes filled with peat and coarse grit in equal parts, stood in a cool place on the north side of a wall, watered well, and covered with a sheet of glass.

nees, where it abounds. *R. plantagineus* from the Piedmont and *R. huplourifolius*, usually found in moist valleys in the Pyrenees at a much lower altitude, are varieties of the species. All have white flowers, and are of easy culture.

R. RETE-FOLII syn. *Callianthemum* (Rue Buttercup).—This, with deeply divided leaves, reminding one somewhat of those of a very dwarf Columbine, and white flowers with orange centres about an inch across; on stems from 3 inches to 6 inches high, bears from one to three flowers, sometimes rose-tinted on the outside. A native of high and cool parts of the granitic continental ranges; increased by seed or division.

R. SERRIERI (Seguir's Buttercup).—Like the Glacier Buttercup, about 6 inches high, with three-parted leaves, though distinct. Usually the flowers are solitary and rarely as many as two or three on each stem. The flowers are white, with distinctly rounded petals. Native of the calcareous Alps of Provence, Dauphiny, and Carniola.

R. THORA (Venom Buttercup).—The roots of this, like small Dahlias tubers, and said to be poisonous, were formerly used by the Swiss hunters to poison their darts. It is yellow-flowered, with very smooth leaves. It is yellow, distributed through Switzerland, the Carpathian and other mountain chains on rocks and in pastures near the snow-line, thrives in gritty loam.

WESTMORELAND WALLS.

My walls are not the grey walls of the Lake Country crammed with Maiden-hair and Parsley

called, built of huge boulders, or the old deer-forest wall, 6 feet high, exposed to wind and sun where nothing grows. These walls I call mine run for 150 yards north and south between Fir woods. The one facing west is the most picturesque, built of red sandstone and boulders, without mortar, with an irregular top of rugged stones of all sorts, into which I have inserted both soil and Stonecrops of many kinds, from the tiny one growing wild on the Ayrshire coast to the large white-flowering one from the walls of Savoie. The foliage—green, blue green, and red—sets off the yellow, white, and cream-coloured flowers. On the other side of the road the wall is less tempting for decoration, being our garden wall, more carefully built, and finished at the top in a crenulated style with mortar; it is all red sandstone. For some reason, however, everything grows better and quicker on it, whether on account of being less in the sun or because of the mortar, I cannot say. Here I have Saxifrages, red and white, Stonecrop, Thymes, etc., and, where it turns west with a sweep into the gateway, and the walls are pointed throughout, there is a fine crop of *Asplenium Ruta muraria* (lesser Mitten-hair), some Hard Fern, *Draba aizoides*, *Aulricia*, *Erinus*, and so on. Some *Helianthemum*s also are growing bravely. But the plant which prepared the way for better things, and lifted the stones and split gaps in the mortar, is *Linaria Cymbalaria* (the Ivy-leaved Toddlax), which in summer runs wild over the wall, sowing itself everywhere. Many seeds and other things have been tried, such as *Silene compacta*, *Sisyrinchium*, and various plants suitable for walls. I should like to grow the blue Iris like they do abroad, but here we seldom get the tropical showers of the Lake District. Our rainfall the last two years has been little over 25 inches for the year, and though the red sandstone is like a sponge and gathers in a great deal of moisture it dries up where exposed to the sun in summer, and the beautiful natural Mosses, Lichens, and Cup Moss get parched and burnt. I am trying also the Maiden Pink, and should like to sow the Cheddar Pink in the way recommended by Mr. Robinson in his "English Flower Garden,"



The Rockwood Lily (*R. lyallii*).

To English growers, the most interesting experience is that of Mr. Bartholomew, Park House, Reading, who has grown this plant well. His plant was on the north side of a summer house, in 2 feet of soil, chiefly peat, which was liberally watered all through the summer. When it died down in the autumn, a little Cocoa-nut-fibre was placed over the crowns, and, with a view to saving the plant as far as possible from alternate freezing and thawing, a sheet of glass raised on bricks was placed over it. It flowered freely and ripened seed at Reading. It also bloomed for three years in succession in a nursery at Aberdean, the seedlings having been raised there.

R. MONTANUS (Mountain Buttercup).—A dwarf compact plant with tufts of deep green, glossy leaves, covered in spring with many yellow flowers, somewhat larger than those of our common Buttercup. Although like the Buttercups in colour, it is unlike in its dwarf, close habit, usually flowering at 3 inches high, and, though growing freely enough, not spreading about with the coarse vigour of many of its fellows. It is a native of alpine pastures on the principal great mountain-chains of Europe, growing freely in moist, sandy soil, and should be planted so as to form spreading tufts, as it represents in a modest way the beauty of yellow kinds too vigorous for the rock garden. Readily increased by seed or division.

R. PARNASSIFOLIUS (Parnassia-leaved Buttercup).—Distinct, with beautiful white flowers, from one to a dozen or more being borne on each stem, which grows from 3 inches to 5 inches high, and is somewhat velvety, and of a purplish hue. The leaves are of a dark brownish-green, sometimes woolly along the margins and nerves. It is rare in gardens, though abundant in many parts of the Alps on calcareous soils. No plant is more worthy of culture in the rock garden in sandy, well-drained loam. There is a variety with narrow leaves.

R. PYRENEUS (Pyrean Buttercup).—A slender-leaved plant, 6 inches to 12 inches high, and from the Alps, as well as the Pyre-



Fair Maids of France (*R. aconitifolius fl. pl.*)

nean, nor yet the granite or limestone walls of the "Cyclopean walls," as they have been

if I could find where the seed is to be procured. Certain risks, of course, must be run on a public road from mischievous passers-

by, but my own neighbours would not take flowers off the wall, as I should be only too happy to give them any they wished for, and, fortunately, there are no tourists within four miles, so wall gardening, a very fascinating occupation, is possible here. M. V. B.

PINKS.

We can hardly have too many of these in the open borders or beds. For years I have noticed how frequently Pinks are seen in farmhouses and cottage gardens, where often may be found some of the best patches of many of the freest growers. Near to where I reside is a grand display of the common white as an edging to a large bed by the side of a cottage door. This edging is a foot wide. Seldom is this garden devoid of interest, for in midwinter may be seen fine clumps in full bloom of the large early Christmas Rose, which is quickly followed by early bulbs. During this summer I have been struck with the value of these border Pinks, from having a larges group of three kinds growing side by side in the reserve garden. They are as valuable as anything I grow for cutting. What can surpass large masses of Pinks for the mixed borders or beds? With a few kinds great variety in colour may be had, and a long period of blooming. They have many points to recommend them. They seem to grow in any soil or position, they need no staking, and their perfume is admired by all. O!

VARIETIES there are many, all more or less good. In whites, the common white will never be ousted from our gardens, seeing this has merits that neither Mrs. Sinkins nor Her Majesty has, although these last two are charming in dry weather. Ernest Ladhams is a fine free growing and blooming light Pink; Mrs. W. Welsh is a late blooming white; Homer, rose-red, dark centre, is very free; Ascot is a good clove-scented, pink in colour, and early blooming; nor must the old Puddington be forgotten—this is very early. Good as these are, the Mule kinds are equally so. Surely if these were more known they would be seen in all good gardens. The three kinds above referred to in our garden were two of these, hybridus and h. splendens, the former rose and the latter red, and Mrs. Sinkins. Napoleon III. is a deep crimson, and one of the gems of the hardy garden. The white Mule Pink I could never grow well. The good old Anne Boleyn used to be grown extensively. Derby Day and Lord Lyon had a run, and good they were, but they seem to have gone out of cultivation. All the kinds above named can be easily increased by cuttings, rooted under handlights in a shady place during the last half of July and August, in sandy soil. J. CROOK.

WILDFLOWERS WORTH CULTIVATING.

It would be of great interest to have records of the wild flowers peculiar to different districts. I am sure that there are many wild plants which, by interesting and careful selection, could be so improved as to merit a place among our most beautiful garden flowers. Many wild flowers in bloom this month are as beautiful as any flowers grown in our gardens. What can be more beautiful than two Thistles, which are in bloom on the chalk cliffs around the Mumbles, the Carline Thistle (*Carlina vulgaris*), and the Musk Thistle (*Carduus nutans*), and that most beautiful but rare Thistle, the Cotton Thistle (*Onopordon Acanthium*), which is found around here occasionally. Then there is the Great Spearwort (*Ranunculus Lingua*), easily grown and plentifully found in many marshes. Those who have seen a clump of the Marsh Mallow (*Althaea officinalis*), with its pink-rosy spike of flowers and its soft silky leaves, will not readily forget it. Among the Geraniums, *G. pratense* and *G. sanguineum* are easily grown and delight in sandy soil, and they are fairly common. Clumps of the French Willow (*Epilobium angustifolium*) and the Yellow Loosestrife (*Lysimachia vulgaris*) are also beautiful, and both are common. The Moneywort (*Lysimachia nummularia*) is the well-known creeper seen in rock gardens. For rock gardens nothing can surpass the Saxifrage and the Sedums. A very common Saxifrage found on walls and old thatched houses is *S. triactylites*, with its pink leaves and flowers. (The Pink London Pride

S. oppositifolia is rare, but it makes a beautiful rock garden plant. *S. granulata* is a beautiful plant for the border, with pure white blooms like an Arabis. It is surprising how wild flowers will accommodate themselves and grow in a garden in soils and situations very different from those we find them in in a wild state. The Sand Sedge (*Carex Arenaria*) will grow and thrive and send its creeping roots right across a flower bed of stitish soil. *Luzula maxima* will grow anywhere in a garden. The tall Reed (*Arundo Phragmites*), with its dark brown plumes, seen growing on the margins of pools and canals, will grow in an ordinary border.

All these "wild flowers" are worth growing, not only in the wild garden, but in our choice herbaceous borders. They last in bloom as long, they look as graceful, and are as beautiful as any of our hardy perennial flowers.

Gardens.

ROBERT LACKETT.

NOTES AND REPLIES.

Begonias in the open air.—Although Begonias will do very well in exposed positions, the situation that suits them best is a partially shaded one; but wherever planted it is important that they be mulched, so as to keep the ground shaded and the plants moist at the roots. This can best be done by the use of Cocoa-nut fibre, a good non-conductor of heat; but, failing the fibre, sifted leaf-soil or broken-up horse-droppings answer the purpose nearly as well. To encourage Begonias to grow and bloom freely they must be supplied with water regularly when the weather is dry; and if they get a soaking of liquid-manure occasionally it will be a great help. Late in autumn, when the flowering is over, the plants should be lifted and laid in cold frames, where the tubers can be covered with dry soil, and preserved from frost, or they may be buried in sand or dry earth in a shed, and be wintered in the same way as Dablias. Those grown in pots are best left undisturbed in the soil till the spring, when they may be shaken out and divided, and afterwards repotted and grown on again.

The Fuchsia as a bedding plant.—I was pleased to see in your issue of July 12th an article on the Fuchsia as an outdoor plant, and I quite agree with the remarks of your correspondent. It is a pity that more is not made of the Fuchsia as a summer bedder, as few prettier subjects can be obtained at so little expense to the cultivator. The beds look exceedingly pretty, and are a delightful change from the stiff, formal Aster, for instance. The plan on which I work is a very simple one. Instead of raising young plants from cuttings for the purpose, I plant out the one-year-old plants, previously, of course, taking sufficient stock from them to furnish plants for indoors. I find the old plants bloom more freely outside. It is wonderful what use can even be made of plants which have got leggy. I had a lot of Rose of Castillo of this stamp, most of them having a bare stem of about 16 inches. However, when planted out and the spaces between the plants filled in with Nasturtium Lilliput, scarlet, finishing with a border of *Cineraria maritima*, the effect was grand, the colours being in perfect harmony with one another. It is not necessary to confine oneself to any special varieties, as all classes of singles and doubles do well.—D. G. McIVER, *B. of W., N. B.*

Plants for sandy soil.—I have lately come into possession of a rather large garden, which is principally composed of sand, pure and simple. Although there are large Oaks on the grounds, and Laurels, etc., have flourished fairly well for the last forty years, yet Bracken is in full vigour, and that, I am told, is a sure sign of anything one ordinarily sees in gardens growing to any perfection. Would you very kindly, in your next issue, give me a list of plants (sweet-scented ones preferred) that will do in such a soil? It is a sloping position. Of course, Broom and Gorse thrive, and I conclude most bulbs would do, also Iris, and perhaps Stocks?—OWEN C. PHILLIPS.

[It most usually happens in such a soil as you describe that quite a large number of plants succeed that in cold or clay soils grow but poorly. It is quite probable a number of the warmth-loving, tender annuals would also succeed. Such things as Stocks, Sweet Sultan, Sweet William, Dianthus, Pinks, Phacelia, Mignonette, Rosemary, Lavender, Evening Primrose, many Irises of the English section, such

fragrant flowering shrubs as Daphne, Mock Orange in variety, Sweet Peas, Clove Carnations, Liliums in many varieties, would afford you much useful material to start with. In the border herbaceous things—double Rockets, Paeonies, and Phloxes—are good and fragrant also. To these you may add *Primula denticulata*, *P. Sieboldii* in variety, and such Day Lilies as *Heimerocallis flava*, *H. Middendorffii*, *H. Thunbergii*, all of which are fragrant and free. The Spanish and English Irises, the *Alstroemerias*, single and double *Pyrethrums*, *Columbines*, *Sunflowers*, *Perennial Pea*, etc., are others that, if not fragrant, are showy and suitable in such a soil. The latter, too, would be most congenial for many bulbous things—Daffodils of all kinds, Tulips, etc. What is most required in these sandy soils is deep digging, with heavy manuring low down to attract roots thither in dry weather. This and surface mulching will do much to enable you to grow many plants that on cold or heavy soils may be difficult to satisfy. Starch Hyacinths, and in particular the allied *Muscari conicum*, is a finely scented flower, beautiful in colour, and most delightful when cut.]

Candytufts.—Of garden flowers that one may characterise as "good old things," the Iberis or Candytufts may be mentioned. They are valuable where rock plants are cherished, are often seen doing well on old walls, and some of them are not without their use as border and edging plants. The common variety, *I. sempervirens*, is noted for its dwarf habit, its hardiness, and its quantities of white blossoms found at the present moment in many a garden. *I. gibraltaria* is taller, has flowers of a lilac hue, is not so hardy as the previous sort, and should be planted on a sunny rockery. *I. correaefolia* has prominent foliage and large white flowers, blooms late in May, and does well in any sunny position. All the foregoing may be propagated from cuttings. I suppose the annual Candytuft is known to almost everyone who has a garden, as it is a familiar plant for edgings, and in country gardens one sees patches of it in the borders. The dwarf sorts are best for edgings and narrow borders. Seed should be sown in sheltered positions, for early flowering, in the autumn, but comparatively few sow before spring, and, if rich soil is prepared for them, one gets a good show before the end of the summer. I would not hesitate to sow now for an early autumn display.—W. F. D.

Polyanthuses in flower.—These have been unusually fine these past few weeks, and in borders and flower beds afforded bright effects as well as sweet flowers for cutting. Much the finest display, however, that has come under my notice is in the gardens of Forde Abbey. Both in point of variety, rare colours, good habit, and beauty, this collection would be hard to excel. They have been selected annually for a long time, though there is still work for the florist in hope of further developments. All the colours known to the Polyanthus family are here, and many, certainly, far from common. The best are every year lifted, placed in pots, and their seed carefully saved and put by for August sowing. The Polyanthus is an old-fashioned flower, and cherished by thousands from the palace down to the humblest cottage garden, but the comparison of present and past strains is scarcely worth one's while to attempt to describe. In the hands of a few enthusiasts they make rapid strides in progress, and I should say without hesitation that Mr. J. Crook has a selection that will compare with the very best. This he has developed over a long course of years from his own and purchased stock. Those inclined to take up their culture are advised to commence with a good strain obtained from a reliable source.—W.

Photographs of Gardens, Plants, or Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

The Prize Winners this week are: 1, Miss M. Vaughan, Whittington Lodge, Worcester, for *Arabis alba*; 2, Mr. W. Johnson, Trafford Hall, Chester, for *Spiraea japonica* in full flower in compact.

ARTISTIC GARDEN ARRANGEMENT.

On entering a garden it is always easy to see if the owner is alive to the artistic capacities of his ground, be they large or small, or if his ideas do not rise above the possibilities of geometrically-shaped plots of bedding plants in crude, flat colours and such-like artificialities. Of late years one has been enabled, through the instrumentality of a certain weekly illustrated paper, to become acquainted with many of the features of some of the larger gardens in England. I imagine that until they had studied these illustrations few had any idea of the extent to which the formal bedding-out system still obtained in the land. The probable reason for this state of affairs is that the owners of these gardens know little of, and care less for, flowers. They have been accustomed, at certain seasons of the year, to brilliant scarlet, yellow, and blue in the beds, and desire no change. In such a case it is naturally out of the question to expect that the paid head of the gardens should substitute for a system approved of, or at least acquiesced in, by the employer, another which he might not appreciate. In the south-west, especially in Cornwall, a vastly better method of gardening prevails, for there almost every proprietor is himself or herself an enthusiastic lover of flowers. In many large gardens not a bedding plant is to be found, and where they are planted they are utilised, not in pattern beds, but to give a note of high colour where this is artistically desirable. The smallest as well as the largest garden gives ample scope for artistic feeling, and the lover of the beautiful in Nature may find much to delight him in a few square yards of ground happily laid out, while acres of bedding plants, clipped Yews, and statuary will only create in him a feeling of repulsion—and yet the former may have cost but a few shillings, and the latter thousands of pounds. The accompanying illustration shows a small portion of ground, the treatment of which could scarcely be bettered. It is quite possible to imagine that the picture represents a tiny garden in its entirety, yet if this were the case how few owners would treat it in the same manner! There would probably be a greater striving after effect, which, in a small plot, is an error. Colour is not present, and in all probability never will be, in photographs; form only is apparent, and in the picture before us we see natural beauty of form of a very high order. The light shines brightly on the rough steps in the background. They are three irregularly-shaped blocks of flat stone, not set in a direct perpendicular line, the middle one jutting out to the left of the lower, and the highest to the right of both the others. Imagine the difference of effect if these three steps had been neatly squared and set in a straight line exactly above one another! The picture would have been absolutely spoiled even had all the other accessories remained the same. The low-growing plants that spread about the base and sides of the steps and veil their points of juncture with the ground give a valuable hint of the right way to plant the edges of a rise in the rock garden from a lower level to a higher, while the tall German Flag that stands below and a little to one side of the lowest step

is just the right plant for the position, its upright lines of growth counteracting the horizontal lines of the steps, and creating balance in the picture. In the immediate foreground the nearer Iris is much benefited, from a pictorial point of view, by the dwarf flowering plant that veils its base. Good pictures, such as this, should be of inestimable value to amateurs in the laying out of different portions of their gardens. S. W. F.

CHRYSANTHEMUMS.

CULTURAL NOTES.

If the plants have not been shifted into the largest size pots they are to occupy this should be no longer delayed. At this time of the year the growth is very rapid, and a check at the

In rows they may be properly fastened by fixing posts and wire of sufficient strength. It is well to attend to this early in the season, as later, when the stems and leaves have considerable weight, a great amount of damage may be done by wind. When tied to stout wires, each plant staked separately with a strong cane, rough weather gives but little anxiety.

WATERING is another part of culture that must have at least daily attention. We sometimes read, and it is a general idea, that Chrysanthemums must have any amount of water. This is wrong, for although when in full growth they require a considerable quantity to support the abundance of leaves, they are, nevertheless, readily killed by too much moisture at the roots. It is rather difficult to say how often Chrysanthemums may be watered; but one can give some idea by describing my own practice. After any re-

potting the pots are stood close together for a couple of weeks or so. During this time sprinkling with water overhead is done each afternoon, and if the leaves of any plant show signs of flagging, then it has a good supply, enough to properly soak the ball of earth. But when the pots are placed in their permanent quarters, and stood apart as indicated above, with the full sun shining on them all day, water is more often necessary. I do not continue sprinkling overhead, but from this time carefully watch the roots. It is well to go over the collection morning and afternoon, for to give all water at one time is courting defeat. Those dry in the morning are watered and the pots filled, so that there is no mistake about the earth being moistened; the plants not requiring any then are seen to in the afternoon. This being done regularly and by the same hands, one gets to know almost by instinct when to water each plant. If there is a doubt tap the pot with the knuckles, and if a hollow sound goes out give water; if a dull sound, let that particular pot wait. There is no need for stimulants until the earth that was used in the final potting can have time to be well filled with roots, and that is not yet.

TRAINING the plants for giving large blooms is simply limiting the number of shoots. Three to each plant are accepted as the number of flowers the same will perfect when the cuttings have been rooted early and grown well by being duly shifted on into larger pots.

Late-struck cuttings bear but one big bloom; therefore we must confine the plant to a single stem. The three in the first case may be trained by loosely lopping each to the stick placed to train the main stem to. All other side growths are removed as superfluous when small. It is different with bush plants, of course. These are topped, but the last topping of the growths should take place this month (July). Afterwards securely tie the stems when required.

FLOWER-BUDS, too, should have attention this month. One reads a good deal of crown and second crown-buds in the spring. These buds will soon appear, but it is safe to remove them in July, except in the case of two varieties, Mrs. H. Weeks and Florence Molyneux. Forward plants may give flower-buds thus early, and these must be secured by rubbing out the tiny leaf-growths that surround them. But in a general way, flower-buds which form in July



An artistic garden arrangement. From a photograph by Miss Willmott.

roots is not advisable. Pots 10 inches in diameter are used for the largest and strongest plants; those an inch less for the weaker ones intended to carry exhibition blooms or to make good-sized bushes. For late-struck plants to perfect one big bloom only, or for the purpose of growing into smaller plants for decoration, I employ pots still smaller. My Chrysanthemums have been potted about three weeks, and I am giving them ample room. This is a matter of the greatest importance, and one that is often badly managed. In some cases the space at disposal is limited perhaps, but to grow this plant well air and light are absolutely necessary. If they are stood together, the pots touching each other, one gets a soft, sappy growth that easily becomes a prey to mildew in the first place, and never has the substance to develop good blooms. For container plants are stood in rows 5 feet apart, and each pot a foot from its neighbour.

do not produce good blooms. That fine variety *Mme. Carnot* and its sports, *Mrs. W. Mease* and *G. J. Warren*, are again troublesome. I daresay many readers find it difficult to keep the leaves healthy. However careful one may be, nothing seems to stop the leaves turning yellow. They are fortunately the lower leaves, and this habit does not appear to hurt the plants in the way of preventing fine flowers, as the later growth is healthy enough. The time is not far distant when the introduction of better growing kinds will oust these uncertain ones out of cultivation. The proper way to grow the

OUTDOOR CHRYSANTHEMUMS is not to interfere with the natural growth by topping. The plants assume a lushy habit, but if topped we have noticed the shoots grow irregularly. These sorts, again, may not be dishabited. They perfect a number of flowers better than they do a few. Removing very thickly placed flower-buds may do good, but to limit the blooms in the same way as other classes are grown is not followed with success. Now that they are in full growth these plants will be assisted by supplies of manure-water. Fortunately, this summer is not so dry as late seasons have been, and the chances are we shall have a fine display of these useful flowers. H. S.

NOTES AND REPLIES.

Pompon Chrysanthemums—early-flowering sorts.—A few days since, in the course of a conversation with one of our leading Chrysanthemum growers, it was mentioned that there had been less demand than usual for the early-flowering Pompon Chrysanthemums. It is difficult to understand why this is so, seeing that the early-flowering Pompons are ideal for outdoor displays. These plants in most instances have a capital dwarf and sturdy habit, and their constitution is certainly most robust. Added to these excellent traits, their free-flowering character, and also a pleasing variation in their range of colour, fit them for outdoor beds and borders. The Pompon flowers, too, have the advantage of standing well in wet weather, their petals appearing to resist damage in this way. In endeavouring to trace the reason for this seeming decline in popularity of the Pompon sorts, there is good cause for believing it to be due to the immense increase in the number of Japanese varieties now catalogued and continuously increased. It must be admitted that the variety, both in form and colour, in the Japanese sorts is great, and their curious forms have done much to enhance their reputation. The Pompons, however, can ill be spared, and all lovers of the hardy flower garden should include them in their next season's display. Even at this late period small pieces may be planted with every prospect of developing useful plants before the flowering season comes round.—E. G.

Artificial manures for Chrysanthemums.—Would you please give in an early issue of your valuable paper a few hints about the best kinds of artificial manures for exhibition Chrysanthemums, and say which of the varieties on attached list require strong, weak, or moderate feeding?—*ASTORIA.*

[Peruvian guano is an excellent fertiliser. It has an advantage over many manures in that there is no difficulty in mixing it with water. An ounce to a gallon of water may be termed a liberal quantity, and half an ounce a moderate one. If this be applied twice a week your Chrysanthemums should be much benefited. It is not desirable, however, to use fertilisers until the pots are well filled with roots. About the end of July one may expect the plants to be in the condition to require some assistance—that is, if they have been duly potted into larger pots. Most growers favour other manures used in a liquid state, to be used alternately with what are termed "artificials." Sheep and cow manure are first-rate used separately or together. The best plan with these is to fill a bag and put this in a tub of water, renewing the contents, say, every fortnight. There is not much danger in employing such liquid too strong, still it is well to dilute it to a quarter its natural strength and use it often. The guano and the liquid named are easily obtainable, and are all that is required. The former may be had from any specialist in Chrysanthemums. *Edwin Molyneux, Mrs. Barkley, M. Chenon, J. G. Lord Ludlow, Mrs. Bryant, Mr. C. C. Carr,*

ton, Miss Nellie Pockett, Mrs. Coombes, Millicent Richardson, and Le Grand Dragon require liberal feeding, while *Emily Silsbury, Calvat 99, Calvat's Sun, and Mrs. J. Lewis* must be fed moderately. We hope to refer to this more fully in a coming issue.]

INDOOR PLANTS.

STEPHANOTIS FLORIBUNDA UNDER COOL TREATMENT.

This lovely warm house climber is a general favourite, but many are deterred from growing it for two reasons, some under the impression that it needs great heat, and others because it is so liable to be infested with insects, such as mealy-bug, etc. I am aware it will bear strong heat and do well if exposed to light and air, while I am convinced that a large number of the plants that are found in many private gardens that do not bloom satisfactorily fail from being grown in great heat and shade. It may be grown in a much lower temperature than many think and bloom abundantly. Some of the best bloomed plants I ever have seen have had a temperature of from 40 degs. to 50 degs. at night during the winter season. In proof of this, early in June I saw a fine plant in Montacute House, near Yeovil, a mass of bloom, and I was told that even on cold nights in winter the temperature fell below 45 degs. But for all this I never have seen a plant more freely bloomed. It was growing on wires over the path of a three-quarter span house, and not allowed to hang over the bed other plants were growing on. In this way it can be kept free from insects by applying some good insecticide with the syringe, thus saving much trouble in sponging, etc. Nor was this a small plant, seeing it grew the whole length of the house—50 feet—and was trained on three wires. Some side shoots put out from the main shoot had twelve trusses on them in a foot length. The roots are allowed to run at will in a bed in the house, on which are growing various warm-house plants in pots. No doubt most of the water it receives is from the drainings of these plants. It was growing near the glass. In summer the house is shut up with abundance of sun-heat. No better position can be found for it when planted out than this, seeing it gets strong light and does not shade other things. Many amateurs and small growers could readily grow it on the cool system, and when grown in pots I have always found it bloom satisfactorily. It must be well ripened in winter, keeping it on the dry side. Sometimes the *Stephanotis* is met with full of bloom in small pots. Some imagine this is a special kind; but take off good ripened shoots, root them quickly, and they will bloom in this way. J. CROOK.

CINERARIAS.

The time for sowing is from March to June, according to the season at which they are wanted in flower. Those got up during March come in during winter, and the others follow on till quite late in spring. The way to induce the seed to germinate freely is to well drain a pan, and then fill it with finely-sifted, rich, light soil, which should be pressed quite firm and level on the surface, when, after being watered, the seed may be sown, just covered lightly, and after this is done have a pane of glass placed over the top. If the pan is then placed in a warm pit or frame the young plants will soon make their appearance, when the glass should be tilted to prevent damping, and in a day or two removed altogether. As soon as the plants are large enough to handle they may either be pricked off into shallow boxes or potted singly in small pots, the latter being the better plan, as then they grow right on without further check.

To encourage growth, it is necessary to keep them a little close for a time and gently syringed every day, and when they have become established they should have more air, and be shifted on into larger pots as required, after which the best position for them is a pit or frame facing north, where they should be stood on a hard coal-ash bottom, which will prevent worms getting up into the balls, and remain damp and cool under the glass. The

is a great point towards their successful cultivation, as unless a moist atmosphere surrounds them they are apt to get red-spider or thrips—insects that soon disfigure and spoil them, as does also green-fly, to which *Cinerarias* are very subject; but they may easily be freed from these latter parasites by fumigating, which requires care, as the plants are very tender in the leaf, and will not bear much smoke at a time. This being so, the safest way is to fumigate slightly each night and morning for two or three days, after which the plants should have a good syringing to wash off any straggling insect or deposit left from the smoke and make them quite clean. Should mildew attack them, the best remedy is to boil a pound of sulphur in 2 gallons of water, and syringe them with it when the water is cold and clear; this will destroy the fungus without injuring the foliage in the slightest degree. The most suitable soil for growing *Cinerarias* is a light, fibrous loam, which should be made rich by working into it some rotten manure from cows or sheep, and if a slight sprinkling of soot be added as well, the leaves of the plants will be greatly improved in texture and colour.

NOTES AND REPLIES.

Twelve good Pelargoniums.—I notice in *GARDENING ILLUSTRATED* for July 5 mention is made of two *Ceraniums*—viz., *Rudyard Kipling* and *de Maclaren*. I should be very glad if some reader of *GARDENING ILLUSTRATED* would name ten others such as good as these two, as I should like to form a small collection.—*ESSEX.*

[Equal to the two named in size and substance of bloom, and embracing a wide range of colouring, are: *Chaucer, Enid, Killy, Majestic, Mary Beton, Mrs. Pobe South, Nicholas II., Phyllis, The Mikado, and The Sirdar.*]

The Throat-wort (*Trachelium caeruleum* (A. B. C.)).—This is the name of the plant you sent. It is easily propagated in the spring from cuttings taken from the base close to the soil, some of these possibly having roots of their own. Such plants will flower the same season in 6-inch pots, being afterwards kept to grow on the following spring, so as to provide, if need be, a set of larger plants. Seedlings can also be easily raised, but when this plan is adopted the seed should be saved and sown as soon as it is ripe from plants that have flowered early in August. The seedlings can then be kept in a box or pan in a cool greenhouse during the winter. It is not necessary to devote house room to it from the end of March until the flowering season comes round. The plant will do good service at a season when any novelty is a pleasing change. The best trusses of violet-blue flowers are produced on the terminals, but the lateral shoots on strong plants are also very effective. The best soil is loam and leaf-mould, with a little sand, potting being done very firmly.

Camellias.—These will in most cases have now completed their growth, although the hardening process through which the foliage has to pass may not be finished. The syringe should be freely used, and where possible a moist atmosphere still maintained, both tending, in conjunction with plenty of moisture in the soil, to renewed root action, which hardly keeps pace with the rapid development of the leaf growth when once it starts. Slight shading is advisable. As soon as the foliage is hardened (this in the case of early flowered plants will soon be the case), then the repotting or retubbing of any in need of this should have attention. I consider this to be the best time to do it, having frequently noted how very active the roots are during the summer. For this purpose, as regards soil, some prefer peat, others loam. In my own case I give a mixture of the two in about equal parts; this prevents the souring of the former and the adhesiveness of the latter. Lime rubble is a good addition when crushed down fairly fine, or some bone meal may be safely used. Plants that are moved out-of-doors for the summer season should until the growth be hardened still have a slight protection. Where planted out in borders, a good mulching of such as the manure from a spent Mushroom-bed or a top-dressing of good soil to remain permanently moist will probably be found a great assistance in

TREES AND SHRUBS.

THE MEXICAN ORANGE-FLOWER IN CUMBERLAND.

THERE was an illustration in GARDENING ILLUSTRATED of May 24th of the Mexican Orange-flower (*Choisya ternata*) in a Devonshire garden. The illustration to-day shows how the plant grows in a Cumberland garden. A quantity of flowers had been cut for the house before it occurred to me to photograph the plant. It flowers twice a year, the second time in November, of course, not so profusely. It has never been covered up, thus showing how hardy it is. l. E. R.
Newton, Ravensglass, Carnforth.

NOTES AND REPLIES.

Dwarf Honeysuckles.—On page 182 Mr. Groom advises the growth of Honey-

root. The frost of the past winter would have played havoc with many of the cuttings had not the ground been well trodden after the frost had lifted and the soil become dry enough to allow of it being done.—W.

White Wistaria in bloom near Aberdeen.—There is a plant of the white Wistaria in flower here in the open air against the wall of the house. As I have never heard of this plant flowering so far north, I write to ask if any of your readers know of such a case? The plant has had no protection whatever during the winter, and is now in flower and growing rapidly. The house and garden face south, and are well sheltered from the east, and I think the flowering of the plant proves that this is a favoured spot.—*Gordon Baxter, Gardener, Caskieben, Kinaldie, Aberdeenshire.*

[We know well the garden referred to, which, as the crow flies, would be about eight miles from the sea, and are not at all surprised that the Wistaria is doing well there. The house on which it grows lies very high, the ground sloping to the south, the drainage in consequence being good, whilst it is also very sheltered from the north. There are many fine

GARDEN PESTS AND FRIENDS.

NOTES AND REPLIES.

Mint falling.—Will you kindly tell me the cause of and how to remedy the disease on the sample of Mint enclosed, which I obtained from a nurseryman when it was in a dormant state? I planted it in good soil during February. I enclose you a sample of its growth, which I think is infested with some kind of canker or fungoid growth.—A. B. C.

[Your Mint is attacked by the Mint Cluster-cup fungus (*Puccinia menthae*). We are afraid there is no cure for it, as the fungus is in the stems, in the lower part of which it passes the winter. The best thing to do is to pull up the plants at once and burn them, planting some Mint from an uninfested source in another part of the garden.]

Chlorhydric acid.—Will you kindly tell me what chlorhydric acid is that a correspondent, in your issue of the 6th inst., recommends as a cure for canker in fruit-trees? I should like to try it, but neither of the chemists I have asked for it recognises it under that name.—K. E. J.

[As far as I know, there is no such thing as "chlorhydric acid." It has been suggested to me by a lecturer on chemistry that hydrochloric acid, or muriatic acid as it is often called, is what is meant. This acid would certainly destroy any fungus or vegetable tissues with which it came into contact, but if the mycelium or spawn of the fungus has thoroughly established itself in the branch, though destroyed at the part where the acid is applied a canker will appear in some other part of the branch. This, of course, would be the case whatever means are used to destroy the fungus short of cutting off the branch. Great care should be taken when using hydrochloric acid not to allow any to get on the hands or clothes, as it is a most corrosive fluid.—G. S. S.]

Gnats in the garden.—Could you kindly name the enclosed for me? It is a perfect pest, driving everyone from my garden as soon as it begins to get dusk. Its bite is severe, leaving much inflammation behind. I do not know if it will lose colour in drying, but, when fresh, the body is about the size of a pin, and is banded with black and yellow; head, thorax, and legs black.—*IGNORAMUS.*

[The insect you sent is a specimen of one of our many species of gnats, and belongs to the genus *Culex*. I do not know its specific name, but I could obtain it if it is a matter of importance, and will do so with pleasure if you desire to know it. These insects lay their eggs in stagnant water, and the grubs or larvae pass their existence in the water. Apparently the only way of destroying these insects in ponds, etc., is by pouring a little paraffin-oil on the water; this forms a slight film on the surface, which prevents the larvae from obtaining any air when they come to the surface, as they frequently have to do for that purpose. It is a curious fact that it is only the females that are able to bite, the mouth organs of the male being in such a rudimentary condition that it is questionable whether they are able to feed at all. This peculiarity occurs in some other insects also.—G. S. S.]

The Asparagus-beetle.—Can you kindly tell me the name of the beetle in the enclosed glass tubes? I send eggs, larvae, and full-grown insect. They swarm on Asparagus in my garden, but feed on the foliage, and do not seem to have damaged the young shoots. Are they injurious to the plant? And, if so, how can I get rid of them? I shall be grateful for a reply in an early number.—H. E. Fox (Rav.).

—Kindly tell me what the enclosed caterpillar is on Asparagus, and how to treat plants? They are infested and lying from the plague. Never seen here before.—*BOLNEY.*

[The insect infesting your Asparagus plants is the Asparagus beetle (*Crioceris asparagi*), and is, unfortunately, a very common pest. The beetles may be found on the plants from April to September, during which time there are probably two or more generations, but it is difficult to ascertain this with any certainty, as beetles, grubs, and eggs may all be found on the plants at the same time. The beetles fall to the ground at the slightest alarm, but many may be caught by shaking the "grass" over an open umbrella. As soon as cutting is finished for the season the plants may be sprayed with Paris green, paraffin emulsion, or any of the insecticides which contain soft-soap. Though this insect is not the cause of so much injury to the Asparagus crop as it is in France, it at times does much damage by destroying the "grass" which, of course, weakens the plants for the next season.—G. S. S.]



The Mexican Orange-flower (*Choisya ternata*) in a Cumberland garden. From a photograph sent by Miss Ramsden, Newton, Ravensglass, Carnforth.

suckles in pots, and certainly, where the means for doing so is available, nothing better could well be had. Last summer I saw some such Honeysuckles, not in pots, but growing along the edge of the vegetable quarters of a small garden, which greatly interested me. These were kept to a height of from 18 inches to 2 feet, and formed neat little bushes by frequent pinching of the summer shoots. These were, I believe, of the Dutch variety mentioned by Mr. Groom, and, I am told, were almost continually in flower during the summer and autumn months. They are raised from cuttings fairly easily, choosing shoots about a foot long, in the autumn, taken off with a heel of older wood attached. When putting in the cuttings, the soil should be made quite firm, and, should frost loosen the ground in winter, choose a dry day to make the soil about them firm again by treading. Cuttings must be kept firmly fixed in the ground, otherwise a goodly proportion of them will fall to

specimens of conifers in the garden, while in one part there are, or were, some fine trees of the common Beech. There used to be, too, a very fine specimen of the Monkey Puzzle (*Araucaria imbricata*), the branches sweeping the ground on all sides. *Eucallonia macrantha*, planted on the house, used to grow and flower freely, and the common Hop trained to a high pole made enormous growth every year. The Pampas Grass, growing in the kitchen garden, yearly produced its handsome heads of bloom. The kitchen garden, round which is a fine old wall, slopes to the south, and here Strawberries and all small fruits, including cordon-Gooseberries, used to be excellent. Raspberries planted for nearly thirty years used to throw up canes 5 feet and 6 feet high, and bear heavy crops of fruit. In the vicinity of the house are the remains of an old Roman road, and also those of a supposed Roman camp, while near are some relics of the Druidical times, as at Stonehenge.]

VEGETABLES.

A DRY WEATHER VEGETABLE.

PERPETUAL SPINACH OR SPINACH-BEET.

THIS is a most excellent and useful vegetable, which can be had all the year round by making sowings at three different times—one in April, one in July, and another in September—devoting ground to it according to the demand. The Perpetual Spinach seems to grow luxuriantly in any soil, and at all seasons of the year, and being a gross feeder one can give the plants a good quantity of liquid or other manure. Often in very hot, dry weather the Round-leaved or Summer Spinach is liable to run early to seed; therefore it produces but few leaves, and these only of second quality. The Perpetual sort, on the contrary, grows well in hot weather; and by feeding the plants freely with artificial manure one is able to get from the spring (April) sowing alone a good supply during the summer and autumn. The second sowing must be made early in July, in order to give the plants time to get well established before winter, and from this one a good supply is obtained, in proportion to the size of the piece of ground devoted to the crop. The September-sown lot comes in well in early spring. This Spinach is exceedingly hardy, and often, when the ordinary Prickly-seeded Winter Spinach is killed, it survives the frost unscathed.

CULTURE.—The ground for this Spinach should be either dug deeply or, better still, trenched, working into it at the same time plenty of rotten-manure for the roots to feed upon. The seed may be sown broadcast upon the beds or in rows, as they afford a better opportunity for keeping the ground free from weeds, and, if need be, artificial manure can be sown between the rows, hoeing it in deeply with a draw hoe. Bone meal is one of the best manures for Spinach; it seems to invigorate the plants in a very short time after being used. Liquid-manure from the farmyard is, however, quite as good, only it requires to be oftener used during the season. I find two good dressings of bone-meal will carry a crop on for six months.

In the White-leaf or Spinach-Beet (here figured) when true, the leaves are very numerous, broad, slightly undulated, and of a very light or yellowish-green colour. The leafstalks are somewhat larger than those of Beetroot, and of a paler colour than the blade of the leaf.

SEAKALE.

I RECENTLY visited a Surrey cottager's garden of the best possible description, in which I noted a small breadth of very strong Seakale. The cottager stated that he found that plot to be relatively the most profitable area he had in the garden, as it had produced him a quantity of fine Seakale in the late winter, when all other garden crops were scarce, and this, based on the customary value of such products in the shops at that time of the year, showed that the produce was worth double that given by any other crop. The matter is easily tested by anyone willing to take the trouble to do so. He can in the winter trench 2 feet deep and well manure a plot either one half or a full rod of 30½ yards in area, then get from some grower strong Seakale root cuttings properly made and about 5 inches long. Dibble those into rows 20 inches apart and 15 inches apart in the rows, just allowing the tops of the root cuttings to be covered with fine soil. That will require just about 108 cuttings to a rod, each one, assuming that proper growth was made, giving a strong blanched head the following winter. If these heads were sold in bundles of nine for 1s. each, that would give a rate of 12s. per rod, and a capital return it would be also. But Seakale is a valuable vegetable, equally to grow for own home consumption as for sale, and should be priced on the same scale. Blanching is easy. In the late autumn leafage dies away, and there remain but the buried roots and the purple crowns, which just project from them. To blanch well, it is advisable to save dry all coal ashes made, and

screened, then to place these in ridges along over the rows, and on these some of the soil, well forked over and made as fine as possible. These ridges of ashes and soil should be fully 8 inches to 9 inches deep. Cutting may begin at one end of the earliest covered rows so soon as the sides of the ridges of soil are seen to crack, and may be continued as needed until all the blanched Kale has been cut, and the soil levelled. A. D.

NOTES AND REPLIES.

Tomatoes falling to set.—I have six Tomato-plants, and not one has fruited. The flowers all drop. I have watered with liquid-manure, also soot-water, and top-dressed with manure from yard. I have two plants in one bucket. Will that prevent bearing? Some I have placed outside, but it seems to make no difference. If you can give me any help, I shall feel obliged.—Miss I. HORSBET.

[You have made a mistake in feeding before the fruits have set, thus causing the growth to be too strong and vigorous, and responsible for the flowers dropping. Never feed Tomatoes until the crop has set, and see that all the side shoots are rubbed out so as to admit light and air to the flowers.]

A good Pea.—For several years I have grown Senator Pea, but it seems never to have been tried at Chiswick. There is a big trial of Peas there this season, and amongst it is Senator. It is of medium height, averaging



A good dry weather vegetable (Spinach-Beet).

3 feet, and is a splendid cropper. So pleased were the members of the fruit and vegetable committee with it the other day that they at once gave it the high award of a first-class certificate. I have Senator growing on some manure trial plots at Surbiton. There are seven rows, one on each plot, and although lying as in field culture, the crop is one of the heaviest I have ever seen. The pods are long, curved, fully filled, and the Peas soft and sugary. I regard it as one of the best 3-foot Peas in cultivation. The good old Daisy, from Messrs. J. Carter and Co., also obtained a first-class certificate. Dwarf Harbinger, Little Marvel, and Early Giant (4 feet), from Messrs. Sutton and Sons, and Western Express (5 feet), R. Veitch and Sons, obtained awards of merit. —A. D.

Vegetables at the Holland Park Show.—Remembering how very important is in any garden the vegetable department, it was somewhat a matter for surprise and regret that so few vegetables should have been sent to the flower show recently held in Holland Park, Kensington. But whilst all descriptions of plants and of flowers were there represented almost to repletion, fruits were few and vegetables fewer. So much is unfortunate, because unless these very important features were well represented horticulture is shorn of some of its most important attributes. But for the enterprise of Messrs. Jas. Carter and Co., of Holborn, who sent a very nice collection of some twenty dishes of vegetables, chiefly, of course, grown under glass, and of Mr. S. Mortimer, who had capital Cucumbers and Tomatoes, there would have been no vegetables. Possibly it may be pleaded that the season is late: both vegetables and fruit late. That may

be so, but, on the other hand, there were far superior examples and far more of them at the Temple Show, held a month earlier, and fruit was seen there in much greater abundance. It was to be deplored that at a great metropolitan show, visited, as it doubtless was, by many foreigners and colonials, products of such great importance, and to the production of which we, as a nation are second to none other, should have been so marked by being absent. How different is the case at the myriads of small rural shows, met with all over the kingdom. At those, vegetables and fruits always occupy the most prominent positions, and are, so far as the season will allow, well represented. The complaint made with respect to the absence of vegetables at Holland Park strongly accentuates the need there is for the holding of at least one exhibition of first-class vegetables in London annually.—A. D.

Tender Cucumbers.—It is hardly too much to say that in nine cases out of ten Cucumbers are not cut until they are a long way past their best. Two-thirds grown is about the best size for Cucumbers. Beyond that stage they deteriorate. It is somewhat surprising that they should be allowed to do so; for Cucumbers are invariably sold singly, by the brace, or by number. Neither is there any loss of weight by cutting Cucumbers early. On the contrary, there is a great gain. The earlier the fruit is cut, the more will be produced and the longer the plants continue bearing. There is nothing like early cutting for perpetual fertility. Each fruit removed at one-half or three-quarter size is succeeded by two or three more. A second fruit will almost be fit to cut before the first would have been removed under ordinary circumstances. Early cutting also maintains the plants in the highest health and strength.

Vegetable Marrows.—In spite of the fact that these plants like rich soil, all the same they are impatient of over-much wet. Should the summer prove to be a cold, damp one, mildew will soon be plentiful on the plants, and then they rarely fruit well. Where growing on mounds or heaps of refuse, or trained over thick hedges or on the roofs of sheds, pig-styes, etc, the vine and leafage are usually more healthy than when lying on wet soil. Where the plants have been put out on to merely slightly elevated mounds, the vine trailing over the level ground, it will be wise at once to lay down Pea-sticks, just throwing the vine back when it is formed, and relay it over the Pea-stakes, as these will keep it off the cold ground. All the Cucurbitaceae family are very tender, and cold, wet soil or air is injurious to the plants. Whilst doing very well outdoors, Vegetable Marrows, all the same, like all the warmth that can be furnished.—A. D.

Winter Turnips.—A good supply of these is valuable during the winter and spring months. It is difficult to gauge the exact time to sow, but, making allowance for difference of climate, the main winter crop should be got in between June 20th and July 20th, sowing earliest, of course, in late districts, and later in the south and in early localities. Two sowings, however, are best, allowing a fortnight between them, and then a good standing winter crop is almost certain. Winter Turnips should not be above half grown when winter overtakes them, as they then stand frost and alternations of the weather better. Mature, full-sized roots are the first to give way. Moderately rich ground and a deep till should be afforded them; and when the plants are past all danger from fly they should be thinned out, as Turnips which are thick on the ground never stood the winter well. Some people sow a later crop between the first and last weeks of August to succeed the first, but such a crop should not be trusted to. They may form usable little hulbs in spring, but the chances are that they will never come to anything, and run to seed the first thing when growth commences. Behind a north wall is a good position for a winter crop of Turnips, as they are always in the shade during the short days, and, not being so often frozed and thawed, they last better. Chirk Castle is by far the best variety for winter, being very hardy, white-fleshed, and good.

GARDEN WORK.

Conservatory.—Summer is fast merging into autumn, and any specimen plant which is likely soon to require more root-room should have a shift now. Palms, Bamboos, Indian-rubbers, Japanese Grasses of various kinds, including the Eulalias; then among flowering plants, Acaecias, Epacrises, Heathis, Azaleas, Tree Carnations, Rhododendrons—anything, in fact, that is pinched at the roots—if repotted at once will have time to get the roots well into the new soil before the short days come. Firm potting is essential to obtain short-jointed growth. Loose potting may rush a plant on a little faster, or may appear to do so, but there is no permanency in it, and nowadays we are trying to do with smaller pots. With this object in view, firm potting of all things is absolutely necessary. The sweetest climber just now is Mandevilla suaveolens. It wants plenty of room, and flowers best when permitted to run up near the glass, or even outside at this season through the open lights. No greater mistake can be made at this season than keeping the conservatory too close, either night or day. Of course, this does not mean that the house should be open during a gale, or that if the outside temperature falls very low, as was the case here a few days ago, the house should not be nearly or even altogether closed during a cold night if necessary. In gardening there should be no cast-iron rules, and the rule of thumb man generally fails. Tree-Carnations and most of the winter-flowering just should now be in their flowering pots to get well established before winter. Of course, this does not refer to such things as Cinerarias and Primulas. Double white Primulas with us have just been divided. Many of them which had been top-dressed with sandy peat or Cocoa-fibre had made roots; but we find cuttings with a piece of old stem attached soon form roots. Formerly we used to give these cuttings heat, but now we place them in a close frame, shaded a little, ventilating a little early in the morning to keep down damp, and they root quickly and form good plants.

Stove.—Many of the stove plants, flowering and fine-foliaged, have been moved to the conservatory. Others, such as Gardenias and Francisceas, have been taken to a cool-house to ripen. Where there is a number of good specimens of Eucharis Lilies a succession of flowers may easily be had by resting in succession. I do not think it is wise to turn them outside altogether, as under such conditions the plants sometimes lose most of the foliage, and that is not natural and weakens the growth. When the constitution is weakened the mites come on or disease makes its appearance. In plant growing either indoors or outside anything which is calculated to lower the vitality of the plants should be avoided, or trouble will surely come. Mealy-bug should be looked after now. Thrips also may appear on Crotons and Dracenas, and be unobserved during a quiet time. For insects generally there is no better remedy than the vaporiser, but I do not think it will clear out mealy-bug, red-spider, or scale. If a plant is badly infested with mealy-bug or scale the best and cheapest remedy is to throw it on the fire. Plants are so cheap now and so easily increased that I should never waste time over unhealthy ones.

Ferns under glass.—All the young stuff will do better in low pits or frames than in a house for the next two or three months. The glass must be lightly shaded in some way. Linewash, with about a pound of size mixed in each pailful, will do, or Summer Cloud may be used. Ventilation must be freely given at the back during the day. Clearing the Fern-houses of the young stuff will give more room to the larger plants, and so all will benefit. The best time for propagating these species and varieties which do not produce spores freely is in the spring, when the growth is just becoming active, though, of course, the propagation of choice kinds may go on all through the season if necessary. I suppose no one has two any of the best of all the Maiden-hairs, A. Farleyense, and to work up a strong stock quickly it is better to divide young plants than old ones. Nephrolepis exaltata is one of the best basket Ferns. Its growth is very free,

and young offsets soon accumulate round the base, which may be removed with a sharp knife without detriment to the main plants, and in this way a stock is soon worked up. Tree-Ferns of large size are hardly so common as they were. Anyone having an old dead trunk of a Dickeonia may soon furnish it with a young plant of Woodwardia radicans planted in the top, where it will soon form a drooping head of fronds that will give the appearance of a veritable Tree-Fern. Ferns will require a good deal of water now, and the atmosphere must be reasonably moist by damping floors several times during bright days. Fires will not be required now.

Watering Melons.—Keep the water-pot away from the main stem. The principal feeding roots are not there, and if water lodges there canker may be troublesome if the weather should be damp and cold. Ventilate freely in bright weather to get the foliage firm and vigorous. Red-spider seldom attacks hard, leathery foliage. Give liquid-manure when the fruits are swelling twice a week if water is required so often. No shade should be given to Melons. Elevate the fruits on panes of glass to lift them off the ground. If the fruit cracks, the ventilation has been at fault, especially in the morning, or probably too much water has been given. Discontinue watering when the fruits begin to ripen and give air very freely.

Window gardening.—The most useful window plants now are Begonias, Musk Balsams, Plumbago capensis, Campanulas, various kinds. C. garganica is a charming plant for basket or in a pot for a bracket, and is now nicely in flower. The old-fashioned double-flowered Myrtle is now in flower and makes an excellent plant for the hall or the porch outside. Many amateurs grow Lilies, especially the lancifolium section, which may be grown from year to year.

Outdoor garden.—If the seed-pods are removed from Sweet Peas, a successional lot of flowers will be produced. The same thing occurs with Canterbury Bells, Antirrhinums, and many other things. The Antirrhinums are exceedingly effective in masses. For this purpose soft colours are best, and, if the seeds are saved from isolated groups, they come true to name, especially the white, crimson, and yellow kinds. The weather is too hot and dry yet for budding, but as soon as the change comes the standard Briers should be done. The dwarfs may wait a bit, as it is generally possible to find moist bark by removing a little soil from the base, and the lower the bud is inserted the better. The propagation of Carnations and Pinks may be done now. Place mounds of gritty soil round each plant for the layers to root into. This makes sure work if the soil is kept moist. Pinks are usually propagated by cuttings or pipings, or they may be layered like Carnations. All the Dianthus family, including Sweet Williams, if there is anything very choice, may be increased by layers. Faded flowers should be removed from Roses. A soaking or two of liquid-manure will help the later blooms. To obtain fine blooms of Asters and Stocks, the plants must be well nourished with liquid-manure, and the blossoms should be thinned, if required for exhibition, and shaded as the flowers expand. The same remark applies to most flowers grown for show.

Fruit garden.—The red-spider is a very small insect, but a very troublesome one when it gains a footing under glass. In some gardens it gives more trouble than in others. I once knew a garden on elevated ground, and where the soil was light, where it was next to impossible to get rid of it altogether. But usually where the roots are kept healthily moist, the ventilation properly managed, and the syringe is in good and careful hands, the red-spider need occasion no alarm. A low temperature may kill the perfect insect, but will not injure the eggs, and this is where the value of a thorough winter cleaning of vinerias and Peach-houses comes in, especially where there has been red-spider or mildew in previous years. To give colour to Peaches and Nectarines the fruit must be exposed to light and sunshine, and all foliage which unduly shades fruits should be thrust on one side or removed altogether, but the foliage is necessary to the

proper ripening of the fruit, only a very limited number of leaves should be removed at this season. It is pretty generally understood that when most fruits are approaching the ripening stage the supply of water is reduced, and this is where the value of experience and judgment comes in. Too much moisture in the soil spoils the flavour, and too little may lead to shrinkage in the size of the fruit.

Vegetable garden.—Sow Lettuces of hardy kinds freely. Cabbages also of early kinds must be got in. No one should trust to one sowing of early Cabbage, nor yet to one kind. Most vegetable growers have their favourite kinds, but a good deal depends upon the selection of the stock, and this means that seed should be obtained from reliable people, and in this case we may safely take what they recommend. Personally, I am growing Ellam's Early and a good stock of Enfield Market Cabbages. For Lettuces for late autumn and winter, of course, one grows the black seeded Bath or Brown Cos, and if a white Lettuce be wanted, Hicks' Hardy White will do. All the Year Round Cabbage Lettuce is hardy, and Wheeler's Tom Thumb Cabbage Lettuce is excellent for sowing under glass for winter, and for forcing, Paris Market is a good Lettuce. The Peas which are mulched will pass through the hot bursts of sunshine without much injury, or much labour in watering. Keep the hoe going. This always pays at this season. Follow up the early Potatoes with another crop. There are several things which must be sown shortly, including Turnips, Winter Onions, and Spinach. There is, of course, time enough, but the land will want a top-dressing of something, and time afterwards to settle. Earth up all green crops as they advance in growth. E. HUBBARD.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

July 28th.—Attention is now being given to budding Roses and fruit-trees at every favourable opportunity. The layering of Carnations and Picotees is also being attended to. A few seed-pods will be saved from plants in pots. I feel an interest in this work. It has future possibilities, even if no great success has been had up to the present. Sowed more Green Curled and Batavian Endive.

July 29th.—Planted more red Celery in trenches. The plants are shaded for a time by laying branches from trees across the trenches. Sowed Spinach. Very often this sowing turns out well, though occasionally a few of the plants may bolt. These, however, are easily pulled up. Lifted Shallots and Garlic and laid out to barvest. Tomatoes are receiving a good deal of attention now in thinning and tying. A loose surface is kept where mulch cannot be given.

July 30th.—Sowed seeds of Humea elegans. This is a very useful old plant either for conservatory or planting outside. This was formerly used largely in terrace gardens. Whitewashed and cleaned thoroughly Mushroom-house ready for the autumn and winter beds towards the end of next month. At present Mushrooms are obtained from outside beds, and beds made up outside now in the shade of a wall will be useful through the autumn.

July 31st.—Planted Lettuces and Endives on ridges between Celery trenches. These generally do well, showing the value of depth of soil. Some trouble has been experienced with the black-fly on Morello Cherries, but we have at last got rid of it, chiefly by dipping the shoots in a mixture of Tobacco-powder and soft-soap. The powder is just as effective as Tobacco liquor. Strawberry runners laid in small pots are removed from time to time as soon as rooted, and in the course of a few days are shifted on into fruiting pots, and placed thinly on coal-ash beds.

August 1st.—Made a last sowing of Cabbage seeds, including a few seeds of the Blood-red for pickling. Dahlias are looked over now to tie and thin growth. Layered shoots of Daphne Cneorum in border. Evergreen and other hedges have been trimmed. Sowed French Beans of an early kind in pit for late harvest. (Will be kept off for some time.)

Some time is given to the Chrysanthemums, removing side shoots and killing earwigs.

August 2nd.—Late Grapes are looked over every week to regulate lateral growth. Peaches everywhere are exposed to sunshine by thrusting aside or removing foliage if necessary. Some of the late Plums have been removed from orchard-house and plunged outside to give more room to late Peaches and Nectarines. The Plums do well outside after June. Conservatory is rearranged weekly, and anything fresh available obtained from stove or other houses.

BIRDS.

Birds dying (Zitella).—We can only repeat that the cause of the death of so many of your birds is the direct rays of the sun playing on them, and thus causing heat apoplexy. Unless you shade the aviary, your birds will, we fear, continue to die.

Death of Canary (Ethel Marjory Hunter).—The bird was in an advanced state of decomposition, and, therefore, an examination could not be made. There is no doubt, however, from the particulars you furnish, that surfeit was the immediate cause of death, brought about through partaking too freely of the egg-food supplied for the feeding of the young. You did right in giving castor-oil, the bird being so constipated. A teaspoonful of liquid magnesia in an ounce of the drinking water is also useful in cases of this kind. Feeding on too rich a diet often ends in mortification of the bowels in cage-birds. The abdomen becomes puffy and assumes a dark appearance, and having reached this stage there is no cure. It is a very difficult matter to prevent the parent birds consuming too large a quantity of egg-food while feeding their young.—S. S. G.

LAW AND CUSTOM.

A jobbing gardener's charges.—I am a jobbing gardener, and was sent for to mow a lawn. I took another man and a boy with me, and I was there three hours, and my man and boy were there five hours. I charged 1s. per hour for two men and a boy, and 1s. 6d. per truckload of Grass carted away. Payment for the cartage was refused, and less than I demanded was offered for the cutting of the Grass. Can I recover my charge in full?—T. M. W.

[In the absence of an express contract, a man who is employed to do any kind of work for another is entitled to reasonable remuneration, and where the person employed is ordinarily engaged at such work, the payment he usually receives for his services must be considered reasonable, and must be paid by a stranger engaging his services without making any special contract as to the amount of such remuneration. If your ordinary charge for the services of two men and a boy is 1s. per hour, you may recover that amount, and on the face of it the amount seems reasonable enough. You say your employer deducts 1s. from your charge for the time occupied in the work, but you do not state why he makes the deduction; if he has a good reason for his deduction you cannot recover, but if his only reason is that he considers 1s. an hour too much, the deduction cannot be enforced. You do not say why payment for the carting of the Grass was refused. If you were engaged to cart it away, you are entitled to be paid a reasonable sum for so doing, but if you were not engaged to cart it away, and your employer refuses payment on the ground that he did not engage you to cart it away, you cannot recover that part of your charge. More than this I cannot say, as you do not give any reason for the refusal.—K. C. T.]

Breach of contract.—Our local horticultural society were to have held their fifth annual show on Bank Holiday next and following day. For various reasons it was decided a week or two ago to abandon the show for this year. The band and tents had been engaged some little time ago, and the orders for both were at once cancelled. The tent proprietors, who were to charge £16 for the two days, now say they shall want £5 (half the charge). We consider this unreasonable. Can they compel us to pay anything? They had quite a month's notice of the abandonment.—HOLLIBOCK.

[You entered into a contract with the parties in question to provide a tent for your use on the Bank Holiday and the following day, and the contract was binding on both parties. You have now cancelled the contract, or, rather, you have given the other parties notice that you shall not fulfil the contract, and consequently you have broken the contract.]

the contract, and the proprietors of the tent are entitled to compensation for your breach of contract. The compensation to which they are entitled is the sum they will lose through your breach of contract; in other words, the profits they would have made if you had carried out your part of the contract. Whether that profit would have amounted to £8 is a doubtful matter, but if they sue, they will have to prove the amount of their loss through the breach. It may be that their loss will be merely nominal, as if, for instance, they are enabled to secure another contract for the same day, and that contract be equally remunerative. In that event the compensation would be practically confined to the expenses incurred in making the contract, etc., but it is possible that for some special reason the compensation might not be strictly limited to the loss of profit through the cancellation of the contract. It is clear that you are liable in damages, although the actual amount of damage is uncertain.—K. C. T.]

CORRESPONDENCE.

Questions.—Queries and answers are inserted in GARDENING free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF GARDENING, 17, Furnival-street, Holborn, London, E.C. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being nappies and other small pots. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Agasthea celestis (R.).—This is the name of the blue flower sent, and it is frequently called the Blue Marguerite. It is a very beautiful old plant, and may be increased by cuttings in spring. The soil should be loam and leaf-mould made sandy, and it may be planted outdoors in the summer time.

The Lion's-tail (Leonotis Leonorus) (W.). A free-growing, beautiful plant. It is easily grown, and makes a good plant for late blooming in the greenhouse; but the shoots should not be stopped after the end of the present month. Drain well, as it likes an abundance of water. Pot in good loam. Grow in the open air during summer, but do not let the plants suffer from want of water, and remove to the greenhouse towards the end of August.

Treatment of young Ferns (R.). The seedlings should now be pricked out in clumps of six to a dozen together into other pots and pans, as they are presumably too small at present to be potted separately. As they gain in strength use a little loam in the potting compost, increasing the quantity as the plants get larger for all robust kinds, as *Pteris*, etc. After each removal into larger pots they must be kept close for some days till established.

Mignonette for winter flowering (Receda). Seed of this should be sown now without delay in the pots in which the plants are to flower. Five or six-inch pots are good sizes to use. These should be drained and filled with a compost consisting of loam and a little leaf-mould, well-rotted cow-manure, and a sprinkling of sand and fine rubbish. The pots should then be placed in a cool and airy frame, and in the time be transferred to the greenhouse.

Azalea-leaves turning brown (A.). The leaves are covered with "thrips," lay the plants on their sides and well syringe them with strong Tobacco-water. Place them afterwards in a partially-shaded situation out-of-doors, syring them freely every afternoon with clean soft water, and repeat the Tobacco-water washing (placing the plants then on their sides) twice a week for two or three weeks.

Unhealthy Gloxinias (W. B.). The leaves are badly affected with "thrips," a great insect pest of Gloxinias, and generally brought about by a hot, dry atmosphere in the house, and sometimes also the plants may have been allowed to get dry at the roots. The only thing to do now is to maintain a cool, moist atmosphere around the plants, and to give very frequent light fumigations with Tobacco. These must be often repeated, or the "thrips" will not be destroyed.

Arum Lilies (Carm.). These may either be grown in pots, or be planted out during the summer, the latter method giving the finest plants. Choose a somewhat sheltered and shaded situation, and make the soil, which should be well-manured, very fine, adding to it some well-decayed manure. Pull the large plants to pieces as required, and set each one separately some 12 inches apart. Water copiously in hot weather, also sprinkling overhead frequently. Pot them up again by the beginning of September.

Ferns losing their fronds (C.).—When the fronds decay in the manner described it is a sign that the roots are unhealthy, or that the atmosphere is too damp. We should leave the top of the case off all night, and during the greater portion of the day sometimes. We do not consider *Adiantum* to be the best. Ferns for culture in a conservatory like more light than the generality of ferns do, and they dislike moisture on the fronds, which should never be wetted in watering. If the plants still refuse to thrive, we should next season replace them with other kinds.

Tuberous Begonias as basket-plants (F. P.).—Yes these do make capital basket-plants, and there are now very many excellent kinds to be had; and if treated in this manner and well managed, the large, brilliantly-coloured blossoms, which are naturally of a drooping character, can be seen to advantage. They should be grown in good soil and kept well supplied with water, and if placed in a moderately cool, dry house they will produce a charming display of flowers for months in succession. See our article and illustration in the issue of June 7, page 131.

Pruning the Oleander (C. M.).—The Oleander is naturally of a loose, Willow-like style of growth, so that any attempt to keep it dwarf will result in the production of few, if any, blossoms, and, generally speaking, the more-pruning the fewer flowers. Still, if the plant is not showing flower, it may be cut back to within a couple of feet of the pot at once, or, if there are any blossoms, as soon as they are past. Good, stout shoots are very necessary for flowering, hence, in cutting back, any weak and exhausted shoots may be removed altogether. If you cut your plant back now, you must not be surprised at a poor floral display next year.

Campanula glomerata (Constant Reader).—The plant which you sent for seed flower is *Campanula glomerata*, a hardy border perennial growing about 18 inches high, and producing its violet-purple flowers in clustered heads on the top of the stems, and sometimes also in axillary clusters in the uppermost parts of the stem. The plant may be raised from seeds, though a better way of obtaining a quick return would be by the purchase of half-dozen plants from any of the hardy plant nurseries. The plants may be had for about 6d. each. It is not quite hardy, but grows freely in any ordinary garden soil. The plant may be increased by dividing the roots in early spring. There is a large-flowered kind known as *C. C.* speciosa. This is a rather stronger grower.

Smilax not starting (J. G.).—A very difficult question, as there is no apparent reason why your plants have not started into growth long since.

If you think the roots at the base of the bulbs are in a bad state, and should advise replanting in some new soil. A mixture of equal parts of loam and leaf-mould or peat, with a liberal dash of sand, will form a suitable compost. Plant the bulbs so that the upper part is about 1 inch below the surface of the soil, and avoid overwatering. It is necessary, also, to see that the box is well drained. If you have an ordinary frame, kept fairly close and shaded from direct sunshine, it will be better to pot the box in there than in theinery till the plants are well started into growth.

Plants for cold greenhouse (D. T.).—We can recommend nothing likely to conform to your requirements, for to obtain flowering plants in the depth of winter more heat is absolutely necessary. Bulbs, such as Hyacinths, Tulips, Narcissus, etc., may be obtained in autumn, potted, and placed out-of-doors. Then, early in December, take them into your greenhouse, where they will come on gradually, but they are not likely to flower till February. Little bushes of the hardy *Campanula glomerata* Azalea mollis are sold in large quantities for winter forcing under glass. All they need is to be treated much as the bulbs above mentioned, but, like them, they cannot under such conditions be had in flower till winter is almost, if not quite, past. The winter-flowering plants need only greater care in temperature, but, at the same time, a considerable amount of cultural skill is required to get them on to flowering size.

Bouquet competition (V. B.).—If you had enclosed the leaf of the exhibition schedule on which the bouquet classes are mentioned, we might have been better able to reply to you. However, a shower-bouquet means one made up in the usual way, but the flowers light and set out all crowded. From one side of the face of this bouquet down, some 2 feet in length, sprays of Smilax or Asparagus plumosus, either four or five, and of these drooping sprays of flowers, similar in colour to the chief ones in the bouquet, are wired at a few inches apart. A marriage or wedding bouquet is now invariably of the same style, but composed entirely of white flowers. We know of no spray-bouquet but there are sprays for ladies' wear. These are invariably from 6 inches to 7 inches long, from 2 inches to 3 inches broad, and slightly curved. They should be light, have a base of Ferns and Asparagus, and consist of about two colours of flowers only.

Pampas Grass, moving (Tribble).—The grass is obviously in uncongenial soil, and we advise, if there be not much new growth, to cut the leaves down, say, 15 inches of the earth, and then lift the plant carefully and replant at once in its present position, then it will be well to lift, remove in a couple of hours of the old soil, and replace with good loam, leaf-soil, one-third of manure, and the same quantity of old mortar-rubbish. Old plants are best if divided at times, and this may be necessary in your case, dividing the plant into three or five parts, and replanting the divisions in a circular group, with a little distance apart, yet in such a way that the whole may again form a good single specimen. In case of water following the division and planting, take care that watering is given at the time. Also encourage new growth by frequent watering overhead. Take care that the roots do not suffer from dryness during the time they are out of the soil.

Palm falling (K. Y. B.).—It is impossible to definitely state the reason of the leaves of your Palm falling, affected as it is in the specimen sent, but it appears to be irregular or irregular watering, pot-bound, and there. Again, when plants are very much starved, the leaves are more suffer from a kind of semi-starvation, the leaves are apt to go in this way. If such is the case with yours, it had better be repotted, using a compost of two-thirds good loam to one-third of leaf-mould, with a little sand.

The pot should be large enough to allow of 1 inch to 1 1/2 inches of new soil around the old ball, and, at the same time, it must be effectually drained. When a Palm is much pot-bound, repotting is, however, by no means absolutely necessary, for a little weak manure-water occasionally or some of the concentrated manures that are now so much in vogue and so easy of application, will do all that is necessary. Should the state of the leaves be caused by an unhealthy condition of the roots, the only remedy is to remove as much of the old soil as possible, and repot. In any case and in any stage overpotting Palms should be studiously avoided. As far as one can judge from a small portion of the leaf, the specimen sent is, we should say, *Chamaerops humilis*.

Anemone fulgens, Gentian, Salvia, etc., from seed (G. B. L.).—We cannot say how long it may be before the Anemone seedlings appear, so much depending upon the freshness or otherwise of the seeds. The tubers are infinitely more satisfactory, because these grow at the right time and flower well. Moreover, the roots—i.e., tubers—are so cheap by the hundred or dozen that purchased seeds may prove disappointing. Freshly gathered seeds are best sown at once in shallow drills in a north border, covering one-quarter of an inch deep with fine earth. Such as these make growth the ensuing spring as a rule. The *Salvia* should be sown in slight rows in February or March, and the seedlings will lift quickly. However the ensuing autumn, *Gentian* seed is best sown in pans or boxes of very sandy soil, the rarer kinds taking from one to two years to grow, and in the seedling state progress is very slow. Seeds of the commoner kinds, if plentiful, may be sown as you suggest, making the soil quite sandy. In such a case we would prefer covering the seed with slates or boards to stay evaporation.

Herbaceous border (Slow Coach).—In the space you dispose it would be easy to form a border of the better class of perennials to make a display over a long season. You certainly possess a fair width and a good proportionate length in which to carry out really effective groups. We are not sure we define your meaning when you refer to a border "arranged in progressive order." There is a large border at Hays, in which large numbers of plants may be seen, but there are annuals and other such tender plants in it also; and, again, some groups of statos, the *Iris* and *Ponies*, are quite absent from it. In these two groups we have some of the best flowering plants for June and July, and we take it, unless a border is laid out specially to give effect at certain seasons, that such showy subjects cannot well be spared from it. We would furnish you with a list of plants likely to suit, but we think it best, as the work cannot be done at this time, to let you quite understand your requirements, and particularly as to whether you desire a gay border during any season, or a representative herbaceous border of good and showy plants? Depth and character of soil may also be given, as these are helpful.

FRUIT.

Strawberries failing (A. W. M.).—It is not to be wondered at that your Strawberries have failed. The tests show that the soil is quite exhausted from their being too long in one place. Three years is quite long enough to allow the plants to be grown in one place. You ought to at once set about making a new plantation, following the instructions given to G. Watts, page 27.

Strawberries in pots (P.).—These should stand lightly on a bed of ashes after potting, in some open situation where they can receive as much sunshine as possible, regularly removing all runners and weeds. Two or three good waterings with liquid-manure will, when the pots are bed with roots, be beneficial at intervals of a week or so, as it must not be continued too late in the autumn, especially if the plants be intended for early forcing, or if you wish to have the crowns too much, and delay that abstraction which is essential to the production of a good crop of fruit.

Watering fruit-trees under glass (Pittman).—It is a very difficult thing to arrange further particulars as to soil and formations of borders—i.e., whether the drainage is good or otherwise. You ought to have given our trees a thorough soaking, sufficient to reach all the pots, when the fruit set, and then applied a good mulch of rotten manure to retain the moisture. Water freely, once a fortnight, during the summer when the fruits are green and swelling, thus washing the goodness of the manure to the roots of the trees. A too heavy dose of manure when the fruits are colouring will cause cracking, and spoil the flavour.

Secondary flowers on Plum-trees (Down).—You might as well pick off the secondary flowers on your plum-trees, as they are useless. No doubt, as in often the case, some cause operates unduly to develop bloom-buds in your case, perhaps, the transplanting of the trees in March, when it would have been better to have done so in October or November. We assume that the branches, which in May were cut back to one-half of their length, have broken into growth, and each one has thrown three or four shoots? If so, then the foundation has to be laid for the formation of proper heads later. Those shoots will, perhaps, need some thinning of the inner ones in the winter, if they seem to be too thick, and shortening one-third. After that, a mere thinning of branches or shoots will suffice, as the trees should then soon begin to fruit.

VEGETABLES.

Ear-worms (G. B.).—You do not tell us the nature of the soil bed, 15 feet by 8 feet, which is infested by ear-worms, but we assume that it is inside a house or frame. The preferable course would be to remove the soil outside, spreading it about 9 inches thick, dressing it with half a bushel of fine gas lime, letting it lie on the soil, and watering it in after a couple of weeks' exposure, and repeating it a fortnight later. Some three months of such treatment should destroy all ear-worms in it. If you allow the soil to remain in the bed, and mix with it half a bushel of gas-lime, you cannot well use the bed again for some time. If you have anything growing in the bed, you had better, as a palliative now, water it once a week with a strong soot-water, putting a bushel of fresh soot into a coarse bag, and soaking in 20 gallons of water for a few days. If you cleared out the soil and thoroughly hot-soaked the bricks or boards of the bed, you could repare with sweet, fresh soil at once.

SHORT REPLIES.

Zitella.—See reply in this issue, page 288.—N. H. J.—Very likely your Peaches have split stones. We should like to see a fruit before deciding. If you send us a specimen, we will do what we can to help you.—Allen Edward.—"The Subtropical Garden" can be had from John Murray, Albemarle-street, London, W.—Constant Reader, Ireland.—Strawberries and Roses received a mass of pulp, quite unable to form any opinion as to the cause of failure.—H. Brown.—See reply to E. Terry and others in our issue of July 5, page 218, re Roses with green centres.—Ajax.—See reply to "E. M. M." re Spanish *Iris*es, in our issue of July 19, page 265.—M. G. L.—You cannot do better than get "The English Flower Garden," in which the subject of "Air and shade" is dealt with. The price is 15s. 6d., post free, from this office.—G. R.—You cannot do better than use Peruvian Guano, which mixes freely with the water.—Gardener.—See reply to "K. C. B.," re "blistered Peach-leaves," in our issue of June 28, page 235.—A. D.—1. We have seen neither box nor insects. 2. So long as your plants are growing well there is no need to feed them. We should certainly not feed until you find that the soil is exhausted, which the plants will soon show by the colour of the leaves and the poor growth.—Oakley.—Your best plan will be to call in someone to advise you on the spot. It is difficult to advise you without seeing the garden. You can get the burr from the brickfield far cheaper than you say—in many cases for the price of cartage only.—Co. K.—Get 1 peck of lime, 1 peck of soot, 6 lb. of sulphur, boil together for two hours, and, when cool, use 1/2 pint to 4 gallons of water, preferably soft water, syringing the Rose with same.—Eust Lothian.—Apply to Gilchristson and Page, Hertford.—Mrs. E. M. W. Mayou.—Your Azaleas are a mass of thrips and red-spider. See note as to treatment in our issue of July 5, page 283, and also reply to "A.," page 288.—A. Lecturer, Lambeth, Trinidad, and Poppies are best divided in the autumn. 3. Stand your Rose in the open air to ripen up the wood. See article on Rose Niphetos in present issue, page 278.

Catalogues received.—Jas. Douglas, Great Bookham, Surrey.—List of Carnations, Auriculas, etc., and a List of Choice Dahodites for 1902.—E. H. Kregel and Son, Haarlem, Holland.—List of Dutch Bulbs.

NAMES OF PLANTS AND FRUITS.

* Any communications respecting plants or fruits sent to name should always accompany the parcel, which should be addressed to the EDITOR OF GARDENING ILLUSTRATED, 17, Furnival-street, Holborn, London, K.C. A number should also be firmly affixed to each specimen of flowers or fruit sent for naming. No more than four kinds of fruits or flowers for naming should be sent at one time.

Names of plants.—Miss Corke.—*Spiraea flagellata* syn. *S. hypericifolia*.—Chas. Blackwell.—We cannot undertake to name florists' flowers.—John O'Donnell.—*Deutzia crenata*.—An *Old Subscriber*.—*Kalmia latifolia*.—Mrs. Newman.—The Throat-wort (*Trachelium inculcense*).—B. Colwell.—*Aechusa italica*.—J. M. W.—Specimens insufficient.—A. Mox.—1. We cannot undertake to name Roses; 2. *Lysimachia nummularis*.—Sandhills.—Form of *Orchis latifolia*, as far as we can make out.—Mrs. Holt.—White *Ramanas* Rose (*Rosa rugosa* alba).—Miss Dutton.—*Phacelia (Rosa)* (*tanacetifolia*, a hardy annual from California).—T. Hunter.—1. *Thiladelphus microphyllus*; 2. *Deutzia crenata*; 3. *Deutzia crenata* flore-pleno; 4. *Spiraea Douglasii*; 5. Please send in flower, looks like a *Viburnum*.—P. M. Wells.—1. *Crinum capense*; 2. *Anemone rivularis*; 3. *Cornus tomentosum*; 4. *Spiraea Bumalda*, variety of *S. japonica*; 5. *Aristolochia Clematis*; 6. *Diplopappus chrysophyllus*.—J. G. G.—1. One of the many hybrid *Pinks*; 2. *Rose Balm* (*Moss-rose didyma*); 3. *Campanula lactiflora*; 4. *Hellianthemum vulgare*.—W. Allen.—1. *Linaris purpurea*; 2. *Entola* (*Phacelia tanacetifolia*); 3 and 4. We cannot name florists' flowers.—Bluzbam.—The White Bean (*Pyrus Aria*).—Frank Piper.—1. *Potentilla*, one of the many hybrid forms; 2. *Festuca glauca*; 3. *Lysimachia vulgaris*; 4. *Verbascum vernale*.—Rockery.—1. *Achillea ptarmica* fl.-pt.; 2. *Campanula rhomboidalis*; 3. *Sedum album*; 1. *Campanula pyramidalis*.—E. K. D.—1. *Coronopus Dogwood*; 2. The Cockspur Thorn (*Craegus crus-galli*), form *et.*—Eugénier H. M.—*Ligustrum japonicum*.—J. W. I.—*Campanula periclyifolia*; 2. Goat's-beard (*Spiraea Aruncus*).—S. Leak.—1. *Lychnis fulgens*.—M. F. S.—1. with yellow flower, *Verbascum phloxoides*; 2. *Rhododendron Wilsoni*, probably. —Fugénier.—*Stachys* (*Stellaria Holsteae*).—Allen Shaw.—Specimen quite shrivelled up.

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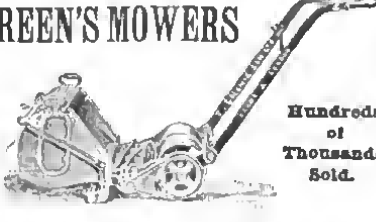
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GARDENING ILLUSTRATED.

No. 1,921.—VOL. XXIV.

Founded by W. Robinson, Author of "The English Flower Garden."

AUGUST 2, 1902.

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VEGETABLES.

THE POTATO DISEASE.

I have to wish to pose as an alarmist, but it is certain that we must be prepared to see evidences of the Potato disease of a somewhat extensive nature soon. But a few days since I saw in a Surrey cottage garden, and one that was remarkably neat, in the leafage of some early Potatoes as bad an attack of the disease as I had, in a preliminary way, and so early, seen at any time. It was somewhat reassuring not to see any further evidence of the disease in any other garden or allotment in the locality, but, as was the case in this instance, the spot appears so suddenly and in such a severe form that it may be found in any breadth of Potatoes at any moment. The attack in question had followed almost directly on a heavy thunderstorm, and naturally led to the assumption, as was the case in past years, that the spot is of electrical production. But there can be no doubt that July heat causes the spores of *Phytophthora infestans* to become abundantly active in the air, and only moisture is needed to cause them to be exceedingly fertile. That moisture thunderstorms supply, as the heavy rains which accompany them fall on heated soil, thus creating vapour or mist, which, condensing, settles on the Potato leafage and supplies moisture such as the spores need. Then they penetrate into the leafage, produce mycelium, which eats up or kills the chlorophyll or green colouring matter in the leaves, and destroys the cuticle, so that the leaves and stems also speedily wither up and die. Whilst doing this harm, the fungus produces a white mildew or mould on these spots, which creates other spores or seed by myriads, and thus the disease is extended to all living Potato leafage and stems near by. No wonder that a breadth, green on one day, may be diseased and blackened in a week, so rapid is the fungoid growth.

It is only by the application of the Bordeaux mixture to the breadths of Potatoes that it is possible to combat the fungus. That remedy, whilst so well known, seems to be very little used. It is cheap, and easily made and applied. Were it some expensive patent fungicide, no doubt many would purchase and use it. Gardeners seldom do, for instance, and yet if they or anyone will get a large cask or wooden tub and the ingredients, they may make with 2 lb. of sulphate of copper or bluestone, and 2 lb. of fresh lime, 20 gallons of the mixture, enough to spray a big breadth of Potatoes. One authority asserts that for the sum of 3s. an acre of Potatoes may be well sprayed so far as the materials are concerned, and that a man with a knapsack sprayer may do so much in a day. With a couple of sprayings, one, now and one a fortnight later, the Potatoes may be so far saved as to make a difference of 2 tone per acre in the tuber produce later, or some £3 to £4 value in gain. Generally the disease does not appear until about July 20th, but, as shown, it has appeared earlier this year, and may in thunderstorm

areas have spread widely by the end of the month. In some preceding years we have not seen it until August. The 2 lb. of bluestone should be dissolved in 20 gallons of water placed in the tub. To assist the process, the solid should be occasionally moved. Then dissolve in a gallon of boiling water 2 lb. of fresh lime and 2 lb. of common treacle or molasses, pouring the latter when clear into the tub. The bluestone is helped to be dissolved also if first put into a gallon or two of boiling water, the other quantity being added later. When adding the lime solution stir the liquid well. When settled it should be of a pale green colour. It is best applied in light spray or vapour form. A. D.

SALT IN THE GARDEN.

By very many owners of gardens salt is treated more as a poison to weeds than a fertiliser to the soil. By most persons weedy walks and Asparagus-beds alone are associated with salt, but there are soils and other crops that benefit from a judicious use of salt. Any and all of the Brassica family are sometimes benefited by a light sprinkling in summer. Beetroot, Spinach, Seakale, Onions, Leeks, Celery, and Carrots are benefited by a sprinkling of fine salt on the soil just prior to the sowing or planting. Asparagus absorbs salt, and Seakale does all the better for a small dressing once or twice during the year. Excepting for Seakale and Asparagus, I usually employ salt more as a deterrent to slugs and worms than as a stimulant, though it serves the two-fold purpose. This season, with such frequent rain showers, slugs and large earthworms are very destructive to small seedlings—indeed, much seed has been weated and valuable time lost from this trouble this year, causing both inconvenience and extra cost. Lime and soot are valuable helps in combating slugs, but in showery weather these quickly lose their effect. So, also, would salt, but perhaps not quite so soon as lime. In using this it is most important when applied to anything tender that it be pounded fine. For Asparagus and Seakale, however, it does not so much matter. I find a 4-inch sieve most useful to pass salt through; there are then no lumps to deal with, and there is greater economy because it may be spread so thinly and easily. For anything except the two crops just named only a mere sprinkling is advised, the lighter the dressing the better. It is better to give a little twice or even three times, according to the nature of the soil and the weather. Heavy land is not benefited by salt in showery weather, because it tends to make it still wetter and cold. Light soils certainly derive benefit from it in summer. What is called agricultural salt is that used for land, but I do not find it easy to procure locally. Sundriesmen supply it; but I got ordinary bar salt, and either pound it up with a mallet or rub the lumps on the wire of the sieve, a method I find produces a fineness scarcely possible by the use of the mallet alone. Unless good agricultural salt can be had it is cheaper to have the ordinary bar salt. That which has been used for some other commercial

purpose—in the curing of bacon, for instance—has but little value for the purpose. I should consider this almost dear at a gift; at least, what I have had from bacon curers has not proved sufficiently profitable to satisfy my purpose. Now is a very good time to apply a dressing to Asparagus-beds, both for the purpose of supplying a stimulant to the plants and also as a weed destroyer. It is better applied now than in spring, when the ground is too cold. W. S.

NOTES AND REPLIES.

Summer-sown Carrots.—This is the time to make a sowing of any good Carrot, such as Nantes, Model, or Intermediate, for winter pulling. There should be at disposal ere now vacant plots of ground from which early Peas, Potatoes, or other crops have been taken, and on which Carrot seed may well be sown. In no case is it desirable to have a large bed. One ranging from half a rod to a full rod in area will usually furnish enough Carrots to supply ordinary garden requirements. The soil from which any crop has been taken may well be forked over 6 inches deep and neatly levelled, then have shallow drills drawn 10 inches to 12 inches apart. If the time and soil be just then very dry, much help is given to seed germination if the drills be well soaked with water just before the seed is sown. Carrot seed is now free from hooks, and it does not cling as was formerly the case, hence it is easy to sow thinly, especially as it is not purposed to thin the plants, but to pull the roots in the winter just as they are, using them small and fresh.—A. D.

Late winter greens.—All gardeners will do well to make at the end of July small sowings of the Hardy Green and Rosette Coleworts, Early Gem and Ulm Savoys, St. John's Day Cabbage, and Asparagus, and Chou de Milan Kales. These sowings, if kept watered in dry weather, shaded, and protected from birds, will give good plants to put out early in September rather thickly on to recently vacated ground, and they will give, if small, at least most useful cutting material for the late spring, when it will be all of great value. It too often happens that because all descriptions of winter plants are, in accordance with the customary advice, sown in March, April, or May, there is with most of the plants far too early hearting or heading, and a glut of material is furnished when not required. It is better to make these small late sowings for the sake of getting late plants, as during April and May there is too often great scarcity of green stuff, and then any late crop, be the heads however small, is of the greatest service.—A. D.

Tomato Early Ruby for early crops.—When a good selection of this can be had it is hard to beat for early work. I have grown it for this purpose for years, and can find nothing better. It is free fruiting, and this in the early stages, and even when planted out it does not get coarse, like so many kinds. This year, early in June, I saw a fine crop of this at Montacute House, near Yeovil, in a low span-roofed pit sunk 3 feet in the ground. The borders in which the plants were growing

were from 2 feet to 3 feet wide and shallow. They were 10 inches apart, from seed sown in the second week in February, and good fruit was ready to cut the last half of May. They had commenced to fruit close to the ground. In some instances there were from eight to twelve fruits in a bunch, and I considered it would take from five to seven to a pound. The plants were kept to single cordons, and from the cropping they grew slowly. I have it this season equally free in boxes on a shelf at the back of a lean-to vineery. I have tried many kinds, and think the sorts that have cut, narrow leaves and slightly corrugated fruit are the most free fruiting. I have one now under the name of Lord Roberts of this type, and it is very good.—J. CROOK.

Scarcity of Cabbages.—It may almost seem incredible to speak of the scarcity of Cabbage, but that such exists has been plainly shown recently in the market and garden. The reason for this is easily explained. During June there were almost continuous rains, and these coming on full-grown Cabbages caused wholesale decay and bursting. The beds then, too, were in such a state that many already uncut would be full-hearted. The outcome of this is that a great quantity must be cut at a sacrifice, which obviously means scarcity afterwards, or until there are successive beds maturing, or a forward second growth on those cut early in the season. This scarcity is felt, too, the more keenly because it happened while Pess and Cauliflowers were neither cheap nor plentiful. With the opening season of the Pea, Cauliflower, Broad Bean, and other summer vegetables, there is not usually so keen an enquiry for Cabbages as this year, and the instance affords another truism of the fickleness of the English climate and its influence on vegetation.—W. S.

Tomatoes in Scotland.—As far as the season has gone (from a private gardener's point of view), Tomatoes have set pretty freely on the whole, taking into consideration the almost sunless weather we experienced in May and June. This season's trials here include Holmes' Supreme, Dobbie's Champion, Conference Improved, Klondyke, and Eclipse. Contrary to my expectations, the first-named has been very difficult to set, and the fruits, although of good shape, have not exceeded eight or nine on a truss. The second on the list I find promises to bear a fair crop, the fruit being of a smooth, round shape and of good flavour. Conference is also a shy setter, the fruits smaller than in the last-named, but of a delicious flavour. Klondyke is showing well, and promises a heavy crop, many of the trusses bearing as many as twenty-one fruits, all of good size, of a flattish shape and fine flavour. This variety would make a good market gardener's sort. Eclipse is a good, old, well-tried variety which I never fail to grow. It is good for any purpose, is a very free setter, and an exceptionally heavy cropper. The above are all receiving the same treatment, and all are quite free from disease. It would be interesting to have notes from other readers.—D. G. McIVER, *Bridge of Weir, N.B.*

Early Turnips.—Where facilities do not exist for growing early Turnips under glass it is important that the very earliest kind should be grown. In seed lists many kinds are named, and certainly there is a great advance of late years in kinds that bulb early and are suitable for frames or early borders, compared with the large topped white kinds. I am aware these early kinds have not the flavour, but this is not of so much importance as their earliness. During the last few years I have tried many kinds, and from several seed firms. Some five or six years ago I had a fine stock of Early White Milan. Every year since I have ordered the same kind, but never has it been true like the first stock. This year I ordered this again from a firm in New York. This was sown side by side with seed from another firm in England. That from New York was the very best stock I have ever seen. Out of three rows, each 20 yards long, there was not a rogue or coarse hnb, and good hulhs were pulled under eight weeks from a sowing which was made in the last week in March. Early Purple Topped Munich, sown at the same time, was ten days later. One firm sent Purple Strap-leaved for White Milan.—J. CROOK.

PLANTS AND FLOWERS.

ROOM AND WINDOW.

TUBEROUS BEGONIAS IN WINDOWS.

THE increasing popularity of these proves their great value as garden plants; but, much as they are cultivated, they deserve to be still more known, for not only are they of great service for the embellishment of conservatories and greenhouses, but they are also capital for bedding and among the best things that can be had for windows in dwelling-houses, where they succeed well and flower in the greatest profusion. Plants in windows generally get killed by getting too much water; but with these Begonias there is no fear of that, as they are moisture-loving subjects, and, unless they actually stand in saucers of water, they cannot scarcely be kept too wet, especially when they become pot-bound and are rooting freely—a time when there is a great demand on the roots. Besides their adaptability for window culture they are not subject to insects like other plants,—a circumstance greatly in their favour—and once they begin to flower they keep on and

cut in to two eyes, so that strong breaks are ensured and a compact habit preserved. As soon as the young shoots form, shake out and repot in a good loamy compost, with some well-decomposed manure or a pinch of some concentrated stimulant to each potful. Leaf-mould, at the rate of one-sixth of the whole bulk of soil, induces root formation and promotes free growth. From the middle of June onwards the plants may go into the open air for an hour or two every day.—J. C. B.

Shading flowers.—Those who grow flowers for exhibition find that shading the bloom is an absolute necessity at times, and, whether it be Roses, Carnations, Dahlias, or whatever subject one wishes to have in perfection by a given date, means to screen them from hot sun have to be brought into requisition. A very cheap and handy contrivance may be made with pieces of tin or zinc about 10 inches square, screwed to a stake, and bent over at the edges as desired, being placed over the bloom at any height needed. A rather more expensive arrangement, and one often adopted, is to procure a zinc disc, on the side of which a slot is fixed, through which an iron rod is placed, being fastened with a peg at the required angle, and these, if painted, last for



The Begonia as a window plant.

last in beauty the whole season through. As they are apt to draw if put in windows too early, it is best to start them and get them forward in cold frames, where they should be placed on a cool, moist bottom, and have a little shade during the sunniest part of the day. Thus treated, their progress will be rapid, and they will keep sturdy and strong. If wanted large, the points of the shoots may be nipped out, which will cause them to break back and become well furnished.

NOTES AND REPLIES.

Double Fuchsias in windows.—One does not often see well-bloomed specimens of double Fuchsias in windows. In a general way they are not so robust as the single-flowered kinds, and not getting so much light and air as when cultivated in a greenhouse, the growth made is too weakly to admit of the production of good blooms. The unfavourable conditions may in a great measure be counteracted by putting the plants in the open air on all favourable occasions. By exposing them to the direct influence of sun and air, the young wood will be strengthened, so that the buds will be able to expand instead of dropping before opening, as is frequently the case. In pruning them back in March it is advisable to

years. Not only is shading flowers in this way indispensable to the exhibitor, but growers of blossoms for table who desire them to keep for the longest period with colours well retained will find the little trouble and expense serve them well. It is next to impossible in hot, dry weather to obtain Roses well formed and highly finished as to colour. Take as examples such varieties as La France, Mrs. W. J. Grant, and William Allen Richardson; one knows only too well that if they are exposed for a few hours to hot sunshine the delicate colours fade, and they lose much of their beauty. Particularly is this seen in the flowers of W. A. Richardson, which quickly bleach; but when shaded and gradually developed few Roses are more popular. A point of equal importance is that flowers screened in some way from sunshine last much longer when cut. Some people object to their borders having "shades" about them; but in hot weather, as we have recently been experiencing, there is no alternative but to revert to some such practice if flowers are to be had in good condition. The mere fact that blooms thus grown last much longer when gathered should not be lost sight of, and for this reason it is worth one's while to go to some little trouble and prevent the unduly expanding of buds that are promising.—L. H. WAST.

OUTDOOR PLANTS.

THE PEACH LEAVED BELLEFLOWER
(CAMPANULA PERSICIFOLIA).

THE various forms of the Peach-leaved Bellflower are among the finest of open-air flowers. They are also well adapted for growing in pots; indeed, few things are finer than good specimens in 8-inch pots of grandiflora and the double white variety. It is a pity that they are a little capricious as regards soil. In many places they die out in the course of a season or two, the collapse usually happening after they have bloomed freely and in very dry weather. For some years I failed to keep these Bellflowers in good health in my light soil; but, finding them so valuable for cut bloom, I made a piece of ground for them by adding some retentive material and decomposed manure. In this I find they do much better, and last season I had a fine show of bloom, and I see that the plants are throwing up well for bloom again. As the single varieties form seeds very freely, the flower-spikes should be cut down as soon as the last flowers fade, and it does them an immense amount of good if they then get a good soaking of weak liquid-manure, or, should the weather be showery, a top-dressing of rotten manure or of some stimulant. In soils naturally favourable this attention is not so necessary; but in the case of light, porous land, and when the flowering time is followed by great heat and drought, the vitality of the plants is permanently lowered unless they get some attention. The typical single-flowered forms are now in a great measure superseded by varieties having larger blooms. Both alba grandiflora and cerulea grandiflora have flowers nearly twice the size of those of original forms, and they are very free blooming. Two very fine forms are maxima duplex and alba maxima duplex, with semi-double flowers; they are vigorous growers, and in groups of a dozen good specimens create a fine effect. Another fine form recently distributed by a Dutch firm is Morheimi; the flowers are pure white, and seem to come midway in form between maxima duplex and alba plena. This should make a fine pot plant.

J. CORNHILL.

STOCKS FOR SPRING FLOWERING.

BROMPTON STOCKS.—A good strain of these comes in useful in early spring, and enlivens our borders just when flowers are none too plentiful. Sow the seed during July, placing the pan or box in a cold frame, and shading until the seed comes through, when place outside, pricking off into other boxes 2 inches to 2 1/2 inches asunder, or 4 inches to 6 inches apart outdoors on a shady border as soon as fit to handle, care being taken in transplanting that the stems do not get bruised. Towards the end of October lift carefully with a trowel and plant where they are to flower, allowing about 12 inches between each plant if massed, but planted three in a group in the herbaceous border they show to advantage. White and scarlet are the colours usually met with.

EAST LOTHIAN STOCKS.—These, again, are most useful, whether under glass or in the open border, but specially in pots during early spring, when, if placed in the greenhouse, they not only add brightness to the house, but their delicious fragrance pervades the whole structure. The same remarks apply as to sowing, pricking off, etc., as given above, but I prefer potting them up in a comparatively small state, as they do not appear to feel transplanting so much when small as when they have made much top-root, which should be preferred as well as possible. I find 6-inch pots a serviceable size to flower them in, potting firmly, using loam, leaf soil, and sand, with a little finely broken brickbats with the soil, placing them into these pots about the middle of September, and in a month from then changing the pots to the rims in a cold pit or frame, where all the light and sun during winter may reach them. In this position little or no water will be required from the end of October to the end of January if an inch or so of Cocoa-nut-fibre be placed over the pot to prevent evaporation and act as a mulch against frost. In the warmer counties the plants can be set out in beds and borders early in

October, and provided the winter is not particularly severe, the plants are a mass of flower towards the end of May, and continue well into the summer, when if a further sowing be made early in March a display can be had quite late in the autumn. My experience with East Lothian Stocks is that a greater percentage of doubles can be got than from any other species of Stock, and it is wise to get the seed from a good firm. These Stocks are most useful for cutting. Those in pots may be stood in the house when nicely in bloom, their delicious scent being much appreciated by most people. When feeding the plants in pots early in spring great care is necessary that the manure is not used too strong. When planted outdoors let the ground be in good heart, working in plenty of well-rotted dung when trenching.

J. M. B.

FLAG IRISES.

It is rather a sweeping assertion to say that we owe more to the Iris family for the embellish-

ment of our gardens than to any other, and I can imagine the incredulous contempt with which the statement will be received by the worshippers of the rival queens of the garden, the Rose and the Lily. No one but will admit that when these are at the zenith of their display they eclipse all lesser lights; but the Rose does not expand its petals earlier than May in most genial seasons, except in the south-west, where the great single white Rosa lavigata may sometimes be seen bearing its first flowers in April, and the first of the Lilies is rarely in flower before the opening days of June, while September sees the rear-guard of the Tiger Lilies glow in the autumn sunlight. Now that Tee and China Roses are so largely grown, September, October, and even the early part of November, if the weather be mild, are not Roseless months; but after that for nearly half the year the open garden knows not the queen of flowers, but while she bides her face the Iris has been bravely blossoming. As early as the closing days of October the

Algerian Irises (*I. stylosa*), lavender and white, commence to expand their delicate, scented blooms, and continue to flower, as long as the land is not frost-bound, until April. From November to Christmas time and early January the Scorpion Iris (*I. alata*) opens its lovely flowers, followed by *I. persica*, *I. histrio*, *I. histrioides*, *I. reticulata*, *I. Heldreichii*, and many others. Then come the hybrids of *I. pumila*, with their dwarf flag leaves, and shortly after *I. chamaeiris*, *I. pumila*, and *I. olihiensis*. Next we have the Spanish Irises, yellow, white, and blue, the Flag Irises, and in July the handsome English Irises, followed by the stately golden *I. aurea* and *I. Monnierii*, and the white and yellow *I. orientalis* or *ochroleuca*, all three of which often attain a height of 5 feet and flower until August, so that there is only one month in the twelve when Irises may not be gathered from the open border. The Onocycclus, or Cushion Irises, such as *I. Sasiana*, *I. Gatesii*, *I. Loreti*, and others, bear immense dotted flowers in the summer, but the



A group of German Irises. From a photograph sent by Mr. Jas. E. Tyler, Halestead, Essex.

difficulties of their successful culture are too great for them to become popular with the ordinary amateur. This, however, is not the case with the subject of this note, the Flag or German Iris, whose requirements are of the simplest description. It may be seen flowering freely on steep railway embankments, the soil of which is baked during the summer to a brick-like hardness, and bearing its great purple flowers in sheaves beneath an old standard Apple-tree in a cottage garden. The type and its white form are most commonly met with, but there are numberless named varieties of great merit that are of equally easy culture. Of these a good selection is Apollo, yellow, with crimson falls; atro-purpurea, purple-black; Bridemaid, white, suffused with blue; Cordelia, lavender and purple; florentina, white, turning pearl-grey, fragrant; flavescens, pale sulphur; Mme. Chereau, white, heavily margined with lavender-blue; Queen of the May, rosy-lilac; pallida, pale lavender; pallida, dalmatica, lavender-blue; both of the

URBANA-CHAMPAIGN

two last-mentioned are sweetly scented, and in good soil attain a height of from 3 feet to 4 feet, and have handsome, broad, grey-green foliage; Princess of Wales, the best white; Victorine, one of the most lovely of the entire race, white, with deep violet markings on the falls. S. W. F.

SAPONARIA (SOAPWORT).

PERENNIAL herbs and alpine plants or annuals belonging to the Pink family.

S. BOISSIERI is a dwarf and showy alpine of quick and free growth, somewhat tufted in character, and spreading out into good-sized plants. It bears freely bright pink flowers.

S. CAESPITOSA (syn. S. elegans) is a neat little alpine perennial from the higher regions of the Central and Eastern Pyrenees, flowering in August, but in the lowlands its rose-coloured blossoms appear towards the end of June. It forms rosettes of thick, glabrous leaves; the flowers, in a thick cluster, are on short, stout stems. This graceful little plant is valuable for the rock-garden. A sandy soil suits it best, and it endures our winters.

S. CALABRICA (syn. S. multiflora) is a pretty prostrate hardy annual, 6 inches to 9 inches high, much used for edgings, its slender stems covered with small pink blossoms all the summer. There is a white variety. Seeds may be sown in the open border in April, or earlier in heat if bloom is required early in the season. The plant thrives best in rich sandy loam.

S. LUTEA, from the Savoy and Piedmont Mountains, has yellow flowers and a woolly calyx. The leaves are narrow and not unlike those of the alpine Catchfly (*Silene alpestris*).

S. OCYMOIDES. — A beautiful trailing rock-plant, with prostrate stems and an abundance of rosy flowers so densely produced as to completely cover the cushions of leaves and branches. It is easily raised from seed or from cuttings, thrives in almost any soil, and is one of the most valuable plants we have for clothing the most arid parts of rockwork, particularly in positions where a drooping plant is desired, the shoots falling profusely over the face of the rocks, and becoming masses of rosy bloom in early summer. It is also excellent for planting on ruins and old walls, on which the seed should be sown in mossy chinks in spots where a little soil has collected. It is also a valuable border plant, forming roundish, spreading cushions, and deserves being naturalised in bare and rocky places. A native of Southern and Central Europe. Although it grows freely in poor soil when it is planted with the view of allowing it to fall freely over the face of the rock, it will do much better by giving it a deep, loamy soil. We once saw a mass of this 5 feet long and 3½ feet in breadth.

S. OFFICINALIS (SOAPWORT). This is a hardy some native plant about 2 feet high, with large

blossoms, usually rose-pink. The double variety is the best. It is a rambling plant, and soon spreads rapidly; therefore, it should not be planted in select borders, but is pretty for rough places in the pleasure-ground and wild garden, as it grows in any soil.

LAWNS.

GRASS LAWNS and smoothly-mown pleasure grounds were, perhaps, never fresher and more beautiful than they are to-day. The cool spring and the recent showers may probably account for this, having so far prevented the sun-scorching so often experienced on dry soils when drought prevails. The same moist conditions which help the lawn Grasses, however, likewise favour the Daisies,

owing to weeds and coarse Grasses having got ahead. Constant rolling, at least once a fortnight during winter, is essential if any thing like a fine and even surface is to be secured.

Old lawns often become weedy partly through starvation, or partly owing to the use of dirty soil or of superphosphate or potash manures for top dressings, which encourage the growth of weeds and Clover almost as much as they do that of the lawn Grasses. It is extremely difficult to obtain either fine earth or well-rotted stable-manure that does not contain seeds of Dandelion, Plantain, and Dock in abundance, so that in top-dressing lawns one is often stocking them with weeds as well as enriching them with manure. Then, again, if burnt earth, wood-ashes, and the like, or potash manures in any form are employed, the result is a growth of Clover.

Newly-made lawns are frequently prepared in a hurry, either on old weedy sites or are levelled before sowing with earth full of weeds and coarse Grass seeds, and then sown immediately with fine lawn Grasses, the consequence being that Grass seeds and weeds come up together, and the seedsmen are frequently and wrongly blamed. There are only two ways of getting weedy lawns clean, the one being a vigorous course of hand-weeding, and the other the persistent use of the most suitable of the so-called artificial manures. Any attempt to weed a Grass plot or lawn by man or boy wandering all over its area with a fork or spud is worse than useless; the only thing for it is to divide it into narrow strips with pegs and twine, or with a lawn-tennis marker, and thus get the whole area efficiently and systematically cleared. The best tool for extracting weeds from Grass is a small two or three-tined fork, by which the whole root may be loosened so as to be withdrawn with the fingers, the surface being pressed down again with the foot afterwards. Spuds and weeding-knives are well nigh useless, and only lead to the work being half done. After weeding, top-dress with clean earth, sow the whole area with good lawn Grasses, and roll well, and if this operation can be done just before rain so much the better.

Some of the finest lawns in England are those at the Oxford and Cambridge colleges, and are the result of years of constant care and attention. One sunny April day we saw the lawn at St. John's, Oxford, covered with brownish cloud-like patches, and asked the gardener why it was? "Oh!" he replied, "we dressed it with sulphate of ammonia last week, and it has been pretty dry since, so the Grass is browning a little; but all that will vanish after we get a shower." A week afterwards the same lawn was as fresh and as green as a billiard table, and the object lesson was not forgotten. This sulphate, while encouraging the Grass, acts very injuriously on the broad-leaved weeds by scorching them, and by regular applications they are done away with altogether, the Grass being meanwhile improved in growth and verdure. In a recent *Journal* of the Royal Horticultural Society of London we find a striking corroboration of the above fact, while at the same time deprecating the use of potash and superphosphate manures for Grass lawns and greens:

"A mixture that has been used with splendid results on some well-known golf links in the neighbourhood of London is made of equal proportions of nitrate of soda and sulphate of ammonia, and applied at the rate of 1 lb. to the rod. This is given several times during the summer months, and if the weather is dry it is thoroughly watered in. More than a pound to the rod is never applied at a time, as it is found that it is better to use only that quantity, and repeat it, than to apply a stronger dressing. Before the application of the nitrate of soda and sulphate of ammonia the greens were literally covered with Clover, but since employing it not only Clover, but all the plants with objectionable broad foliage have disappeared, the reason being that the manure kills the fat leaves and kills them; and by frequently repeating the application any new growths are from time to time destroyed, and this continual weakening of the plants eventually destroys them altogether."

By a persistent and judicious combination of the above hand-weeding and manuring processes, even the weediest and worst of the lawns may be improved, and the hint as to the weed-killing properties of a combination of nitrate of soda and sulphate of ammonia is well worth the attention of all who are interested in the perfect keeping of golf links, bowling greens, and velvety lawns around the house in either town or country. The Field.



The Tufted Soapwort (*Saponaria caespitosa*).

Plantains, and other weeds. Weedy lawns in many, if not in most, cases are the result of poor soil and neglect in keeping. Few people realise how rapidly Daisies ripen their seeds after flowering, or that Daisy seeds are ripe enough to grow when scattered by the lawnmower, even although to the eye they appear quite green. Both Daisies and Plantains, again, are dwarfed in habit by constant mowing, and often flower and ripen seed in the Grass below the cutting level of the machine. In order to secure and keep up perfect lawns, they must have ample attention all the year round. Most lawns and Grass plots are neglected all through the late autumn and winter, say from October until March, when a rush is made to get the ground in order, and very often much disappointment follows.

NOTES AND REPLIES.

Star of Bethlehem as a vegetable.—With reference to a query in your paper, I find that *Ornithogalum pyrenaicum* is eaten in the neighbourhood of Bath under the name of French Asparagus.—J. E. KESSELL.

Tufted Pansies—propagating for autumn planting (W. S.)—If you would have an early display next spring you should begin at once. First determine the varieties in your collection you wish to perpetuate, and then cut back the plants to within an inch or two of their crown. At the same time loosen the soil round about the plants, and mulch them with some nice light gritty compost. This material should be worked into the growths at the crown of the plants, and each one then treated to a copious watering. Under these conditions, and with genial weather, new growths should quickly develop, and, if these fresh shoots are encouraged to grow freely, in a week or two they may be detached and then inserted in a bed of prepared soil. Should you require only a limited number of plants you should cut out the coarse and elongated growths and work in some light gritty soil among the younger shoots retained. It may be possible, in a little while to detach some of the smaller shoots, with roots adhering, and such useful pieces of growth invariably make ideal plants when the planting out time arrives in early October. This process may be continued until a sufficient quantity of stock has been secured. Make up your cutting-bed outdoors, choosing a cool and protected situation. Let the soil be raised a few inches above the garden level, as this is a great advantage in wet weather.—C. A. H.

Snapdragons.—Whether Snapdragons are treated as annuals, biennial, or grown on from year to year, as is often the case, a good display of bloom is assured. A bed of seedlings sown in heat in March is now in full bloom, as is also a group of old plants I have had for several years, and which stood the severity of last winter much better than young plants from a sowing the preceding July. Many people have a high opinion of dwarf plants of all kinds, hence it is that the tall-growing Snapdragons are not seen in gardens so frequently as years ago. In some borders, may be, small growing plants are desirable; but in most places, I imagine, there is room for a few of the tall, branching sorts, which are so effective. Snapdragons will grow in almost any soil, but prefer gritty, sandy compost, and often do well where the soil is not always the most abundant. In old limestone walls and rocks, in the niches of which Wallflowers frequently grow, I have seen Snapdragons blooming freely, so that it is not the quantity of soil that is absolutely necessary. Where accommodation does not exist for raising them in heat in spring, now is a favourable time for sowing seed out of doors, and if wintered in a bed under a fence, most of them will bloom early next summer.—WOOD-BASTWICK.

Montbretias.—In a garden on the outskirts of a town, in a part that had been somewhat neglected, there are to be seen now several groups of Montbretias. The soil in which the bulbs were planted last autumn was almost worn out, but, after digging in some leaf-mould, planting was done. Beyond a mulching of manure in the winter they have received scarcely any attention, and just at the moment they promise well for bloom. I do not think it is generally known

how simple their culture is, and what bloom Montbretias give in a single season, otherwise more would grow them. When once planted, too, they need not be disturbed—in fact, there is no necessity to touch them for several years.—LEAUFURST.

Phloxes in autumn.—A suggestion made in a recent number of GARDENING that cuttings of Phlox should be struck for autumn use under glass reminds me of a way of prolonging the season of this useful and effective garden plant. For many seasons I have taken cuttings in the spring from the outside shoots of an established clump. This has mainly been done with the idea of increasing stock, but the practical result has been a late display of flowers. Selecting short, sturdy growths about 3 inches long, with a portion of underground stem, the cuttings are inserted about April—in fact, any time before the shoots get too long or drawn. They are more certain if struck under a handlight or in a cold frame; but I have frequently put them straight into the open. Either way, hardy treatment is all



Saponaria ocymoides. From a photograph sent by Miss Willmott. (See page 294)

they require. Moved where they are to flower, as soon as they have made roots—in perhaps six weeks' time from insertion, or any time up to the middle of June—they will flower just as the old plants begin to fail. They give a very fine head of bloom on a single stem. As each stem on an old plant is by no means able to do this, there is a clear gain by the proceeding, and the trouble is very slight. These young plants make a finer display the following season than the older clumps. I have no doubt they could be potted up for conservatory use, just as well as later hotbed-struck plants. The hardy treatment is simpler, possibly a week or so longer—that is all.—R. B.

Wild gardens.—“Castlemains” account in GARDENING ILLUSTRATED of her wild garden is very attractive. She seems to have planted it with good taste. The one thing to avoid in such a garden is vulgarising it, as I have seen a mountain glen vulgarised by the introduction of essentially “garden flowers.” To her list one might add for spring Solomon’s Seal (*Polygonatum multiflorum*), a native of Britain, or, at all events, a natural-

ised plant. Such would also include *Hypericum calycinum*, *Saponaria officinalis*, *Linosyris vulgaris* (known also as *Chrysocoma Linosyris*), *Lyssimachia nummularia*, *Geranium sanguineum*, *G. s. album*, *Hieracium aurantiacum* is a native of Scotland. Ferns of any hardy kind can never come amiss. The Periwinkles (*Viola major* and the white variety) would be very appropriate. But one false note in the shape of a “garden” flower would spoil the whole effect.—S. M.

Rudbeckias.—The Rudbeckias are showy in the borders, and come to perfection when many summer flowers are failing. *R. Newmanni* is popular with many, but some, like myself, find it not the best variety where one has to contend with a dry soil, as it needs much watering. *R. maxima* is a tall-growing sort, just what is often needed on the border of a shrubbery. *R. californica*, in point of flower, is larger than both of the aforementioned, and is at present showing colour.—TOWNSMAN.

Gladiolus The Bride.—Whilst there are many enthusiastic growers of the Brechleyensis and gandavensis forms of the Gladiolus, it is a matter for surprise how comparatively few people plant the early sort, The Bride. Admirers of cut flowers and those who grow with this intent ought to become acquainted with the one under notice. The corms are cheap, and can therefore be planted liberally; they will grow in any light soil and bloom most profusely, points that those who make a speciality of flowers for cutting should watch. I have noticed more in the markets this season than in almost any year; but from gardens, where one would expect to see them, they are missing. Growers of lilies should try them, and note how effective they are when placed in vases together.—DERAY.

Annuals.—So soon as annuals that have been sown either broadcast on beds to assist in the flower garden display or on prepared borders for cutting can be handled, they should be thinned out to the respective distances likely to be required to allow for the development of individual plants. It is a great mistake to let them remain crowded thickly together; the size and quality of the flowers are thereby seriously affected and the duration of bloom also considerably shortened. Where slugs are troublesome, it will be found advisable to mix up a goodly heap of fine wood-ashes, adding thereto a fair proportion of soot, and dusting the beds all over with the same. Somewhat choicer annuals that were sown in frames on a slight hotbed will now be nice plants, and may be transferred to permanent quarters at any time. The spring-sown batch of Stocks will be found very useful, especially those varieties of branching habit that are in request for the flower basket. *Cosmos bipinnatus* in different colours is an annual of good habit, growing and flowering freely on rather poor soil, and having beautifully cut foliage as well as light, graceful flowers. Almost identical in height, but of a different shade of colour, is the miniature Sunflower, an annual that makes a very effective group, holds its foliage well, and continues in flower until late in autumn. If bedding plants are rather scarce, one or two large beds may be filled with *Chrysanthemum tricolor* in variety. Very rich colours are obtainable in these *Chrysanthemums*, and, like the Sunflower, they bloom well until the end of the season. Dwarf annuals, such as *Petunias*, *Verbenas*, *Phlox Drummondii*, etc., that were sown early, will, if they were pricked off into boxes or frames, now be nice plants, and they may be planted out at once, as they will bear more cold than *Pelargoniums*, *Fuchsias*, and the like. The remarks made above as to the depredations of slugs on outdoor-sown annuals will also be found applicable to those transferred from boxes or frames. *Zinnias* are the first to suffer, and if they are planted near a harbour for slugs they must be carefully watched until they are well on the move, and remedial measures employed at the first sign of attack.

As many of the most interesting notes and articles in “GARDENING” from the very beginning have come from its readers, we offer each week a copy of the latest edition of either “STOVE AND GREENHOUSE PLANTS,” or “THE ENGLISH FLOWER GARDEN,” to the reader of the most useful or interesting letter or short article published in the current week’s issue, which will be marked thus “*.”

CHRYSANTHEMUMS.

MANURES FOR CHRYSANTHEMUMS.

(REPLY TO "G. F. H.")

CHRYSANTHEMUMS need a change of food, therefore those who are in a position to apply stimulants in variety stand a better chance of success.

SOOT is an indispensable agent to the growth of Chrysanthemums, giving a dark colour and robustness to the foliage. It is most easily applied in a liquid state. The best way to prepare it is as follows: Place at the rate of one bushel in a bag to 100 gallons of water. The bag should be sufficiently fine in the mesh, so that the soot does not wash out into the water. Of all manures most easily obtained, especially by growers residing in the country,

ANIMAL MANURES are depended upon most largely. Local circumstances must be considered in obtaining these as well as other stimulants. Various kinds of liquid-manures, such as the drainings from the cow-houses and stables, are excellent. Perhaps the former is the better kind to use, as it is cooler. In some instances the liquid from the places named cannot be collected in tanks direct. A very good substitute then may be had from a heap of mixed manure. The best plan is to throw clean water over the heap, and allow the water to soak through the manure and drain into a pit at the side of the heap. Sheep-manure, where it can be had direct from the fields, makes a capital stimulant applied in a liquid form, as also do the droppings from deer or cow-manure made in the same way. Fowl's-manure may be treated in the same manner, and is most efficacious as a stimulant. Manure of the kinds named should be used in the same manner as that described for soot, as the qualities beneficial to the plants are in this manner extracted without the inconvenience of solids.

GUANO finds favour with some growers, and is, when of good quality, very stimulating. A 4-inch potful to 36 gallons of water, kept thoroughly stirred when being used, is a safe quantity.

NITRATE OF SODA, used judiciously to strong-growing varieties when the pots are full of healthy roots, has a quick effect upon the foliage and growth of the plants. Should the plants not appear to be making free growth, nitrate of soda quickly excites the plants and prepares them for other food. Half a teaspoonful powdered finely and watered in once or even twice in a season is sufficient for a plant growing in a 10-inch pot. Should the season promise to be a wet one nitrate of soda must not be used, as there would be a greater difficulty in maturing the growth. Plants moderately furnished with roots, owing to their being weak-growing varieties, or through ill health, should not have any nitrate, otherwise the leaves are certain to be burnt around the edges, thus causing a serious check to growth by a partial, if not a total, loss of many fine roots.

SULPHATE OF AMMONIA in careful hands is an excellent manure, perhaps unequalled as a stimulant, but it must be used carefully. It imparts colour to the leaves of the plant and richness to the blooms, which is not excelled by any other manure. The cultivator should be guided by the state of the weather at the time of application, and also by the state of the roots of the plants. Indeed, this latter is the all-important point to consider. Sulphate of ammonia should not be given to the plants until they are well furnished with roots. Used in a liquid form is the correct way to apply it. Many people are afraid to use it as a stimulant because they think it makes the blooms damp, which it assuredly does, but only when used injudiciously; for instance, too strong doses often kill the roots, not only on the surface, but half-way down the soil in the pots. Especially is this the case when the sulphate is laid on the surface in a dry state and watered in. If plants are not thoroughly well supplied with roots, sulphate of ammonia should not be given them at all, as it will do more harm than good in that manner. The best way to apply sulphate of ammonia is by dissolving a quarter of an ounce in one gallon of water—weak liquid-manure from the farmyard tank is better—commencing as soon as the flower-buds are swelling freely, increasing the strength gradually until half an

ounce is reached to each gallon of water, to be given once a week.

HOW TO FEED THE PLANTS is the next consideration we have to make. Avoid excessive use of any kind. Much better it is to give liquid-manure weak and often. Commence with soot-water, giving it to the plants every time they need water for nearly a week, then withhold it for a time, when it is again used, this time with liquid-manure from the farmyard tanks, or from that made from sheep's-manure. After the buds are formed and swelling freely, stimulants should be given regularly, varying them constantly, as a change of food is desirable. Whatever sort is used it should not be given more than three or four days at a time. During a spell of wet weather it is not possible to use liquid made from animal manures. A little of any of the artificial manures should be sprinkled on the surface of the soil. By this means the plants receive nourishment; whereas, if liquid-manures were entirely depended upon, the plants would not be in a state to receive intervening waterings. In the case of weak-growing kinds stimulants should be given to them in a slightly weaker state than to stronger kinds.

OVERFEEDING brings on premature bud-formation or malformation of the petals, caused by forcing the large outer petals too quickly and not allowing the centre of the flower-bud to fill up by degrees as it should do. When the soil in the pots is approaching dryness is the proper time to apply the stimulants. When the flower-buds are forming in the points of the shoots a check temporarily to the growth takes place. At this time feeding the plants should cease for several days, as undue excitement to the plants is not desirable at that stage, but as soon as it can be determined that the buds are swelling again stimulants may be given. There is also a difference of opinion amongst cultivators as to the proper time when feeding the plants should cease and dependence placed solely on clear water for the finishing of the blooms. Some say that directly the colour of the petals can be seen is the correct time to cease feeding, as stimulants take away the colour of the flowers. Continue to feed the plants until the blooms are three parts expanded, then cease to use stimulants, as it will be found that plants in that stage do not require water nearly so often as those which are in a more backward condition. From the time that the blooms are three parts developed the plants will have sufficient energy bottled up to unfold the blooms to their utmost capacity without artificial aid.

NOTES AND REPLIES.

Chrysanthemums—late stopping of decorative plants (Enquirer).—It has been the practice for years to stop the plants, with the object of making bushy specimens. Operations are first begun in the spring—in fact, from the earliest days of March. Commencing thus early, it is quite an easy matter to lay the foundation of a really good bushy plant. Too often growers commence much later than is desirable, and they expect to achieve results quite equal to, if not better, than their rivals who commenced in the earliest days of spring. The earlier one begins the larger will the plants be. You must also bear in mind that this stopping must terminate within a given period; that is to say, if you desire the plants to bloom during late October and November. For most plants intended to blossom during the period just referred to the last stopping should be completed before the end of June. From this time the plants should be grown on to the terminal buds, these opening kindly and developing blooms of good form by the earliest days of November. Should you, on the other hand, desire a December or Christmas display of Chrysanthemums, you may stop your plants for the last time not later than the present period. Give each plant plenty of room on the standing ground, and see that each one is also carefully staked and the growths neatly tied out. See, too, that the plants do not suffer from want of water.—E. G.

Potting Chrysanthemums late.—You have, in GARDENING ILLUSTRATED, dealt so fully with the cultivation of Chrysanthemums that it seems almost unnecessary to trouble you with any further enquiries, but a diffi-

culty has occurred to me, as may have done to others this very exceptional season, and you would much oblige me by giving me your opinion. I bought my plants in the early part of April, stopped and then shifted them, but they made such slow progress that at the end of June I could not venture to put them into very large pots, and contented myself with 6-inch, 7-inch, and 8-inch pots. Since then, with warmer weather, they are making such good progress that I am in doubt whether it would not be advisable to shift them once again. Shall I do this, or be content with feeding them with manure of different kinds?—AN OLD SUBSCRIBER.

(You would have done better had you allowed a longer time to elapse between the date of stopping them and the potting up into larger pots. In future, we would advise you to allow an interval of at least ten days to elapse between the date of stopping the plants and their subsequent potting. By the expiration of this period the young shoots should be seen, and, when once they have passed this stage, then future progress is generally assured. If you will always bear in mind never to stop the plants and repot at the same time, you will avoid much delay, and your prospects, in consequence, will become much brighter. As 6-inch and 7-inch pots are both very small in which to flower vigorous-growing Chrysanthemums, we advise you to repot the plants now in 6-inch pots into others measuring 8 inches across. The same rule also applies to those growing in 7-inch pots; they should be shifted into others measuring 9 inches in diameter. As your object appears to be that of making your greenhouse or conservatory bright and pleasing in the late autumn rather than that of exhibiting the blooms, you may, even at this protracted period, carry out the final potting with every prospect of success. The sooner the potting up is done, however, the better, as the buds will be developing within another month.—E. G.)

Watering Chrysanthemums.—No one knows more the amount of trouble watering entails just now than the grower of a batch of Chrysanthemums in pots, and anything that will help to minimise labour is worth considering. It often happens that watering once a day will not suffice. A good plan, instead of standing the pots on a bed of ashes, is to slightly submerge the pots, say, for 2 inches or 3 inches, as by this means much of the moisture is retained, whereas if the pots are placed merely on the surface, a deal of the water drains away. I have found it lessens labour considerably if, between the rows of pots exposed to the sun all day, a board is placed at the front, and often shelves that are used in the greenhouse in the winter may be temporarily brought into service. Old tan, where it can be obtained, if spread about the pots and watered, will keep moist a long time, and save the water-pot. Either of these methods is preferable to placing the plants under the shade of trees, for, after all, one must not forget that wood ripening is essential to the formation of the best blooms, and if plants are kept shaded for any length of time, one cannot expect this to take place. Weak liquid-manure applied from time to time will help the plants, and a change of food is appreciated more by Chrysanthemums, perhaps, than almost any other plant. The fault lies in giving the nutriment too strong. It is much better to give liquid-manure weak three times than surfeit the plants with a first application.—TOWNSEMAN.

Summer Stocks.—In the small but beautifully kept cottage garden of a police-constable in the village of Hambledon, Surrey, I saw the other day a singularly beautiful collection of summer Stocks. There were several colours, and about three score of plants in the bed, which was placed near the back door, and formed a sort of advance border to the vegetable garden beyond. The plants had been raised by sowing them in respective colours in a shallow box placed in a frame, then putting them out equally mixed. It would have been difficult to find from any simple flowers more of charm or richness of perfume. Stocks are in very great variety, but those of pyramidal form seem best suited for garden culture. They bloom a long time, and well repay cultivation. In the case mentioned nearly all the plants had double flowers, so great is the proportion of doubles now furnished by any good strain.—A. D.

ROSES.

ROSE LA FRANCE.

There is probably no Rose so popular as La France. Its noble silvery-pink flowers, of beautiful form, are in much request, and when culled with long stems and arranged in a vase it is impossible to exaggerate their great beauty. A Rose is not merely popular because it is a beautiful flower. Something else is required before it attains to that distinction, and that is vigour of growth, combined with freedom in blossoming and

shoots should be left a considerable length. I have seen this variety grown splendidly against a fence, as in illustration, its growths being allowed greater freedom than is usually accorded, and I am persuaded La France would be an excellent Rose for a wall 5 feet or 6 feet in height. As a standard La France makes a glorious head, which, if kept well thinned in the centre, produces blossoms of the highest quality. In large gardens it is not unusual to meet with La France by the hundred, and, where practicable, no Rose would so well repay the grower. But I would advise all about to plant the variety in hush

of the latter, not very distinct in the early summer, but towards autumn the difference in the two is well marked, Duchess of Albany being then nearly red, and in the forcing-house I have cut flowers almost as bright as General Jacqueminot. All three are first-rate Roses for pots, either forced or grown in cool greenhouse or pits. By potting up a number of each in the autumn, a supply of lovely Roses is assured in April and May, even without artificial heat. There is a Climbing La France, which produces fine vigorous growths as young plants, but it is very apt to revert to the dwarf type. There is also a



Rose La France on own roots.

hardiness. That La France possesses these qualities will not be denied. I know of no Rose that makes a more beautiful standard, and for planting in groups this old variety has yet to be surpassed. Moving, as I do, freely among Rose growers, I find the demand for fragrant Roses much on the increase, and this good old kind is one of the sweetest. La France should be treated almost as a Tea variety in the matter of soil—that is to say, it does not care for a strong, rich soil, as in such a manner, which is anything but beautiful. It should not be hard pruned. I believe in well cutting out old wood, but this one year old

form to obtain it on the seedling Brier if own-root plants cannot be procured. This stock induces a fine autumnal growth, owing to its deep rooting character. Some individuals have been disposed to underrate La France and to extol Caroline Testout; but, whilst granting all that can be said in favour of the latter, I still think La France stands unrivalled among pink Roses.

The white sport is a Rose to be looked after. It is called Augustino Guinoisseau. A more showy nearly white Rose we do not possess. It has all the good points of La France, excepting that it is not so full or perfect in form. Many is a highly coloured sport

Rose named La Franco do '89, but it is in no way connected with the variety under notice.
Rosa.

NOTES AND REPLIES.

Yellow Roses to grow near a town (H. Cox).—Rose growers are still waiting for a yellow Rose of a good hardy nature, and until that appears we must rest content with such as we have. A clay subsoil is not good for this type of Rose, but you could alter this somewhat by adding some road-grit and burnt earth to the clay before planting. If you prepare the soil in September, taking care to

dig it deeply and thoroughly incorporate the materials mentioned together with some well-rotted manure, you will be able to plant in November such Roses as we name with fair prospects of success. Many of the best yellow Roses are extreme growers, and would be all the better for a south or west wall. Failing this they succeed well as half-standards, or even as bushes, but in the latter case they should be planted 4 feet apart, and their growth bent over and attached to pegs inserted in the ground. We have marked with an asterisk the kinds that are especially strong in growth. There is one Rose everyone who has a garden should grow, and that is the new Soleil d'Or. On the tree or bush the flowers look like large flattish blood Oranges. It is a variety of great merit and is an autumn bloomer. Other extremely hardy kinds are Persian Yellow, Harrisoni, and Rosa lutea, but the quality of blossom is of no great order. The following are all splendid kinds, with more or less true yellow in them, although some are largely buff, orange, and bronzy tints. We place them in order of merit: *Gloire de Dijon, *W. A. Richardson, *Bouquet d'Or, *Celine Forestier, *Belle Lyonnaise, Mme. Charles, Marie Van Houtte, Mme. Hoste, Billiard and Barre, Jean Pernet, Mme. Ravary, Anzouze, *Mme. Barthelomy Levet, *Josephine Bernacchi, *Réve d'Or, Francisca Kruger, and Gustave Regis.

Rose leaves injured (Hugh Bright).—The leaves of the Roses you send have been eaten by the grub of the Rose saw fly (*Hylo-toma rosarum*). The grubs mostly become chrysalides in the earth, so that it is best to remove the soil from under the bushes to the depth of about 3 inches, and burn it or bury it not less than 1 foot below the surface. The grubs should be picked off by hand, or the bushes may be syringed or sprayed with paraffin emulsion or Quassia extract and soft-soap. In the autumn cut off any shoots that appear to be withered, as they may contain chrysalides.

Hardy Roses for arches.—Last year I had some galvanised iron arches placed across a path with a lawn on one side, and on the other a rather cold, damp border under some palls with an eastern aspect, and edged with tiles. Celine Forestier, l'Idéal, Aglaia, and Josephine Bernacchi have died. Could you tell me the names of those Roses one sees in old-fashioned gardens with glossy, abundant, dark green foliage, and pretty little rosette-like flowers, perfectly formed (not the Rambler type), blooming in clusters, generally pale pink or white or blush? I want something very hardy and quick-growing. I already have Crimson Rambler, Félicité-Perpetue, and Aimée Vibert. Would Perle des Jardins and Blauil 2 be likely to succeed on the Grass side? (2) Would you also kindly tell me whether the burnt earth Dean Hole says is so good for Roses is the same as the red rubble used to drain paths?—SUNDIAL.

[The Roses you refer to are the Ayrshire and sempervirens groups. They are splendid for arches in cold aspects. Félicité-Perpetue, which you have, is one of the best. Flora is very good, also Bennet's Seedling and Virginian Rambler. A yet further selection could be made from Dundee Rambler, Ruge, Princess Marie, Leopoldine d'Orléans, and Queen of the Belgians. Where practicable, we should always advise wooden supports for Roses, instead of iron, as Roses seem to thrive so much better on wood. If the iron is painted it helps to mitigate any injurious effects from its use. Spurred Larch poles are about the best supports for Rambler Roses. You would do no good with Climbing Perle des Jardins, as it is only a wall Rose, but Blauil No. 2 should succeed. Vivid and Robusta are two first-rate hardy climbing Roses; so, also, is the old but brilliant Fulgens. Reine Marie Henriette and the old favourite Gloire de Dijon are as yet unsurpassed in many respects, both for arches and walls, and you should try Mme. Alfred Carrière. It is a superb climber, vigorous, free flowering, and quite hardy. The red rubble you see used for the paths is burnt earth, but it is burnt too fiercely. Burnt earth should be of a blackish colour to be of the most use as an improver of clay soils; but some of the red sample you mention would be of great value where the soil is of a stiff, clayey nature. It should be well incorporated with the clay in the process of trenching.]

Rose Frau Karl Druschki.—This new variety has been exhibited in excellent form at the recent shows, notably by B. Cant and Sons and Alex. Dickson and Son. It is

Rose of German origin, raised by Mons. P. Lambert, of Trèves. The flower is pure white and of exceptional size. Its form is deep, with pointed centre, a shape most desirable, especially for competition. It is said to be a Hybrid Perpetual, and certainly the leaves appear of that class. It is, however, thought by some to belong to the Hybrid Teas. But this matters little, as it is a good grower and free to bloom. Rose growers will do well to add this to their collections as soon as possible.—H. S.

GARDEN PESTS AND FRIENDS.

The Apple aphid (Miss Douglas Dale).—The Apple leaves are badly attacked, as only too many are this season by the Apple aphid. Cut off any shoots that are very badly attacked and burn them, then spray the tree with a solution of paraffin emulsion or any insecticide that has soft-soap in its composition. Be sure that the insecticide wets the lower sides of the leaves. In the winter spray the trees with a caustic alkali wash.—G. S. S.

Caterpillars eating Grapes.—I forward you some caterpillars that are eating my Grapes. Nearly the whole of the bunches are affected. It is surprising the amount of damage the caterpillars have done. I hunt them up each day. The Vines were scraped and painted over with Gishurst compound in the spring.—HORN.

[The caterpillars attacking your Grapes are those of a small moth—ono of the "bell-moths" belonging to the family Tortricidae. It is difficult to recommend any method of destroying this pest, but a pair of fine tweezers would be of great assistance in picking them off, as spraying with an insecticide would be likely to injure the fruit.—G. S. S.]

Brown scale on Myrtle.—What are enclosed eggs (?) found on branches and under leaves of Myrtle-tree? Are they injurious to the tree? Are they the cause of a sticky dew on some of the leaves as enclosed?—R. S.

[The leaves you send have fallen a prey to brown scale. You ought to scrape off any of the insects that are on the stems or shoots of the plant, then spray or syringe the trees with paraffin emulsion or Quassia and soft-soap. In the course of a few days spray again to make sure of killing any of the young that may have escaped the first application. Let the leaves fall off naturally. To cause them to turn as you say the plant must be in a very bad state, and evidently wants attention at the roots.]

Insects on Aquilegia (N. E.).—The insects attached to the Aquilegia seed-vessel are the chrysalides of the common "two-spotted ladybird" (*Coccinella bipunctata*). Your plants have evidently been attacked by green-fly, and the grubs, which have now turned into chrysalides, have not injured the plants, but have fed on the green-fly. The grubs are entirely carnivorous, and should be encouraged in every way, as without them and some other natural enemies our plants would be far worse off from the attacks of aphides than they are now.—G. S. S.

Apple-trees unhealthy.—I enclose some leaves and Apples taken from a bush tree which has always borne very fine fruit. The Apples this year are all similar to the enclosed. The tree has scarcely grown at all this season. Can you tell me what is the matter?—H. C. Bova.

[The leaves of your Apple-tree are very badly attacked by the Apple aphid (*Aphis mali*) and by some caterpillars, none of which, however, I could find on the leaves. The late cold spring and the injury to the leaves by the aphides together have had an injurious effect on the tree generally, so that I should be afraid that the fruit would not attain its usual size, and will be more likely to be attacked by some fungus. However, the present weather is all in its favour. Spray the tree with a solution of paraffin emulsion, taking care to wet the lower sides of the leaves.—G. S. S.]

Wood wasps (Sirex gigas).—I enclose you in a box with this an insect I have found on my garden path. It is one of two or three more that I have seen within the last day or two. This spring I have had several rustic arches made in the garden; the uprights are of Larch and the tops of Oak. As I have never seen a similar insect here before, I think it probable that it comes from either one or the other of those woods, especially as they were always close to the arches. You will please notice in the corner of the box a chrysalis. This is, or rather, was a very prettily-marked hairy caterpillar I found on an Apple-leaf, which it had nearly finished. In sending you this information, may I thank you for the answers you have sent to my previous enquiries.—MORNON.

[The insects you find on your path, and of which you send a female specimen, come, as you imagine, from the Larch uprights that you have recently erected. They are commonly known by the name of "Wood Wasps" (*Sirex*

gigas). They belong to the same order as the wasps, but are by no means nearly related to them. Though they are dangerous-looking insects on account of their apparently formidable sting, they are quite harmless, and the organ that looks like a sting is merely the instrument through which it lays its eggs and places them in a hole in the wood. The females lay their eggs in newly-felled Larch or Fir timber, and sometimes in living trees that are in an unhealthy condition. I cannot tell from the chrysalis what the caterpillar was; chrysalides are so much alike as a rule.—G. S. S.]

Canterbury Bell falling.—I enclose a specimen of Canterbury Bell, and will be glad if you will tell me the cause of the plants drying up and going brown? I opened up the stem of one or two, and find that there is a curious fungus in the inside, which when quite young is white, but turns black and seems to absorb the sap. None of the other plants in the herbaceous border have suffered, and not all the Canterbury Bells.—M. WILSON.

[I am sorry to say that I could not find any trace of fungus in the small portion of the stem of the Campanula which reached me, nor on the rest of the plant. If you would kindly send up another specimen, with the stem not split open, I should be glad to tell you what I can about it. The fungus may not be the cause of the death of the plant, but be growing on the already dead tissues. I should rather imagine, from the look of the leaves, etc., that there was something wrong with the roots; but you may have already looked to that.—G. S. S.]

Preparing weed-killer.—In your issue of July 15, 1901, your correspondent "P." gave a recipe for weed-killer. I have lately tried it without success, because, after much boiling, I find a great quantity of large crystals settled down undissolved at the bottom of the boiler. What are these crystals, and how long does the mixture require boiling for the chemicals to be completely melted? Also how long will this weed-killer keep without deteriorating in strength?—A. S. R.

[The crystals you find at the bottom of your boiler are those of the arsenic which have not dissolved properly, owing to there not being enough muriatic acid in proportion to the arsenic. Try making the mixture as follows: Put $\frac{1}{2}$ lb. of arsenic into the pint of acid, then gradually add more until the acid will not dissolve any more. Dissolve the sulphate of copper in a little warm water, and then add it to the acid and dilute it with water as directed. This method will save the trouble of boiling, and will, I believe, be quite as efficacious.—G. S. S.]

Insects on Hop-leaves.—Can you tell me the name of the pale insect I send you something like caterpillars? Is it probable they eat the lice on the Hop leaves? There are some nearly white eggs on one leaf which somewhat resemble those of the ladybird, but are of a different colour.—VERONICA.

[The pale insects you send are the grubs of one of the "Hoverer-flies" belonging to the genus *Syrphus*. These grubs feed on aphides, and are of incalculable value to the cultivator of plants, as the number each will destroy in the course of a day is astonishing. The flies are rather more than $\frac{1}{2}$ inch in length; their bodies are dark, banded with white or yellow. They may often be seen hovering, almost motionless apparently, in the sun near trees or in some sheltered place. Their chrysalides are small, pale, Pear-shaped, and are about $\frac{3}{10}$ of an inch in length. The eggs I can say nothing about, as when they reached me there were only the shrivelled shells.—G. S. S.]

The Death's-head moth (Mrs. Butler).—The insect that you found in your garden is the caterpillar of the "Death's-head moth" (*Acherontia atropos*). These caterpillars, which are not uncommon, but never abundant, are usually found feeding on the leaves of the Potato, but they also feed on the Jessamine and Nightshade. The moth is probably our largest insect. The name "Death's-head moth" has been given it on account of a marking on the body just between the wings, which much resembles a skull. The wings of the moth measure from 4 inches to 5 inches from tip to tip when they are fully extended, and the head and body measure quite 2 inches in length. The fore-wings are of a dark brown colour with tawny markings, the hind wings yellow with two dark bands, the front part of the body dark brown with a yellow skull-shaped mark on it, the rest of the body yellow banded with black. When fully grown the caterpillar buries itself in the ground and becomes a chrysalis, in which condition it remains all the winter.

INDOOR PLANTS.

THE MALMAISON CARNATION.

Few, if any, plants are more admired than a batch of these lovely scented flowers when well cultivated and their foliage entirely free from spot—a disease so frequently attacking the Carnation, especially the one under notice. To do the plants justice a spon-roofed house should be set apart for them, as they require special treatment, though at times we find a small batch the picture of health and grown with a mixed collection of greenhouse plants. These are isolated cases, and the plants sooner or later succumb to the dreaded disease. The accompanying illustration shows a small group in vigorous health and nicely flowered, and as layering time is now with us, we will take our starting point from here, and give in detail their requirements up to their flowering period next year.

LAYERING.—As soon as the plants have passed out of flower, prepare a bed of light, sandy soil, with a fair amount of partly-decayed leaf-soil, 12 inches or so in depth, placed in a shallow frame. Knock the plants out of their pots, and set the plants out in the prepared soil, laying them on their sides, so

cow-dung or old hot-bed manure, with a good sprinkling of coarse river sand, with a dash of soot, will form an excellent compost. Carnations enjoy being potted moderately firm, using clean pots, thoroughly drained. Place the plants back in the frame again, and water, keeping the lights shut down and shaded for two or three days. The plants will soon make a fresh start, when afford full ventilation day and night.

REPOTTING.—Shift into 7-inch and 8-inch pots as soon as the roots are found to be working nicely down the sides of the pot. Towards November, as the dark days and long nights come, remove the plants to a light, airy greenhouse, and not too far from the glass roof, standing the pots on ashes or shingle, when very little water will be required until the days begin to lengthen. Too much care cannot be taken that no water is applied until the plants actually require it. Very little fire-heat is necessary; just enough to keep out the frost and the atmosphere of the house dry during wet or foggy days, as it is usually then that the spot on the grass appears. Dust lightly with flowers of sulphur on its first appearance, finally removing the foliage if it shows signs of spreading. Fumigate weekly to prevent green-fly making a home in the centre of the growths,

Royale de la Malmaison, or whether they obtained the name from having been grown and appreciated therein, is as a matter of history obscure, but in any case, whatever or wherever their origin, the fact remains that at no period of their history were they so variable or so splendidly grown as they are in British gardens to-day. In many of our best gardens, large and small, Carnation houses are considered as necessary as vinerias and Peach or Orchid houses, and the so-called Perpetual or Tree Carnations, and the superb Malmaison varieties, known by their enormous Rose-like blooms and broad curled leafage, are therein to be had in flower all the year round. These flowers are also much grown by market gardeners and florists, and rarely fail to bring a good price in the market, especially early in the year. Now and then on warm soils near the sea the common old blush Malmaison grows, and flowers fairly well in the open air, but the shelter of a cool and airy greenhouse is essential in order to obtain the finest and most perfect blooms. Extremes of temperature and moisture are alike detrimental, in winter a minimum temperature of 50 degs., with a rise of 10 degs. to 15 degs. during the day-time, suits them best, with a free and abundant circulation of fresh air. Fresh layers should be put down every season after blooming is over, so as to keep up a succession of sturdy young plants. The best compost consists of good fibrous loam, to which may be added soot or wood-ashes, sea sand, and old limo rubbish, and the pots should be well drained, anything like stagnant moisture at the root being fatal to their well-doing. A dose of weak soot water is useful now and then during spring and summer as growth progresses, and helps to destroy wireworm and other enemies in the soil. Lime water also is beneficial in checking worms and increasing the health of the plants. The old blush Malmaison is the earliest known, together with its pink sport, but of late years many very distinct and handsome varieties in this section have been raised.—*Field.*



Malmaison Carnations. From a photograph sent by Mrs. Norman, Holly Hill, Ditchingham.

that the growths can be easily pegged down. The common Bracken Fern does well for the purpose. First trim off the bottom leaves, leaving six to ten near the top of the shoot, then with a small sharp knife make an incision on the under side below a joint, bringing the knife upward through the said joint. Holding the layer still in the left hand, get the peg with the right and press the same gently but firmly into the soil, slightly raising the growth upward, but not enough to try it when it has been partly severed, or it will snap off, and cover with an inch of soil when it has been pegged down. If the soil be fairly moist no water will be necessary for a couple of days. A gentle dowing overhead with the syringe twice each day will suffice. Place on the lights, tilting them a little at the back, and shade during the brightest part of the day for a couple of weeks, but discontinue as soon as the layers begin to form roots, applying water when necessary with a small rose can, so that the soil is not washed from the layer. In from month to six weeks the plants ought to be ready to pot up, carefully severing each one from the parent plant with a sharp knife, and preserving all the roots and soil attached thereto, and placing in 4-inch to 6-inch pots, according to vigour of plant. Good fibrous loam, fairly lumpy, two parts, one part half-decayed leaf-soil, and one part well-decayed

and avoid cold draughts. No pinching of the shoots must be practised, and a neat stake should be put to each growth betimes. If extra fine blooms are desired, the side buds must be removed, only retaining the centre one; but, to my mind, this spoils the look of the plants, so I let them all come to perfection. Avoid too moist an atmosphere overhead while in bloom, as the petals are quickly spoiled if it is allowed to settle on the flower. A little clear, weak soot-water given once a week tends to give the foliage that beautiful dark green tint always prevalent with healthy plants. Some cultivators grow on part of their stock for another year, selecting the healthiest of those in the smaller size pot, reducing the ball a bit and moving into 8½-inch and 8-inch pots, and growing on as before mentioned. My best results have been with a fresh layered stock each season, discarding any that lack health and vigour. Of recent years several new varieties have been given us, all more or less beautiful, and should be given a trial where variety is enjoyed, though few, if any, is likely to oust the old favourite flesh-coloured Souvenir de la Malmaison for purity and fragrance. J. M. B.

How, when, or whence these exquisite flowers were introduced to British gardens no one now appears to know. Whether they really originated in the once celebrated Jardin

NOTES AND REPLIES.

The Dodder on Pelargoniums.—I shall be very pleased to know what caused it. It grows on the leaves of Geraniums and finally kills the plants.—*Nemo.* (Your plants have been attacked by the Dodder (*Cuscuta*), a parasitical annual which attaches itself to the plant on which it grows, and into the texture of which it sends out aerial roots at the point of contact, and through these imbibes the sap of the attacked plant.)

Hanging baskets.—Baskets that hang from the roof of a greenhouse or balcony, or are suspended in a house window and filled with flowering plants, should now be in the zenith of their beauty, and it is, therefore, most desirable that one should keep them in good condition as long as possible. Most of the causes of failure with hanging-baskets arise from forgetfulness on the part of the owner to water at the right time, and this occurs often amongst those whose occupation calls them from home during the middle of the day, when the heat is most trying. The advice so frequently given—to take the baskets down and immerse them in a tank of water whenever they need it—cannot well be improved upon.—*WOODBASTWICK.*

Cinerarias in frames.—Young plants of Cinerarias often die off in the summer when in frames through being kept too long in one pot, instead of giving them the needful shift as soon as they are ready. When they show signs of the lower leaves turning yellow, and thrips commence to attack them, it is high time attention was given them. Cinerarias, least of any plants, should not be allowed to get into a neglected condition, as one can rarely make good any deficiency in this direction by subsequent treatment. Encourage growth by watering and syringing, keeping their roots cool by plunging the pots in ashes and shading them from hot sun. Steady growth with coolness just now is most essential.—*LEAFHURST.*

Bouvardias.—Should any plants require a shift it is not too late to repot, using good loam, leaf-soil, and a dash of sand, with a small quantity of peat if the loam is inclined to be heavy; potting firmly, and keeping under glass for a fortnight, when they should be stood out in a partially shaded position during the

next month. Those that do not require fresh pots should be put out at once, and towards the end of August the plants ought to be moved to a sunny aspect, where the growth may have the chance of ripening up, without which a full crop of flower cannot be expected during November and December. Secure the growths to a neat stake, and pinch out the point of the strongest shoots up to the middle of August, when no more stopping should take place. Clear weak soot-water is a good stimulant for Bouvardias at the roots, and is a good thing for syringing overhead with after hot days, this doing the plants a deal of good and warding off birds and red-spider, both of which will attack this plant if at all neglected during summer.—J. M. B.

Growing Calceolarias.—I was much interested in the article on Herbaceous Calceolarias, by "J. M. B.," in a recent issue of GARDENING ILLUSTRATED. He has given a capital simple account of the culture of Calceolarias. I have grown them from seed for some years, and have flowered a grand lot of about 150 to 200 plants in a cold-house this year, which are just over. Each plant was quite 22 inches high and about 16 inches wide. They were in flower about eight weeks, and the sight was magnificent. It is strange more amateurs do not grow them. If I might add anything to "J. M. B.'s" remarks, I might say that a good strain of seed and careful watering are the great secrets in growing Calceolarias. Never water unless they want it, but do not let them get dry.—E. H. H., *Heywood, near Manchester.*

Fuchsias for autumn.—In order to have nice little plants for blooming late in autumn, cuttings should be struck now. Put them in sharp, sandy soil, and keep them for a week or two under a handlight or bell-glass in any house or cold-frame where they can have shade and be kept moist by an occasional syringing, and they will soon strike root. The shoots that form the best cuttings are those that are strong and short-jointed. As soon as rooted it will be necessary to pot them out at once in order that they may have no check. For growing Fuchsias nothing answers better than rich fibrous loam with a little leaf-soil or very rotten manure added. In this they should be potted somewhat loosely and kept in a close pit or frame to give them a start. As soon as they get well hold of the soil they may at once be moved to a shady situation out-of-doors, as though the growth will not be so rapid, what they make there will be shorter and firmer, and compact little plants that flower freely are always the most valuable, as they come in for vases in rooms and window embellishment, purposes for which small Fuchsias are specially well adapted. To keep the roots uniformly moist when the plants are grown out-of-doors it is a good plan to plunge the pots in littery strew or some other non-conducting material, which should be wetted from time to time by watering the Fuchsias overhead after the drying heat of the day. This damping will refresh them greatly and help to keep them clean, as well as assist them in their growth, and to make them compact and symmetrical they should be stopped once by having the points of the side shoots nipped out, when they will soon branch and form perfect little pyramids, a shape which is the most suitable for Fuchsias. Plants raised from cuttings now and treated in the manner here specified will not only be most valuable for the autumn, but they will be of great use for starting early to make compact specimens the following spring.

Begonias fading.—I have some single Begonias in a fairly rich bed in the open air. As fast as the leaves form rusty spots appear, which decay into holes, and the leaf thus dies. I enclose a specimen leaf, and shall be obliged if you will inform me the cause of the rust and how to prevent it? The plants have not been watered in sunshine, so the rust can hardly be caused by a blister.—PADDY.

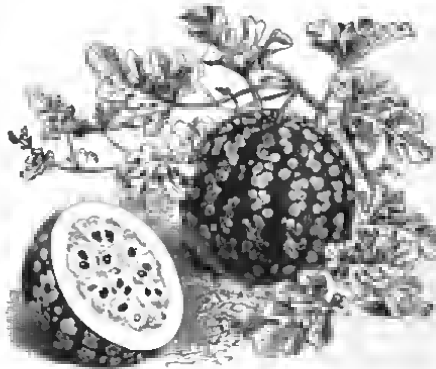
[Your plants are attacked by the Begonia rust, which for the last six or eight years has given a good deal of trouble in various parts of the country. Like other subjects (Fuchsias, for instance) originally natives of South America, they are more satisfactory in a cool, wet summer than when it is very hot and dry. The cause of the disease has been by different authorities attributed to minute thrips, fungus, and a microscopical oelworm, but considerable differences of opinion have been expressed on

these points. Of the various remedies tried, that which has given the greatest amount of satisfaction consists in giving the bed a good mulching of well-decayed manure and leaf-mould, for this class of Begonias is a liberal feeder. If this is done, it, in conjunction with the cooler nights that one may reasonably anticipate, will doubtless be a good way towards renovating your Begonias, and the late summer display may be better than you at present anticipate. This disease frequently comes on in a very sudden manner, and in several instances that have come under our notice it followed an addition of leaf-mould or other soil made to the flower-beds. Begonias of all sections are, particularly under glass, liable to be attacked by a very minute kind of yellow thrips, that cause the veins of the leaves and the points of the young shoots to become congested and the flowers to drop before expansion. They are very troublesome, but the result of their injuries is quite different from the ailment from which the leaf sent is suffering.]

FRUIT.

WATER MELONS.

WERE our climates warm enough to admit of the culture of Melons in the open air we should probably place a higher value on the Water Melon than we now do. In countries where the summer heat is intense, Water Melons are largely grown, and are considered wholesome as well as refreshing. The Water Melon,



The Water Melon.

being of strong growth, requires plenty of space, a single plant under favourable conditions covering many feet of soil. In favourable seasons in the warmer parts of this country it is probable the Water Melon would succeed, and considering its hardness and vigour we should do well, perhaps, to try it under glass, as it does not need much care, and bears freely. In any case early planting in rich, free soil, and copious waterings are indispensable. On the Continent it is planted out on gentle bottom-heat early in May, the plants being sheltered with bell-glasses until they become established.

•• SILVER-LEAF IN PEACHES.

As the season advances one may find in many gardens, both indoors and outside, traces of this disfiguring disease. As I have had to deal with the above disease several times in different gardens, a few remarks may not come amiss to those readers whose trees may be affected by it. As a rule, I have found it attack one branch first, and then if not taken in hand to gradually work all over the tree. When a tree is badly infested it has to the uninitiated the appearance of a severe attack of mildew, for which many amateurs often mistake it. Some few years back I took charge of the fruit department of a large garden in the north of England. In one of the late Peach houses was a very large Royal George Peach-tree, which, as I looked at it for the first time from the doorway, put me in mind of nothing so much as a Silver Birch trained to the trellis. As the tree was in such a very bad state the head gardeners had made

up his mind to replace it by another. However, he gave it another season's grace to see if I could do anything to eradicate the disease. Nothing could be done till towards the end of September or beginning of October. Drainage was perfect, as the subsoil was composed of nothing but sharp sand, which necessitated watering the borders daily throughout the growing season. As soon as the leaves began to fall the worst affected branches were eawn clean out, and the border over the roots pricked up with a fork, followed up by a heavy mulch of manure, with a good sprinkling of lime added. When the tree began to break in spring, feeding was carried out regularly three times a week, either with artificial manure or liquid from the farmyard. The young growth still had the same silver tinge, but in a much less degree, which was some reward for the trouble taken. By feeding often (and every now and then giving a sprinkling of lime, which was washed in by watering) right throughout the growing season, the disease died away, and the tree made new, clean growth. When the tree shed its leaves the disease could hardly be seen. The same treatment the following season gave very gratifying results, as the tree not only seemed to throw off the disease, but carried a few fruits to perfection. Since then the tree has behaved very satisfactorily indeed, and has not since, so far as I know, ever shown traces of the disease and always bore a good crop. From that time I have practiced the above on many trees, and seldom failed. The cause of silver-leaf, in my opinion, is weakness through overcropping and absence of lime; the cure, feeding well, perfect drainage, plenty of lime, and a medium crop. H. B. J.

NOTES AND REPLIES.

Mealy-bug on Vines.—One simple and yet cheap remedy against mealy-bug is hot water. This, applied at a temperature of about 120 degs., will destroy all that comes into contact with it, and will not injure the foliage of the Vines. To use water at this heat, the operator will need a cloth to hold the syringe, for this will soon become unbearably hot. Direct this hot water with as much force as possible to those portions on which the insects abound. It would not, however, be advisable to syringe the bunches direct when in a ripe state, but water falling on them from overhead leaves will not harm them. Bunches when cut from the Vine for use may be held under a hot water tap to wash out the insects and deposit. A time, however, when the most good can be done is after the Grepes are all cut, then the laterals may be shortened partially, so that there is less surface to deal with, and that remaining may be thoroughly treated. The water must be applied with all the force possible, as it is this jointly with the heat that does the work of destruction. Where much trouble has existed the walls, border, trellises, etc., must be treated on similar lines, for stray insects falling on the border or secreted in the walls or woodwork soon make headway and become re-established. When a remedy so cheap and yet so effective comes within the reach of everyone there is not so much excuse for having Vines badly infested. A touch with methylated spirit will quickly destroy any insects left.—W.

Pruning a Mulberry-tree.—You have an article on the pruning of Mulberries. I wish you would give all the pruning. I planted one two years since, and do not understand the best way of pruning it.—W. C. B. H. (In the case of the Mulberry, merely skin out any cross shoots where they are too thick. Any weak spray springing from the branches in the inside of the tree must be removed to admit sun and air.)

Plum-tree gumming.—I am enclosing a piece of my Grand Duke Plum as you asked me to send a piece later, thanking you for past information regarding the tree. The tree is on the south wall of the house in a country village.—J. LANGLET.

[You have, evidently, from the sample sent, been too free with the knife, causing the gumming from which your tree is suffering. Another reason may be that manure has been used too freely, thus causing a gross growth, which is liable to gum. Lift the tree in the autumn and apply some lime-rubble or old plaster to steady and moderate the growth, and the gumming will disappear. Nail in as much of the young wood as there is room for, if there

is any on the tree, and cut out all the bad wood. If too far gone it will be better to replace with a young healthy tree.]

Planting Strawberries.—I have a piece of land which I am desirous of putting Strawberry plants on this year. It is now in Potatoes, and I shall have it got ready for the plants in the autumn. It slopes gently to the south. The soil is stiff, and has always been noted for growing early fruit. Please tell me what sorts you think will be suitable to produce good-sized, early fruit, and what can do to induce the early growth?—W. BROWN-SMITH.

[To enable you to have fine and early fruit next year on your newly-planted Strawberries of the coming autumn you should select all the very earliest runners you can. Cut them from the old plants and dibble them out 6 inches apart into well-mannered soil, where in dry weather they can be kept well watered. They should then be strong and well rooted to plant out when the Potato crop comes off. But when you take off the Potatoes you should dig in deeply a further manure dressing, or otherwise after the first year the plants will do indifferently. If you have to purchase plants we fear you will not get them strong enough to give you fruit next year. Only quite early and strong runners will do that. The best market Strawberries are Royal Sovereign and Sir Joseph Paxton. Earliness to bloom and fruit after all depends chiefly on position, absence of frost, and general nature of soil.]

TREES AND SHRUBS.

NOTES AND REPLIES.

A yellow Rhododendron.—In your issue, week ending July 12, a correspondent referred to a yellow Rhododendron exhibited by M. Moser, of Versailles, at the Paris flower show in May. I wrote to M. Moser, and enclose his courteous reply. It may save other readers from being misled, for though doubtless lovely as an Azalea, it will not suit where the evergreen one is required.—A. BAYLDON, *Dartich, S. Devon.*

The Azalea pontica Baron Ed. de Rothschild, though having the umbels of flowers as big as those of some Rhododendrons, is like the usual forms of *Azalea pontica*, with deciduous foliage.—RENE MOSER.

Abutilon vitifolium.—This cannot be called quite hardy, perhaps, but when it has withstood 12 degrees of frost several nights in succession and no harm is done to the plant it may certainly claim to be half-hardy. In the grounds here, sheltered by trees, it has reached nearly 16 feet high, and during the month of June was a sight not soon to be forgotten. Its lovely porcelain-blue, Mallow-shaped flowers caught the eye of all visitors, some thinking it was an Hibiscus. It can be increased by cuttings in early spring or in the autumn by giving close treatment under a handglass and protecting from frost. Should any pruning be required, it is best done early in the new year, before growth commences.—EAST DEVON.

Quick-growing trees for shade.—Would you kindly give me the names of some common English trees which would be of the quickest growth and give the greatest amount of shade, as I am meditating taking a new house in a bare locality? The names of any quick-growing ornamental shrubs and the general treatment of each would be of great value to me.—WIDRICK.

[Quick-growing trees that can be recommended for such a purpose are: *Acer platanoides* (Norway Maple), *Acer pseudoplatanus* (Sycamore), *Ailantus glandulosa* (Tree of Heaven), *Fraxinus excelsior* (Ash), *Platanus acerifolia* (Plane), *Populus alba* (White Poplar), *Populus canadensis* (Canadian Poplar, one of the most rapid growing of all), *Populus fastigiata* (Lombardy Poplar), *Populus tremula* (Aspen), *Tilia vulgaris* (the Lime). Of evergreens: *Pinus austriaca* (Austrian Pine), *Pinus Laricio* (Calabrian Pine), *Pinus arcolata* (Himalayan Pine), *Cupressus Lawsoniana*, and *Thuja gigantea*. Of shrubs or small trees there are: *Berberis stenophylla* (Golden-flowered Barberry), *Colutea arborescens* (Bladder Senns), *Deutzia crenata flore-pleno*, (*Double-flowered Deutzia*), *Forsythia suspensa*, *Laburnum*, *Negundo fraxinifolia variegata* (variegated Negundo), *Philadelphus coronarius* (Mock Orange), *Philadelphus grandiflorus* (Large-flowered Mock Orange), *Ribes cereum* (Flowering Currant), *Sambucus nigra aurea* (Golden-leaved Elder), *Syringa (Lilac)* in many varieties, and *Weigelia*, all quick-

growing shrubs whose flowers run from white to crimson, some of the pink forms being very pretty. All the above-named shrubs are deciduous. While the above-named may be taken as the best in their respective classes, the list might be considerably extended; but from the tone of your letter we have, we think, given as many as you require. Planting may be done from the beginning of November onwards. In purchasing the plants take care that they are clean-grown, healthy stuff and have been transplanted within the last two years, as they then feel the check of removal less than if they have been long established in one spot. In most nurseries they are frequently shifted to insure them to the change. In planting, take care that the holes are sufficiently large to accommodate the roots without cramping them, and see that the soil is made perfectly firm all around. If the planting is done rather thickly at first for the sake of shelter, do not hesitate to thin out some of the least important if they become at all overcrowded.]

Wild single Roses and common Honey-suckle.—These have been a mass of bloom in our country lanes for many weeks during this summer. Those of us who are always mixed up with cultivated plants (good as they may be) find a relief in the flora of our lanes and ditches, and I often think we in the west have a great wealth of them. The wild Rose has a charm quite its own. This is seen when a large mass in full bloom stands amongst or is backed up with other greenery; added to this, all formality is gone, and the many shades of colour are noteworthy, from pure white to brighter shades in pink and red. Their beauty is increased when they have as a companion the Honey-suckle, which is often met with in West Dorset. Bright pink Roses and yellow Honey-suckle associate well together, and when seen climbing up the side of a tree or big Thoro-hush present a sight not easily forgotten. In many of our lanes the air is loaded with the sweet perfume in the evening. Everyone loves the Woodbine, and where it is possible it should find a home in the garden. Recently I saw it growing at the foot of two stone pillars by a lodge gate. A wire was placed round to tie the main stems to. In a private garden near Yeovil about the same time I saw it growing as a standard in mixed hardy plant borders with good effect, and a recent correspondent recommended it for pots, a purpose it must be charming for. Many of our pleasure grounds would benefit by more of these two shrubs and fewer of the common Laurels.—J. CROOK.

BOOKS.

"ROSES FOR ENGLISH GARDENS."*

THERE are so many books on the "Rose" that we doubt if another were wanted much, and fear this book has not arisen from the hearts of the authors—capable as the authors are—or the needs of the public so much as from a desire to use up a number of illustrations. There are far too many of these, and they are a great deal too much alike. In one case there are as many as twelve pages of cuts together, without a word of any kind between; in another case there are eight, in another six, and in another nine. We have never seen anything like this before, even in these days of process cuts. The list of the best Roses at the end is far too limited, and some of the very best are omitted. The stupefying division of Roses into "garden and exhibition" is kept up, although Mr. Mawley nullifies this by saying that in some cases the Rose is both an "exhibition and a garden" one. There is nothing more ensnaring to a certain kind of mind than false and needless definition, and there never was a more foolish one than the division of Roses into "garden and exhibition." There have been so many garden books issued of late that we hope the publishers will be a little more careful, especially in making books on subjects that are already overdone. In this book, which is pretty and well printed, there is no information that is not already abundantly to be had in the works of Dean Hole, the Rev. Foster-Melliar, and other writers.

* "Roses for English Gardens," by Gertrude Jekyll and Edward Mawley. Geo. Newnes, Ltd., 7-12, Southampton

GARDEN WORK.

Conservatory.—Bush Chrysanthemums should be pinched for the last time. If pinched later the flowers may be more numerous, but they will be smaller. Those plants intended to produce large blooms should have all side shoots regularly removed. In some cases premature buds have been formed. These, of course, will be removed, as the blooms will be useless. Rich top-dressings should be given when the roots have occupied all the soil, and weak liquid-manure may be given when necessary, but avoid over-feeding, as the growth must not be rushed. The plants must be securely staked and not crowded; there must be room to move freely among them, to do the necessary work. Earwigs will probably be troublesome, and must be sought for diligently and destroyed. Hiding-places can be made for them among the foliage, using sheets of paper crumpled up and placed among the branches. Pieces of white rag, about the size of a pocket-handkerchief, used in the same way will be even more useful than paper, because more lasting. There is one disadvantage in using Bamboos as stakes for Chrysanthemums—they are neat and lasting, but being hollow the earwigs creep into the cavity at the top and wait there till they are hungry. A stout piece of wire thrust into the hole during the day when they have retired will kill them, or, if preferred, the hole may be stopped with a small plug of wood, effectually closing the orifice. A group of Cannas when well grown is attractive from this onwards through the autumn, but the plants must have good-sized pots and the soil should be rich, though this may be made up with liquid-manure when the plants have made roots abundantly. I was reminded the other day of the value of the Fig-Marigold (*Mesembryanthemum*) by seeing a well-flowered, drooping plant among a group of plants at a cottage garden show. These have disappeared from better class gardens, but occasionally a plant or two may be seen in cottage windows in the country, and very pretty they are in a sunny window. More than three hundred varieties have been catalogued, and now that South Africa is being opened up it might pay someone to introduce them again. They are very charming, and are not difficult to propagate and cultivate. They are nice for baskets and brackets.

Stove.—Do with as little shade as possible now, and ventilate more freely to keep down temperature. This will ripen and harden the growth. Orchids which have completed their growth may be moved to a house with a drier atmosphere. *Dendrobium* and *Calanthes* will do in a vinery or a rather deep pit, lightly shaded. In the vinery the foliage of the Vines will afford sufficient shade. The young winter-flowering stuff will do best now in pits, lightly shaded for two or three hours in the middle of the day. Do not crowd anything now, either in pits or houses. It will be better to grow fewer plants than draw things up weakly by overcrowding. Watering is always important work, and should never be left to inexperienced hands, as, though there is less danger of overwatering now than in the winter, yet it is sometimes done. Specimen plants should be looked over twice in the twenty-four hours, and apply the usual test of tapping the sides of the pot. Clear soot-water may be given to Gardenias. Anything which requires more forcing stimulant may have a weak solution of any of the plant foods in the market, of which there are now many, all more or less good. Soft water in a time of drought is generally scarce, but the necessary atmospheric moisture at such times may be supplied by frequently damping the floors. No fire-heat will be required now.

The late vinery.—Scalding sometimes happens to closely-stopped Vines, and such kinds as Lady Downe's, Madresfield Court, and other Muscats, which sometimes scald when the foliage is much curtailed, will require careful management. The true remedy is to leave plenty of foliage without unduly crowding and ventilate freely, especially early in the morning. In the case of Vines which have been too closely stopped, a light shade may be used on very hot days. Forcing-houses of modern construction contain less wood

and more glass than older structures and require more care in management. In very light structures with large squares of glass the Vines should be dropped a little further from the glass; 18 inches will be none too much, and I have known houses where even this distance has been exceeded with advantage. Vines are gross feeders, and where the borders are as well drained as they ought to be it is not likely they will get too much water. The season, as regards the temperature, has been very fluctuating, and it is well to be ready to apply a little fire heat when the cold change comes.

Ferns under glass.—Seedlings should be pricked off thinly into boxes, and young plants which have acquired some size in boxes should be potted off singly. There is no better place for young Ferns during the next month or six weeks than a pit or low frame on a bed of coal-ashes, shaded from bright sunshine and kept moist. Maiden-hair and other Ferns which will have to supply fronds for cutting during autumn and winter should be freely ventilated and not too heavily shaded, so that the fronds may be hardened. Plants in 5-inch pots which have filled the pots with roots may have a shift into 6-inch pots. At least half the compost should be good, sound loam, and they should stand thinly, so that there may be room for full development. Ferns in baskets will require a good deal of water now, and if hard water has to be used, let it stand in the sunshine for a few hours to soften it.

The early Peach-house should be very freely ventilated now that the fruits are all gathered. If possible, remove the lights, and by complete exposure thoroughly ripen the wood. The night dews and showers will be beneficial, and see that the roots are moist.

Window gardening.—Begonias are a strong feature now. The old variety Weltonensis is a favourite cottage-garden plant. I have noticed Tuberosus Begonias in several window-boxes are doing well and attracting a good deal of attention. They want rich soil and careful watering in north aspects. The Mimulus family are useful, especially the spotted hybrids, which grow freely and hang over the sides of the box. Indoor Palms, Ferns, and Aspidistras are cool and resting to the eyes. For suspending we have the Campanulas.

Outdoor garden.—If it should be necessary to sow seeds of any kinds in hot weather, soak the ground in the evening and sow in the morning following, and shade till germination takes place. Under these conditions all good seeds will germinate strongly. This is not at the moment ideal weather for budding, but the time for such work is early, and we can wait; or, if there are only a few stocks to do, a good soaking of water will start the bark, and the budding can be done in the evening or early in the morning. If one has young seedlings to prick out and the weather is hot and dry, soak the ground in the evening and plant on the morning following. Shade can be improvised by sticking a few branches among the plants. These will suffice, either till the weather changes or the plants are established and require no more help. These are details that we have often found useful when dealing with such things as hardy Primulas and Forget-me-nots, which acon perish if disturbed in dry, hot weather. Oriental Poppies are very bright whilst they last, but soon get shabby after the flowers fade. They are very bright among shrubs, and, if Chrysanthemums are planted near, they will take their place now. Hardy early-flowering bulbs, such as Crocuses, Snowdrops, and Narcissi, may be lifted and sorted now, ready for planting next month.

Fruit garden.—One of the most important jobs just now is securing a stock of Strawberry runners for forcing and planting. This has not been a good season for the market grower, though those who grow late sorts may do better. Royal Sovereign is the best early kind. This season the frost cut the early blooms and made the gathering backward, and it clashed with Paxton, and a glut was created when the hot weather set in. Latest of All is a good bearing kind, but the want of colour is against it, though the flavor is not so bad.

Something more might be done with Elton Pine for late use. Sir C. Napier is a good Strawberry and there is never a glut of British Queen. In some gardens I visit, Apples and Plums are very plentiful, chiefly on young trees planted from eight to ten years. From this onwards to twenty years is the most profitable time for fruit-trees. Before and after the crop is often scanty. A good deal may be done to help young trees by judicious top-dressing, or mulching with anything which has any manurial value. Keep the growth of open-air Vines thin and the fruiting shoots pinched back to one or two leaves. Where there is room, train up a young shoot that will replace one of the old ones in the near future. The summer pruning of wall-trees should be done now. Leave from four to five leaves, and then the hack eyes will not start, and may develop into fruit-buds for next season's crop. Remove all defective fruits from Pears and Apples. Lord Suffield Apple is in good condition now.

Vegetable garden.—Salt is a good dressing for land in dry seasons, especially for green crops. It is not so good for Potatoes, unless the soil is very porous. This season and last one could scarcely do wrong in applying salt to any land, for on all soils the crops suffered from drought. This season the crops have not suffered quite so much; still, the rainfall has not been sufficient for green crops on light or porous soils, and a pound of salt to the square yard would have had a good effect. Sow an early kind of French Bean on a warm border where it can be protected, and a further planting may take place a little later in a pit, with the lights off for a time. Sow Lettuces and Endive freely now; it is better to have too many than too few. Bath Cos and the Hardy Hammermith Cabbage are reliable kinds. Hicks' Hardy White Cos and All the Year Round Cabbage are also good, and every gardener knows what a good little Lettuce Wheeler's Tom Thumb is. Make a fresh sowing of Spinach and winter Onions. Sow a few more Cabbage seeds of a good early kind, and a full crop of Turnips for winter use should be sown now. E. HOBDAV.

THE COMING WEEKS WORK.

Extracts from a Garden Diary.

August 4th.—The surface is freely stirred among Winter Greens, Turnips, Lettuces, Endives, etc. Tomatoes outside are regularly trained, and the surface between the rows freely stirred. The bottom trusses are well set, but we shall stop the leaders when the tops of the stakes are reached and permit no further progress upwards. No flower-stems are permitted on Seakale. Root-cuttings make the best plants, and seeds are not sown. Sowed Chervil.

August 5th.—The ground for Winter Spinach and Onions has been dressed with soot and forked over, ready for sowing shortly; but a further sowing of Spinach will be made later, as this is an important crop. A little soot has been dusted over the Celery to keep off the Celery-fly. Pelargoniums have been cut down and cuttings inserted. We are also putting in cuttings of Fuchsias and early-flowering Zonal Geraniums. Those Geraniums intended for winter-flowering are outside, with all flower-buds picked off.

August 6th.—Sowed a few more seeds of Eillam's Early Cabbage. Planted Coleworts 10 inches apart, also Tom Thumb Savoy. Liquid-manure is given to Figs on south wall. The borders are shallow and well drained, and the Brown Turkey is carrying a good crop. A note has been made of Gypsophila elegans, which has been found valuable for light decorative work, even more so than the perennial variety G. penicillata. Shall further sow the annual variety in succession.

August 7th.—The beds of Geraniums and Petunias are very bright. We generally plant some Geraniums of the best bedding sorts in reserve beds for producing cuttings to save the beds, and those will soon be headed back and cuttings inserted. They will be rooted in the open air. Heliotrope Lord Roberts, of good habit, produces very large flowers and makes a good mass. Sowed seeds of Auriculas and

hardy Primulas in boxes in a shady frame. Budding and layering are continued.

August 8th.—We are waiting for rain for pricking off a lot of seedling hardy stuff, as we cannot face the labour of watering so many young things in a dry, hot time. Box edgings have been trimmed, and all evergreen hedges of Yew, Privet, and Box have been cut. The Box makes a very neat hedge in the garden. All houses where Grapes are ripening have been, as far as possible, cleared of plants, and after the last watering the borders will be covered with straw.

August 9th.—Herbs have been cut for drying and vegetablea gathered for pickling. All are gathered when dry. Strawberry runners are still being layered into pots, as we want many and cannot obtain enough at once. All summer pruning of fruit-trees has been attended to. Top-dressed Cucumbers in frames. We want to keep these going till beginning of October, and we generally have no difficulty in this, and by that time the first lot will be coming on.

LAW AND CUSTOM.

Trees growing over wall.—I have a garden surrounded by a wall, against which I have fruit-trees growing. The owner of the adjoining garden has planted Elder-trees, which grow high above the wall, and cast light on the fruit-trees. Can I insist upon his cutting them to level of wall or not?—H. F.

[You cannot compel your neighbour to cut the trees, but if he will not do the work you may do it yourself. Your best course is to give him written notice that if he does not cut the trees within a reasonable time—say within three weeks from the date of the notice—you will do the work yourself. If he fails to comply with the request you may properly do the work yourself. You may only cut those portions which are actually overhanging your land or growing in it. You may cut these portions perpendicularly over the boundary, but you must not cut further back than the boundary or you will be liable to an action of trespass. You will gather from this reply that you cannot lower the height of the trees—your neighbour may allow them to grow as high as he chooses—although, of course, if any of the upper branches overhang your land you may sever those branches perpendicularly over the boundary.]

BIRDS.

Death of Canary (F. K.).—A conservatory would be about the worst place possible in which to keep a bird at this season of the year unless the greatest care was taken to well protect the cage from the full glare of the sun. The Canary sent was too decomposed on arrival to permit of a full examination. Its sudden death may, however, be safely attributed to heat apoplexy, otherwise sunstroke, caused by the direct action of the solar heat. An attack of this kind does not always cause immediate death, but the patient will almost certainly remain in a paralysed condition for the rest of its life. Where there is disease of the liver or fatty degeneration of the heart heat apoplexy is pretty sure to prove fatal.—S. S. G.

POULTRY.

Hens with scaly legs (Inquirer).—Your hen had suffered from scaly legs, a disease which may be due either to a deficiency in the secretion of oily products or to parasitic influence, the latter being prevalent in confined runs or wherever space is somewhat limited. Langshans and their crosses are very subject to this complaint. The best treatment is to thoroughly bathe the legs with warm water, and, when dry, rub well with neat's-foot oil, afterwards applying a little vaseline. In severe cases a mixture of turpentine and paraffin will be found useful, the mixture being applied with a hard brush after the legs have been thoroughly washed with soap and water. It would be well to dress any birds that show symptoms of this complaint, and also to thoroughly cleanse and limewash roosting places used by the ailing birds. Zinc ointment and vaseline in equal parts are also serviceable in scaly legs. When the trouble arises from parasitic influence, sulphur ointment proves very beneficial.—S. S. G.

4TH EDITION.

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Founded by W. Robinson, Author of "The English Flower Garden."

AUGUST 9, 1902.

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FRUIT.

GRAPES SHANKING.

It is found that Grapes never show signs of shanking until after the berries have stoned, and then when subject to this disease all appears satisfactory until colouring indicates a change from the acid to the saccharine state. When this dreaded stage is reached the affected eye is over on the alert for a few tiny black spots round the shank, a thin limpness of the stalk, and a stationary condition of the berries, both as regards size and colour. These berries never recover, but shrink rapidly to the shrivelled vinegar condition, whilst the remainder of the bunch, and other bunches in its entirety on the same Vine, will attain to the greatest perfection. Some varieties, notably the old Frontignan, are more subject than others to shanking, and, what at first appears strange, Vines started in midwinter never produce a shanked berry, whilst similar varieties in borders exactly alike, but started in the spring, are badly affected by the disease. The normal treatment in each case being all that the most fastidious grower can wish, the cause of the mischief, it is quite evident, lies principally, but not entirely, in the mismanagement of the roots. I use this term in a qualified form, I believe it is quite possible, where the roots are the run of the best border ever made, not to produce shanking, but to ruin the crop by withholding water, by overloading, or by destroying the best foliage when the Vines are in full growth. The conditions, however, under which shanking is most generally met with are

HEAVY CROPPING—that is, allowing the Vines to carry a weight of fruit altogether out of proportion to the spread of leaves, whilst the roots, white and fleshy like those of the Eucalypt, are feeding in fat borders—it may not be too damp, but most certainly too wet and cold. If Vines thus situated were started on New Year's Day, moderately forced and slightly cropped, it is more than probable the berries would not shank to any serious extent, perhaps not at all; but allow them to break naturally, give them plenty of rich liquid throughout the summer, keep their quill-like roots growing well into the autumn, and although the foliage may be dense, green, and plentiful, some berries in every bunch will shank. This shanking is easily accounted for in the following way: The leaves, as autumn comes on, cease to act, and in due course fall, but the roots started late die back, as they are far from ripe. The Vines, nevertheless, contain a certain quantity of stored-up sap, which keeps them through the early stages in the following spring; but so soon as this is exhausted by the first flush and setting of the fruit a check follows, as they have no feeders to maintain the supply, the few they made in the preceding year being paralysed, or dead. Now when a plant through any cause loses its roots, all gardeners know that it cannot renew them without the aid of leaves; consequently the formation of these has scarcely begun when the berries are passing the

STONING PROCESS; and although, as I have just stated, the disease does not then develop, it is owing to the pinch at this most trying of all stages that the foundation of shanking is laid. The same Vines, on the other hand, started in January have the whole summer in which to ripen their roots. These keep fresh and sound, and by the time the stored-up sap is exhausted, they are again not only in full work, but capable of replenishing the cells before the Vines feel the check. When Grapes shank, the owner should first of all ascertain that they are not over-cropped, that the foliage is clean, healthy, and plentiful, that the roots are liberally supplied with water, and the house properly managed. Finding these points satisfactory, he must seek the prime cause of this evil in the borders, and although possibly only recently lifted, his only and never-failing remedy will be found in lifting and relaying again. I will not go into details, as the preparation of compost and the formation of Vine borders are thoroughly understood, but this much I may say, the compost should be poor rather than too rich; bones should be used in preference to animal manure, and the drainage should be good. The roots formed in a well-drained porous border of this kind will be small, numerous, bright as gold, hard and woody, and so active that they will permeate the whole mass. These hungry mouths, capable of supplying any amount of wholesome food, it is hardly necessary to say, will ripen before the cold autumn rains set in, and in this condition they will be well up to, if not actually in advance of, their important work in the following spring.

MELONS AND CUCUMBERS IN COLD FRAMES AND PITS.

THERE is no way in which cold frames and pits that have been used for bedding plants can be employed better than by using them to grow Melons and Cucumbers in. For these the frames require but little preparation, although the plants get a gentle heat for the roots which will help them considerably by giving a start. A ridge of soil should be laid along through the middle. If the intention is to grow Cucumbers, fresh, light, fibrous soil is the best, and any gatherings from the roadside, with grassy loam, chopped up and roughly mixed, will just suit the plants. The same will also do for Melons, but they require a firmer or closer root medium, and anything used for them should therefore be trodden down, or the Melons will be found to run too much to leaf. For an ordinary-sized light two plants are quite sufficient, the one to be trained towards the front and the other behind. To fill up those parts, all that has to be done is to train two leading shoots from each plant, by running them in lines towards the four corners, and as soon as they get within a foot of the sides the ends should be stopped. This **PINCHING OUT OF THE POINTS** will force them to break, and the laterals they send out will all, or nearly all, show fruit. As soon as they do this they should be stopped at one, or at most two joints beyond, and very quickly used

the flowers on the young fruit will open. The thing then is to ensure a good set, and to bring this about it is necessary to fertilise the blooms, as no dependence can be placed on the pollen being carried by insects. It is very important that the fertilising or setting be all done in one day, otherwise one or two fruits will start and take the lead, and others will not move at all, as the strength of the plants seems absorbed in those that pull on them first. Frames and pits that are started without bottom-heat should be kept shut for a few days after the soil is put in, so as to get it warmed before the plants are turned out, as they may get a chill at the roots, and when turned out it is a good plan to keep them nearly close and shaded, as then the heat from the sun will assist the plants to root. As soon as the start is fairly made then more air must be given during the forenoon, and

SHADING, so far as the Melons are concerned, abandoned, as they delight in sunshine, but to aid them in their growth and swelling the fruit they should be closed about 3 o'clock, and kept so till about 7 or so next morning, when it will be necessary to tilt the lights slightly to prevent the leaves from scalding. Before shutting up the frames the plants should either be syringed or sprinkled with tepid water, and never at any time allowed to become dry at the roots, as when that happens a severe check is given and red-spider follows. Melons are rather subject to this insect, but by maintaining plenty of atmospheric moisture in the way referred to it may be prevented or held in check, and the plants kept healthy and strong.

NOTES AND REPLIES.

Figs failing.—I have a large Fig-tree—Brown Turkey—on a south wall, covering 18 feet by 24 feet. Last year there were several hundred ripe Figs. In the autumn I tied in the branches, but did not prune for fear of causing long, soft shoots. Now there is a fair quantity of fruit on the outside branches, but the centre is crowded with unfruitful and weak but short shoots.—F. FOWLER WARD.

[The remedy is in your own hands. Cut out all the weak wood and allow the sun and air to get at the remaining branches, so as to well ripen the wood. The reason of the failure to fruit is that the wood in the centre of the tree is far too thick, and is in consequence soft and unripe.]

Summer pruning.—Can your correspondent in your paper of July 19th add to his valuable information answers to following? 1. Wall fruit: In addition to pinching of shoots, would it be more advantageous to cut back the growth intended for extension of tree during the summer or autumn rather than leave it to be done in the early spring? If so, when should this be done, and how much should be taken off? A third part is, I believe, usually laid down as the length to suppress. 2. Pyramids and bush-trees: The same as regards Apples, Pears, Cherries, and Plums? 3. Currants: Would it be more advantageous for next season's fruiting to cut back to six leaves all the young growth of Red, White, and Black Currants during summer, rather than hard prune Red and White after fruiting is over, and thin out only some of the old wood of Black Currants, which is generally laid down as the method for pruning this fruit? In a season like the present, where the growth of young wood has been so great and rapid, it is rather difficult, except by employing a good deal of fairly skilled labour, to keep all in touch with one's trees and bushes before the young growth has reached almost too great a length—certainly too great to allow of pinching with finger and thumb.—Close.

[The special object in view, when summer shoots are pinched, is done whilst tender, or cut back it done later, is to cause the back wood to be the main branch—to

plump up and gradually to change from wood-buds into fruit-buds. That reason does not apply to leading or extension shoots, which it is the rule to allow to extend fully, especially as their free growth helps to counteract any check to a tree that may result from the pinching or cutting back of all other shoots. As a rule, it is best not to pinch summer shoots too soon, but rather to shorten them to about four or five leaves early in August, shortening the leader shoots in the winter. Precisely the same rule applies to pyramid and bush-trees, each main branch being spurred in this way so as to form a sort of cordon with a free leader, which may be cut back more or less hard in the winter. In pruning Red or White Currants, it is best to cut back one half the shoots when well grown to about five or six leaves, and the other shoots to double that length. That leaves on the bushes ample leaf area, as it is the duty of the leafage to mature wood and to form fruit-buds for the following year. In the winter all these summer shoots may be cut back quite hard, say to a couple of leaf-buds, as the primary object in pruning is to cause clusters of fruit-buds to form close to the main stems. As a rule, Red Currants are not pruned one half so hard as they should be.

it is not the soil alone which is at fault when the same variety will succeed and fail when procured from different sources. There cannot be any question that far too many plants are perpetuated from a debilitated stock, and this is why failures are so frequent with special varieties for forcing. What is wanted is a good stock to start with, raising the batch for forcing from yearling plants grown for the purpose if possible. A variety which requires extra care is the good old Keen's Seedling, than which when well grown there is not a better second early in cultivation. The first care is to get a good stock, and then to look well after it by layering the stock annually.—A.

PLANTS AND FLOWERS.

FERNS.

STAG'S-HORN FERNS (*PLATYCUERIUM*).

A very remarkable genus of epiphytal Ferns, differing from all other known kinds in the manner of their growth and the extraordinary configuration of their fronds. They are large stemless plants, with fronds of two sorts.

P. ALCICORNE.—This species, on account of its small barren fronds and the quick manner in which it throws out young plants from its roots, forms a fine object. It will thrive either in the stove or greenhouse. It comes from the East Indies and Australia, and there are several distinct forms of this.

P. GRANDE, also from the East Indies and Australia, should be grown on a large block. The fertile fronds reach a length of from 1 foot to 3 feet, and it succeeds best in the stove.

P. WALLICHI, from the Malayan Peninsula, somewhat resembles *P. grande*, but the fertile fronds are shorter and broader.

P. WILLINGII is another very pretty Stag's-horn Fern, seedlings of this soon developing fertile fronds, which are narrow at the base, terminating in deeply-cut segments of a pale glaucous green and of a drooping habit.

GROWING ADIANTUM CUNEATUM.

It is not everyone who has favourable houses for the growth of this popular old Fern so as to provide a supply of cut fronds of enduring character. What is wanted is a light, well-ventilated house with good control over atmospheric moisture, the plants being as near the



Platycerium zethiopicum (syn. *P. stemmaria*). From a photograph sent by Mr. Geo. E. Low, Dublin.

Black Currants must not be so pruned, as these bear from the leaf-buds of the preceding year's shoots. Therefore, except in the case of quite young bushes that have to be formed, the summer shoots of one year should be left to fruit the following year. Still, the bushes need thinning, and to that end old wood or branches should be cut hard out. From beneath the cut strong shoots or suckers generally break, and those become fruitful. Probably many trees will benefit by root pruning next winter where they have made such a strong growth of wood as yours have.]

Strawberries—change of stock.—Most cultivators will bear me out when I state that at some time or other, when visiting other gardens, varieties are seen doing remarkably well, although the treatment they are receiving differs but very little, if any, from that given the same variety in other places. Of course, good culture is answerable for a deal of the success, but not to such an extent as to make any difference noticeable. A cultivator, in selecting his varieties for forcing, may be very careful in choosing and layering the earliest runners obtainable, also growing them on in a rational manner, and yet he may not succeed in securing high quality fruit, and this plentifully. Soil no doubt has great influence on the well-doing or otherwise of many varieties of Strawberries, but it is quite evident, that

Those first produced are broad, entire, and spread almost horizontally, forming a shield. These fronds are barren. As the plants grow, the fertile fronds develop from the centre of the shield, and are quite different in form from the barren fronds, from which they stand out in all directions, sometimes to the distance of 2 feet or 3 feet, presenting very much the appearance of a number of stag's antlers grouped together. All the species require a stove temperature, with the exception of *P. alcicornis*, which may be grown in a greenhouse. They do best fastened on to blocks of wood, so that they can be hung up in the house, according to convenience. When fastened on these blocks with copper wire, some Sphagnum and fibrous peat should be packed behind the barren fronds, and the plant and block immersed in water until the soil is thoroughly saturated. After this, the only cure needed is to see that the atmosphere is kept moist and sufficient water given to maintain the soil in a nice moist condition.

The following are the best known kinds:—

P. AETHIOPICUM (syn. *P. stemmaria*), which we figure to-day, is a fine stove species from Western Africa. The barren fronds are permanent, but differ from those of the other kinds in that they die annually and take on a chestnut-brown colour, being, however, hidden by the young ones produced in the spring.

glass as possible and in no sense overcrowded, otherwise the lower fronds, and others where the growth is dense, will either turn yellow or damp off. Damping off spreads rapidly in a humid and close atmosphere with possibly no fire-heat. This latter accessory cannot be considered essential by any means, being all the better for the plants if dispensed with entirely, provided other means are equal to the case. By this I mean a proper system of ventilation both by night and day, with no over-shadowing from other plants. At all times should more or less air be left on; by this means there should be no signs of moisture upon the plants in the form of dew in the morning. The greater part of the watering should be done early in the day, with no late evening damping down. A good lasting growth will in this way be obtained, the fronds of a pale green, with small pinnae as compared with those of other plants grown in more moisture, more warmth, and more shading. What may be termed the cool treatment is not nearly enough seen in practice. Many growers do not sufficiently realise the fact that this Fern is but little removed from a greenhouse plant as to its actual needs. On the other hand, it is rarely possible to grow it well in houses with heat and moisture, but in order to do this in the best possible manner two or three points have to be considered. Firstly, the position should be

one with a large amount of light; secondly, the plants in warmth should be of the two in smaller pots proportionately than those in the cool, and, thirdly, the watering ought not to be excessive, nor overhead syringing be permitted. In this way it is quite possible to so manage the plants as to make them in every way valuable. In no case should over-potting be permitted. To fancy that fresh potting is needful every year is altogether a fallacy. It may be urged by some that they cut such a quantity of fronds, and therefore the plants need to be repotted; whereas, in fact, quite the opposite is the case. Take two plants, for instance, in health and of equal conditions in all respects; pot the one, giving an average shift and treat in the usual manner, leaving the other not potted at all, but assist it, if needful, with manure-water and clear water also in plenty. When the growth is fit for picking treat both plants alike, cutting them hard if needful, and after this act which plant of the two will afterwards recover itself and be presentable in a given space of time. The plant that has been re-potted will stand the greater risk of losing its roots, or, at any rate, of having them weakened considerably.

GROWING IN PITS.—When the house room is not sufficient to accommodate the plants satisfactorily, and there are pits or frames at disposal, let these be turned to account for their occupation, standing the plants on a bed of ashes, the depth being sufficient to allow of the plants standing upon a 4-inch pot inverted, this being much better than close upon the ashes. Top and bottom air is left on all night to prevent any damp, and a very light shading is laid on the glass during bright sunshine, as the plants are close up to it. Here these plants may remain until the middle of September at the least, and they are better off than if shaded in houses by other plants.

If only a more rational mode of culture were adopted with this popular Fern we should not hear so many complaints of the fronds not standing well when cut. What is wanted is hard fronds, to use a popular phrase, and these can only be had by what may also be termed a hard course of treatment. A young stock of plants should also be coming on to supply the place of those becoming exhausted.

ROOM AND WINDOW.

CACTI FOR WINDOW CULTURE.

Many of the Cactuses are of the easiest culture in windows, and few plants give so ample a return for slight trouble. The seedlings which have been raised in recent years are far in advance of the old type, hybridisation having improved them greatly, and those who are interested in window gardening can scarcely do better than procure a few specimens or a collection of these lovely flowers. Their cultivation is simple. Plenty of water (they love to stand in a saucer) during their flowering season and a sunny window are all they need; the supply of water being continued through the summer (when they make their growth), and gradually diminished during October, giving scarcely any water from the beginning of November until the end of February. During this dormant period the plants should be moved away from the window, and they can be kept safely in any place where the temperature does not fall to freezing point, only very occasional

watering being desirable, just enough to prevent the fleshy leaves from becoming flaccid and wrinkled. When March arrives they should be replaced in the window, as near the glass as possible, and supplied with saucers, these being filled every morning with warm, but not too hot, water. At the same time the dust of the winter may be removed with a paint-brush and clean tepid water, and the hard upper soil changed, without disturbing the surface roots, for a little fresh compost. In a short time flower-buds will appear at the edges of the leaves, and with a good supply of water (to which a little clear soot-water may be added) will swell rapidly, until the plant becomes a mass of bloom. Each of these should be removed directly it fades, to avoid exhausting the plant, and the opening buds should be turned to the sunshine, or they sometimes drop off. These cacti may be propagated very easily by cuttings; a leaf, or even a part of a leaf, cleanly cut from the old plant, can be laid aside to dry for a day or two in the shade, and then inserted firmly in a small

blossoms of the annual *Gypsophila elegans* and long sprays of elegant Grass plumes gave a charming and pleasing finish to the whole. The fourth exhibit, which was exclusively confined to garden Roses, was pretty, but being indifferently arranged the general effect was rather poor. When the verdict of the judges was made known, to the surprise of many the first and second prizes went to the two exhibits first mentioned above. The judges in coming to their decision absolutely ignored the essentials in regard to a proper artistic production. The colours of the Sweet Peas in these two sets of stands were of a very mixed kind, embracing bronzy-chocolate, purple, blue, crimson, and other colours of a softer and more pleasing hue, all ingloriously muddled together. The *Gypsophila* helped to relieve the incongruous arrangement to some extent. The general public, many of whom know very little about these things, and who visit these exhibitions in the hope of learning something, leave the show with an altogether erroneous idea of what is



Cactus Jenkinsoni grown in a window. From a photograph sent by Mr. J. Sofey, Netherleigh, Tibberton Road, Great Malvern.

pot of sandy soil (without manure), well drained, when it will soon strike root, and can be removed to a little larger pot in October. Do not repot Cactuses often, and use rather light soil.

JUDGING FLORAL DECORATIONS.

With the remarks on "Floral Decorations," in the issue of GARDENING ILLUSTRATED for June 14th last, I, with many others, am in full accord. There is no more frequent example of bad judging than in the exhibits of floral decorations, and in local shows these mistakes are often met with. Colour and its proper associations are, to my way of thinking, of primary importance, and unless a due regard be paid to the use of colours, it is impossible to achieve those artistic results which all true floral artists strive after. I have in my mind at the time of writing an instance of exceedingly bad judging. In the case to which I allude a competition for a dinner-table decoration was provided and there were four competitors. Two of the exhibits were very similar in their appearance, and were confined to Sweet Peas, with *Gypsophila elegans* and Asparagus, etc., as adjuncts. A third set was also confined to Sweet Peas, in various shades of pink, and the minute

the proper thing to do, being entirely misled by bad judgment. These facts prove how real is the need for persons to judge who have a full and proper knowledge of that which goes to make a floral decoration in the truest sense. "S. W. F." is quite right when he says that the number of those who can rightly judge is extremely limited, and there is a great deal in what he suggests, as to affixing a plainly written card giving the reason for awarding or withholding a prize. No person should be asked to adjudicate upon any exhibit of the kind referred to unless he can give his reasons for making the award. D. B. CRANE.

Keeping cut blossoms.—Every year at this period, when there are flowers in abundance, one is not with the inquiry as to the best way to keep cut flowers from falling, both to the private grower and exhibitor alike the matter is an important one, and though many of the methods employed are old, yet they are worth recalling now that a need for them presents itself. It depends very much when blossoms are cut and how they have been grown as to whether they will last long. An old exhibitor would not think of cutting any of his blooms that had been over-exposed to sunshine, but would select the early morning when the dew was yet upon them, placing them in jars

of water in a darkened room until required. For flowers for the house, one can adopt a similar course, gathering them either at night or before the sun's power has become felt too much, and so have them in their freshest state before they have time to go limp. The vases or bowls of water in which the blossoms are placed should contain a little charcoal, which will help to keep it sweet, and wet sand over the surface of which green Moss is scattered, often used by exhibitors, will be found convenient. I know someone who always has a little salt in the water to ensure the flowers keeping. The old advice to cut off a portion of the stems each day cannot be followed with all flowers, as in the operation itself failure often ensues. I believe it depends more us to when the blooms are cut whether they will last long, and this is undoubtedly best when three parts expanded and gathered, as stated, early in the morning. Do as one may, the weather is a great factor in the matter, and must be taken into account, for, after all, our most promising blooms are but fleeting, and are not proof against tropical heat. Often when we think we may keep them and try our best to do so we are disappointed. —LEAVINIST.

INDOOR PLANTS.

HERBACEOUS CALCEOLARIAS.

Time was when gardeners and others cultivated a named collection of these beautiful greenhouse plants, but nowadays few people think of this mode of culture, seedling plants giving far and away the best results. July is a capital time for sowing the seed, and, in order to secure the best results, the finest strains only of the seed should be procured. Take a shallow box or a seed-pan, well drain with crocks, and over these put a layer of nice, sweet, turfy loam, fill up with a compost of sifted loam and silver-sand to within an inch of the top, giving the pan a sharp tap on the bench to settle the soil. Immediately after, water through a fine rose, and sow the seed on the surface. The seed, being so minute, no covering of soil is required. A good plan to follow in sowing these or any small seeds of a similar character is to mix the contents of the packet with a pinch or two of dry silver-sand, and sow as usual. This ensures the seed being scattered more evenly than it would otherwise be. The best place for the pan or box after sowing is a cold-frame from which the sun is excluded. This should also be darkened until the seeds germinate, when it must be removed to prevent the young plants from becoming drawn. When the plants are strong enough or have made two pairs of leaves (other than the seed leaves), they may be pricked off into other pans or boxes, made up as before. Give them a gentle watering overhead, and keep close for a few days until they recover from the check, when air may be admitted on every fine day. By the end of September they will be requiring a shift, and pots 3½ inches in diameter may be used for same, the soil being fairly rough and fibrous, and mixed with a good dash of sharp sand and a little leaf-mould. After potting, they are better in the greenhouse on a nice airy shelf, and free from artificial heat.

Some gardeners do not approve of pinching these plants, but having tried both ways, I am of opinion that pinching the plants when 6 inches high induces growth of an even and strong constitution. The stronger a plant is and the healthier it is the preventer to a great extent the plague of green-fly or aphid which is wont to worry it in spring. As the 3½-inch pots get full of roots shift into the 5-inch size, and therefrom to the 7-inch or 8-inch pots, in which, if all the shoots are carefully tied out, magnificent specimens, well repaying any extra trouble expended, can be grown. In staking, many a good plant is often spoiled owing to the stakes being too thick and of white wood. For Calceolarias especially the thin twigs which are cut from the Willow-tree are indispensable for staking. When the buds appear weak liquid-manure should be given every alternate week, gradually discontinuing same as the flowers open, and shading from hot sun.

D. McIVER.

Bridge of Weir, N.B.

PLUMBAGO CAPENSIS.

This easily cultivated plant should not need any recommendation: its rapid growth and lovely pale blue trusses of flower should alone be sufficient in this respect. Yet it is not seen nearly so often as one could wish. In growing this, plenty of sunshine and not too much atmospheric moisture are essential points. If at all shaded the growth is inclined to be weakly, with less disposition to flower, and if grown in too moist an atmosphere the growth will be far in excess of all needed requirements. If the plant be grown in the open border of a light cool house, the soil should not be too rich or of a great depth: it should consist for the greater part of light loam and road-grit or sand, and this should be made as firm as possible. In pots the same soil will suit well with a little peat added thereto. The sunniest spot, even in a light house, should be chosen for it, and as far as is practicable freedom of growth should be allowed, close pruning being



Cape Leadwort (Plumbago capensis).

the rule during the resting period, and that well in advance of the starting into activity again. To tie in the shoots as they grow for the sake of trimness is utterly wrong and out of all character; only just sufficient of this kind of work should be allowed to keep the shoots from breaking down with their own weight. If it is seen that the growth is too free, of which there is more danger than the reverse, then less water should be given for a time; this will have the desired effect of producing flower-trusses plentifully in due course. For the flower garden Plumbago capensis is admirably suited. If grown as standards in 10-inch or 12-inch pots and plunged the effect is excellent, sufficient room being allowed for an appropriate undergrowth. Smaller plants can be planted en masse with good effect, and taller ones of long, rambling growth will be quite at home when trained against walls or verandahs in sunny positions. In a cut state the flowers quickly fade, and are in nearly every case disappointing.

NOTES AND REPLIES.

Tuberous Begonias.—These are wonderfully useful in pots as well as in flower beds, having undoubtedly largely surpassed or taken the place of many older things. The old tubers now growing freely should not be hurried, unless carelessness is an object. These will now be quite safe in a cool pit or frame if the houses are so crowded as not to allow of sufficient room for them. They enjoy a moist, cool bottom to stand upon with gentle dampings overhead in the after part of the day when it has been warm and sunny. The lights even may be left off in the daytime if in a fairly sheltered place; this is almost better than having them on without a slight shading. Where any tubers have progressed more favourably than usual, giving promise of making extra good plants, another shift may be allowed them into pots one size larger. This will be found far better than staving them, so to speak, the flowering period being thereby lengthened. Good loam and leaf-soil in about equal parts will suit them well, but of the soil be not altogether first-rate then add a few handfuls of a well-tried and reliable artificial manure. Seedling plants of this year will be all the better if still kept a trifle warmer, any house or pit wherein a fair amount of artificial heat is still being used being suitable. Where late seedlings are not yet potted off no time should be lost if they are fit.

Plants for conservatory.—I have a conservatory opening from the drawing-room, facing south, north and west, heated by hot water in the winter. I am anxious to keep this filled with flowers from August to January. Would you advise me what to sow? Is it possible to cultivate Stocks and Peas? My gardener says it is too late to sow Primulas and Cinerarias, though he has a forcing-house. I planted some Campanulas last April, and they are just big enough to pot off. Will they flower this year indoors? If I sow Lobelias will they flower in time?—V. O. B.

[There are many things well suited for a conservatory during the times stated, but it is late to be starting now for a beginning. Some of the plants that may be grown with ease, and that could be accommodated in pits or in the open air in winter, are Hydrangea Hortensis and Hydrangea paniculata grandiflora. These kinds are showy and valuable. To these may be added quite a host of showy Lilies, such as auratum, tigrinum, speciosum, in at least three kinds, longiflorum in two kinds, all of which may be grown out-of-doors in pits plunged in ashes till required. Of other plants that but little trouble in winter to preserve roots are Achimenes and Tuberous Begonias. These latter are especially valuable in pits, a cool conservatory, and only require starting into growth quite naturally to suit your case. Such trailing Campanulas as C. isophylla alba, C. i. Mayii, and C. fragilis are also valuable. It is, as the gardener observes, too late for sowing Primula and other such things, yet you may purchase seedlings of all these at a small cost. If the Campanulas you refer to are the Chimney Campanula (C. pyramidalis), they will not be large enough to flower this year, and, indeed, will only arrive at a good flowering in July, 1903, by continued good cultivation in the interval. As a rule, these things require fully sixteen months to make blooming examples, and by this method it will be easy to maintain a flowering each year. Sown in early spring, the seedling plants should receive every encouragement, and be in 6-inch pots by the early autumn. Then winter in cold-frame or house, and in February or March give a final shift to 9-inch or 10-inch pots, according to size of plant individually. The Canterbury Bells may also be grown in pots for flowering indoors. For later work, summer-flowering Chrysanthemums in batches and a few good late kinds would keep up a display to the end of the year. Bulbs of all kinds, Daffodils, Tulips, Freesias, Hyacinths, Lily of the Valley, etc., should be secured in early autumn for giving winter supplies of bloom. The Lobelia may flower a little if sown now, but you would not obtain a tithe of its flowering value before the end of the season. Such things require to be sown in February.]

As many of the most interesting notes and articles in "GARDENING" from the very beginning have come from its readers, we offer each week a copy of the latest edition of either "STOVE AND GREENHOUSE PLANTS," or "THE ENGLISH FLOWER GARDEN," to the possessor of the most useful or interesting letter or short article published in the current week's issue, which will be marked thus:—

OUTDOOR PLANTS.

ANNUALS IN THE GARDEN.

ALTHOUGH too much reliance should not be placed on annuals for the adornment of the garden, their usefulness for a variety of purposes should not be underestimated. They may be planted amongst bulbs, and then in the autumn, when the foliage of the bulbs has withered and disappeared, they will cover the earth, which would otherwise be bare, with bright colour. They are also useful for growing around subjects like *Dicentra spectabilis* and the Oriental Poppy, both of which wither and become unsightly before the commencement of autumn, at a time when many annuals are growing strongly. Some, like the deep blue *Phacelia campanularia*, are seen to advantage when grown in pockets in the rock garden among grey-leaved *Sedums*, and *Saxifragas* and *Verbenas* do well pegged down in a border where *Crocuses* are planted. A method beloved of the jobbing gardener is to "tidy up" the borders by cutting off the foliage of the bulbs after their flowers have faded. This has the most disastrous effects, for the bulb of the ensuing year is built up by the sustenance drawn down from the leaves, and if these are cut off while still green the supply is suddenly stopped, with the result that the bulb can make no further increase in size. Under such

by the plants later on, when compared with the stunted stature of the puny weaklings in the unthinned bed. There is no more beautiful flower than the single white Opium Poppy, but, unless the seedlings are a foot or 18 inches apart, they will not attain their rightful dimensions. Asters are particularly valuable autumn-blooming annuals. Great so-called improvement has been effected in these flowers since the single *Aster sinensis* was introduced some 170 years ago, and we now have numerous double forms known as Paony, Comet, Quilled, Crown, Pyramidal, Chrysanthemum-flowered, etc. The single Aster from which these were originally derived was lost to cultivation, and was only re-introduced a few years ago. This plant, when given good soil and plenty of room, forms a branching bush 3 feet or more in height and as much through, and bears great many yellow-centred flowers, the largest of which are fully 5 inches in diameter. When this plant is compared with the double Asters of to-day one feels that the alteration effected in a century and a half has been a retrograde movement and not an advance. However, all nurserymen now sell seeds of *Aster sinensis*, and white and rose-coloured forms can also be obtained.

Many other annuals besides those mentioned are of infinite use in the garden as long as they do not displace herbageous plants. Of these may be mentioned *Galettias*, *Coreopsis*, annual

looking north, protected from wind by a Beech forest on south side only, and the soil tenacious, yellow clay; most unfavourable conditions for producing anything very early, yet every year my autumn-sown Sweet Peas are glorious, bloom early, grow very tall, and flower for months. The other invariable success in autumn sowing is Poppies—Shirley and red double Coquelicot. I was less successful with *Galettias*, annual *Coreopsis*, *Eucharidium*, and *Antirrhinum*, although once obtained they sow themselves freely. Some double rose-flowered *Balsams* sowed themselves last summer and came up satisfactorily quite late in the spring. They astonished me, as they are not noted for hardiness. *Papaver bracteatum* has become almost a weed here. It is so happy in our clay soil, also *Lupinus polyphyllus*, which has been in June the pride of the garden. May I send a longer article dealing with plants which succeed or go wrong in our yellow clay? My experiments may help other readers.

[Many thanks; shall be glad to have your experience.—Ed.]

TUFTED PANSIES IN JULY.

THE cool and moist weather of the first three weeks of June suited those plants, and rarely have they flowered so well or the individual blossoms been better. The most astonishing fact is that the plants which were put out in March and April grow away freely, and have since that time been all that one could desire. No doubt the constant stirring of the soil between the plants has contributed largely to their present satisfactory condition. From time to time, too, I pick off all the spent blossoms and seed-pods, thus giving the plants a much needed rest, and this, too, without seriously interfering with the brightness of their display. Within a week from the time the blooms, etc., were removed, the plants were again flowering freely. Insect pests have not caused any trouble, and this is something to be thankful for. However, when the plants are attacked by red-spider, green-fly, etc., they may easily be eradicated by a timely application of soft-soap solution. This solution is made by dissolving 2 ounces of soft-soap in a gallon of clear water, and is squeezed into the points of the shoots of the affected plants by a sponge or piece of flannel. In hot weather this should be done in the evening and syringed off in the morning before the sun gains much power. No better time could be selected for applying this remedy than when the plants have had their flowers and spent blossoms picked off. In hot weather, too, copious supplies of water should be given, these being followed with liquid-manure water. In very hot and dry situations it is a good plan to mulch between the plants with some rotten manure, this keeping the roots cool and thereby encouraging growth. Peat-Moss-litter has been used here, and with much success. It is well, however, to turn the heap over pretty often before using this material, otherwise the ammonia, with which this substance is heavily charged, may burn or blister the foliage. The larger pieces of peat-Moss-litter should also be broken up. Particularly pleasing now are: *Seagull*, a rayless white, with a very neat yellow eye; *Florizee*, lavender, with a perfect habit; *Mrs. E. A. Cade*, bright yellow and rayless; *Miss Jessie Cotter*, a rayless flower in varying shades of yellow; *Miss Gertrude Waterer*, bluish-white, wondrously free, perfect habit; and *Elaine*, large pure white, with yellow centre. King of the Blues, the best of the blues, of medium size, was raised by the late Dr. Stuart, and another of the same raiser's is *Pensee d'Or*, a very rich and deep rayless yellow, an ideal bedding sort. A bright yellow, specially free, and beautiful for beds and borders, is *Clondyke*.

Before the sun gains much power. No better time could be selected for applying this remedy than when the plants have had their flowers and spent blossoms picked off. In hot weather, too, copious supplies of water should be given, these being followed with liquid-manure water. In very hot and dry situations it is a good plan to mulch between the plants with some rotten manure, this keeping the roots cool and thereby encouraging growth. Peat-Moss-litter has been used here, and with much success. It is well, however, to turn the heap over pretty often before using this material, otherwise the ammonia, with which this substance is heavily charged, may burn or blister the foliage. The larger pieces of peat-Moss-litter should also be broken up. Particularly pleasing now are: *Seagull*, a rayless white, with a very neat yellow eye; *Florizee*, lavender, with a perfect habit; *Mrs. E. A. Cade*, bright yellow and rayless; *Miss Jessie Cotter*, a rayless flower in varying shades of yellow; *Miss Gertrude Waterer*, bluish-white, wondrously free, perfect habit; and *Elaine*, large pure white, with yellow centre. King of the Blues, the best of the blues, of medium size, was raised by the late Dr. Stuart, and another of the same raiser's is *Pensee d'Or*, a very rich and deep rayless yellow, an ideal bedding sort. A bright yellow, specially free, and beautiful for beds and borders, is *Clondyke*.

Original from Sweet Peas, early sowing.—Your correspondent, W. L. B. (see page 263),



A bed of China Asters.

circumstances it is impossible to expect bulbs to flower well. It must be admitted that, if bulbs are grown in the borders there is a time when their appearance leaves much to be desired; but if annuals are planted amongst them as early as they can with safety be put out in the spring they will soon grow away and do much to hide the withering leaves of such bulbs as *Daffodils*.

As cut flowers annuals are invaluable, and in the reserve garden they should be largely sown. In sowing, the greatest care should be taken to sow thinly. The growth of a self-sown seedling which rises alone in a bed evidences to what dimensions a plant will attain when it has not to strive for existence with others of its kind. A blue Cornflower seedling that came up by chance in a bed measured, when its growth was completed, 4 feet in height and 2 feet in diameter, and carried hundreds of flowers. It is far better to sow too thinly than too thickly; if fact, it is almost impossible to sow too thinly. Thick, or even moderately thick, sowing entails laborious thinning of the seedlings if those left are to attain satisfactory growth. As a rule, in addition to sowing too thickly, seedlings are insufficiently thinned. *Mignonette*, *Gypsophila elegans*, and *Sweet Peas* should be thinned to 4 inches apart; 6 inches is better. *Shirley Poppies* should not be nearer together than 8 inches. The thinning to this extent of a bed, say, 18 feet square, of the latter flowers means a considerable amount of labour; but this is well repaid by the vigorous and robust growth exhibited

Chrysanthemums, *Bartonia aurea*, *Suljiglossis*, *Stocks*, *Zinnias*, *Marigolds*, *Phlox Drummondii*, *Nemophila*, *Limnanthes Douglasii*, *Sweet Sultan*, *Lavatera trimestris*, *Sunflowers*, *Petunias*, *Cosmos bipinnatus*, *Antirrhinum*, *Linum grandiflorum*, *Schizanthus*, *Marguerite Carnations*, *Eschscholtzia*, and *Scabiosa*.

S. W. F.

AUTUMN-SOWN SWEET PEAS.

I SHOULD like to relate my very successful experiments with autumn-sown Sweet Peas. I sow them every 10th of September. They grow well at first, and seem to die down entirely with the first frost. Then in spring they come up again with great vigour, and bloom much earlier than those sown in spring in the open. This summer (when everything was backward on account of late, prolonged spring frosts) the autumn-sown Peas bloomed on the 20th June, and the spring-sown on July 4th. All varieties do not seem equally hardy. This year I put in *Invincible Carmine* and *Sadie Burpee*. The former came up much more thickly after winter. But *Sadie Burpee* had longer stalks; the length was 15 inches the first week—not a few exceptional ones, but they were all that length—and three flowers to every stalk. *Invincible Carmine* had only 12-inch stalks. The method of culture is simple enough. They are sown in good vegetable garden soil, each seed in a small hole about 18 inches deep. They are neither covered nor mulched, and my garden is a slope

has had a quite different experience to mine, as my early sowings gave stronger growth and bloom a fortnight earlier than the late-sown ones. I did not use any pots, but sowed the first lot the first week in December, 1901, and the next lot in February, 1902, my object being plenty of bloom at a minimum cost of labour. I had abundance of bloom during what should have been Coronation week in June. My impression is that pots check the roots from going straight down to find moisture.—J. Groom, Gosport.

NOTES AND REPLIES.

Soldagdos.—I do not know why in some gardens valuable space is given up to Soldagdos. I grew them years ago, but rooted them up when it was found that some Rose-trees in close proximity to them were being swamped, owing to their abnormal growth and the fact that nothing else did well near them. They are very well as fill-gaps in shrubberies when one has nothing else, but from a small garden they are in my estimation better omitted.—W. F.

Dimorphotheca Eckloni.—This recently introduced plant is a welcome addition to the somewhat numerous so-called Marguerites. The flowers are from 2 inches to 3 inches across, pure white on the inside, and shaded with purple on the exterior surface, the disc being of a deep violet. The culture is similar to that for *Chrysanthemum frutescens*. The plant may be grown to a considerable size, but is apt to become somewhat leggy and straggling when old, and it is better, therefore, to raise a stock of young plants annually, and discard after the second year.—J. Ross, 1, Ravelin-road, Oxford.

Clematises Lady Caroline Nevill and Fairy Queen.—Belonging to the lanuginosa section there are some very beautiful Clematises well suited for planting out-of-doors, but differing from those of the Jackmani group in that they only require a moderate trimming of shoots every season, whereas Jackmani and all of that group benefit most if cut hard back every autumn. The varieties I wish to call attention to are Lady Caroline Nevill and Fairy Queen, the former blush with mauve bars, whilst the latter is pale flesh in colour with pink bars.—WOODRASTWICK.

Begonias out-of-doors.—During the past few weeks outdoor Begonias have bloomed exceedingly well. There is a growing disposition on the part of many who have window-boxes to plant the tuberous-rooted sorts, and some that I have noticed this season have been charming, being a blaze of colour, quite a relief to the combination of Calceolarias, Geraniums, and Lobelias one sees so frequently. Where one has to buy plants for bedding or windows, Tuberous Begonias should not be overlooked, as the tubers can be kept all the winter in a frost-proof place and started in a house-window the next year with a certainty of doing well.—W. F. D.

Day Lilies.—Valuable plants for shady and moist borders or for planting near to streams are the Day Lilies, but it is next to useless to grow them in dry, shallow soils and expect success. Where, however, they can have a cool root-run, they bloom freely, require scant attention, and are very acceptable when cut. The common yellow-flowered variety, *Hemerocallis flava*, is met with in many gardens, is fragrant, lasts a considerable time in bloom, and is readily propagated by dividing the roots, as, indeed, are the other sorts. *H. dumortieri* precedes *flava* in blooming, but is not so continuous with its flowers. All who have opportunities for planting these showy subjects by the waterside should do so, in company with Irises.—DERRY.

Alstroemerias.—A warm border where the soil is both light and rich is the place best suited for Alstroemerias. When growing in groups in the garden they are most effective, but are not always understood, as, for instance, though needing a warm border they must, whilst growth is proceeding, be supplied with moisture at the roots, otherwise the tubers ripen too quickly, and after they have done blooming the flower heads should at once be removed to prevent exhaustion, but leaving the stem intact so that ripening of the tubers shall not be interfered with. During winter also it is advisable to spread over the surface a good thick layer of manure. It is imperative that the place Alstroemerias are to occupy should be thoroughly prepared, and this consists in digging out the soil to a depth of 3 feet, laying in the bottom pieces of brick, over which leaf-soil or manure should be spread. In preparing the plants in autumn, arrangements

should be made to have them in pots, for if lifted from the soil it invariably follows that the roots are injured, being, as will be seen, deep rooting subjects. It is on this account that when once they have been planted no further disturbance should take place.—LEAHURST.

Increasing Sweet Williams.—I have a splendid bed of Sweet Williams. They were raised from seed, and this is the first year of flowering. Each plant has from six to ten dozen young shoots round the base of old plant. Would the young shoots grow as well from slips or cuttings as they would from layers? In either case I shall (soon as plants have done flowering) have to remove them, as I want the ground for other things. If you prefer young plants to the old stools, what would you do with latter—destroy them? I suppose they would be no use without the young plants, as each shoot is a flowering spike.—CHAS. CUBBY.

[As your present flowering Sweet Williams have thrown so many young side shoots, you can adopt two or three courses. If you must remove the plants, cut down the flower-stems so soon as over, then lift each plant carefully with a fork, and, having made a hole to receive it, replant a little deeper than before, filling in round with good soil, and putting some about the young shoots. These would carry very fine flower-heads next year. If you can do so, it will be best to let the plants stop until October. You can, of course, layer the best shoots as if they were Carnations, using some sharp sand in the soil. Those layers would make stronger plants than if cut off as cuttings. But if you prefer cuttings, set them into shallow boxes filled with sandy soil, place them in a cool-frame, keeping closed and shaded in sunshine. These should root well in six weeks. If you left a few shoots to each plant, they would be worth preserving. If you have a fine strain, why not save some seed from the plants?]

Tufted Pansy—value of a good tufted habit.—Seldom have the Tufted Pansies looked better than they do at the present time. All through the moist weather of early summer they were making free growth and flowering profusely, and now that the atmospheric conditions are hot and dry they still continue to reward us with the brightness of their display. A notable feature this season is the handsome appearance of two-year-old plants. The display at the time of writing is remarkable. I leave a certain number of plants undisturbed for two seasons or more, in order to test their hardiness and robustness. A noteworthy fact in this connection is the satisfactory state of plants possessing, what all admirers of the Pansy (Tufted or otherwise) desire—a creeping-like style of growth. Plants of this description keep the soil far moister than others having a less desirable habit of growth, and for this reason the plants blossom continuously, and continue in a healthy condition right throughout the season. All the members of the "Duchess" family, represented by Duchess of Fife, Goldfinch, White Duchess, Duchess of Teck, and Ardwell Gem, are in splendid form. Others worthy of mention are Seagull, a very chaste rayless white; Blanche, syn. White Empress, creamy-white; Elaine, pure white, with yellow centre; Florizel, lilac and lavender; and Mrs. E. A. Cade, bright yellow.—D. B. C.

Starworts.—We owe much of the beauty of our autumnal flowers to perennials, and in blossoms of long standing it is open to question whether for a late display there are many to excel Starworts. There is an attraction in these charming flowers, and where bunches of bloom are required for house decoration every gardener should make room for some of them. It has been said that they occupy a dual of space; but this does not apply to all varieties, some of them being of a dwarf habit, and, if they encroach more than they ought to do, it is because they are not divided often enough. But tall-growing plants are needed on back rows, as well as dwarf sorts on the front, and a careful selection will prove the usefulness of both. I give an abridged list of each, and, if open weather is selected, Starworts may be planted any time between November and March. Varieties growing 1 foot to 2 feet high: *Sibiricus*, mauve, late; *Acris*, lilac purple; *Novi-Belgii* Pleiad, rosy-purple; *ptarmicoides*, white. Two and a half feet to 3 feet: *Novi-Belgii* Ianthe, pale blue; *N.-B. Madonna*, white, large; *N.-B. T. Smith*, blue; *N.-B.*

lavigatus, rose; *Coombe Fishacre*, flesh. Three and a half feet to 5 feet: *Novi-Belgii* Top Sawyer, rosy-lilac; *N.-B. Flora*, lavender; *N.-B. Ella*, mauve; *N.-B. Janus*, white; *N.-B. Robt. Parker*, lavender, yellow centre; *N.-B. White Spray*, sprays of white, twisted petals; *N.-B. F. W. Burdige*, one of the best white sorts; *levis* Lady Trevelyan, white, changing to rose; *Novae-Angliae* *praeox*, crimson-purple; *N.-A. ruber*, rich crimson; *turbinellus*, large violet, tipped rose; and *multiflorus*, small white.—TOWNSMAN.

Lenten and Christmas Roses.—I will feel obliged by being informed what is the proper treatment for Christmas and Lenten Roses under the following circumstances: They were bought, some in February and some in April, and were at once potted in rich, moss, loamy soil, with plenty of vegetable matter, in 12-inch and 12-inch pots, and were placed in a cool, shady position under a not very thick hedge facing east. Two of them (out of twelve) have gradually lost their leaves, and no growth is visible; the rest, while retaining their leaves, have made no further fresh growth this year, and look sullen and indisposed. Will they recover before the winter, or should they have a change in any way?—W. H. S.

[The behaviour of the plants, and of the latter group in particular, is exactly that we would have expected from so late transplanting as April. This is much too late, and for the simple reason that the chief rooting is past for a time, and the plants have virtually been existing upon their own stored-up vitality. The Christmas Rose family (*Helleborus* spp.) is best replanted in August or September, as in this way all, or nearly all, the root system, then freshly growing, are preserved intact. It is quite possible, if you examine your plants by shaking them out of the soil, you will find but few root fibres, and these of the main root type. If, however, any large or main roots are in sight, you can do little good, and had better wait for results; yet without root and foliage there is small chance of obtaining flowers, as these are always in proportion. If you require these things for pots, we would advise obtaining fresh supplies not later than mid-September, and potting at once, plunging the pots to nearly their full depth in some uniformly cool and shady place. Those now in pots would do better if planted out in the garden, as recovery is very slow when confined in pots. We wish it your plants have not been plunged; hence it would be difficult to keep them in a satisfactory condition. The soil you mention should be suitable, but soil in plant cultivation only plays one part, though naturally an important one. In the Christmas Roses two sets of roots are produced each year by healthy plants—viz., the chief or main roots only in autumn, and the fibrous roots in spring, usually with the leaf growth. If from any cause the main roots are checked or broken, the annual growth of the leaves, that usually takes place in February or March, is much impaired, and a generally weak, debilitated condition ensues, that from these reasons does not recover for a season or two. With the Lenten *Helleborus* the case is different, as this section inclines more to a perpetual rooting, making large quantities of root fibres each spring. This section may be replanted so late as April in good ground, and with every attention in watering, etc. The very nature of these and their great rooting render it necessary that the most liberal treatment should be given, and, even so, we do not recommend them as good things for pots, still less so if the pots are continuously exposed to the great changes of atmosphere ever going on.]

Sweet Peas—some good sorts.—One of the most conspicuous sorts this season is Prince of Wales. The flowers are very large, of good form, and rose-pink in colour. The majority of the sprays have developed four blossoms. The newer Duke of Westminster is even more robust than the last-named, its rosy-purple colour and good form, apart from its freedom of flowering, giving it a very high place in the list. Too much cannot well be said in favour of *Prima Donna*, the soft pink colour being charming. Rarely, indeed, does the spray develop less than four blossoms. Of the dark sorts, Black Knight appears to be the best. It may be described as dark bronzy-chocolate. The flowers are large and of good substance, the plant robust and also free-flowering. Among the pale yellow or rich cream flowers it is difficult to find anything

prettier than Queen Victoria. The flowers are very large, and each spray has a fine length of footstalk. Lady Mary Currie still holds its own among the rich salmon coloured sorts. The deep mulberry-red of Salopian stamps it as first class in its colour, and the chasteness of Sadie Burpee has a value which none of the other whites possess.—D. B. C.

Pretty annuals.—Too many gardeners, and amateurs especially, are apt to overlook the exceeding beauty and usefulness of many annuals in gardens, and amongst these there is the charming Swaa River Daisy (*Brachycome iberidifolia*). I saw this growing in quantity the other day outdoors, where on a flower border it was beautiful, flowering profusely 4 inches in height and in large 60-sized pots, in which seed had been sown very thinly, not less beautiful, though just a little taller, in a cool greenhouse. The flowers much resemble those of the star-like *Cinerarias*, and are about 1 inch in diameter. Seed should be sown in pots early in April, and outdoors in rows or tiny clumps at the end of April. This Daisy

house all the winter, bloom gloriously in the spring in pots.—A. D.

WAYSIDE GARDENS.

MUCH of the pleasure in a country ramble has its source in the wayside gardens that edge the road in villages and country towns, or here and there in solitude face some remote lane. They vary from the comparatively large enclosure fronting some old red brick or stone house standing well back from the road, unpretentious in its aspect, but with an air of solid comfort and respectability, to the narrow, pebble-edged border flanked from the road, which may be seen in front of white-washed Dorsetshire cottages. These latter reflect great credit upon their originators, for even if the road at the base of the cottage wall is loosened with a pick and some of the metal cleared away, there is but little root-run, yet by heaping up the soil, using a good proportion of manure and assiduous watering, a bright display is contrived. A little humlet,

south-west plants not hardy enough for more northerly districts can be used with success, and in Cornwall *Solanum jasminoides* is often seen. Where this can be grown it is without doubt the finest flowering climber that we have, for its blooming period extends over six months. I once saw on either side of the porch of a Cornish cottage two huge bushes of *Salvia coccinea* fully 6 feet in height. In that county Myrtles are common on the cottage fronts, and the walls are sometimes mantled to the eaves with the Ivy-leaved *Pelargonium Mma. Crousse*. This is rarely much injured by the winter. *Cytisus racemosus*, which grows into a great bush in the south-west, and in mild winters is often in flower in December, is sometimes trained on the wall, and other rarer plants, presents from some large neighbouring garden, are occasionally seen. The well-to-do wayside garden is, though equally interesting, on an entirely different plane to the cottage plot. The house is often veiled with varied climbers, the paths are neatly gravelled or formed of flag-stones, and



A Gloucestershire farmhouse and front garden. From a photograph sent by Mr. W. R. Mills, Abington Farm, Fairford, Gloucester.

has a long blooming season, which can be extended if decaying flowers be picked off. If put into a bed which has been thickly carpeted with *Lobelia* or *Nemophila* it would be all the more charming. Of more tender annuals, I saw but the other day breadths of the varied and most lovely African *Nemesia strumosa*, the flowers of which give colours of unrivalled beauty. But the plants, whilst blooming freely and for a long season, yet have little foliage, and for that reason need some other plant to form a foliage base. Sweet *Alyssum*, *Limnanthes*, or *Nemophila* sown thinly would do capitally for that. *Nemesia* should be sown in shallow pots or pans and in colour, and be from these latter dibbled out into beds or borders where to flower. It is perhaps better to sow three or four seeds in 60-sized pots in fine soil, and thus raise several dozens of small clumps to turn out of pots. It is difficult to over praise the lovely colouring found in many of the flowers. The new *Schizanthus Wisetonensis*, with its charming butterfly-like rose and white flowers, is a hardy annual that cannot be too warmly praised. Seed sown in August, the plants kept in light for a week

each cottage in which is faced with a tiny flower strip such as described, is a pretty sight in early autumn, with its African Marigolds, Hollyhocks, here and there a scarlet *Gladiolus*, *Dahlia*, or *Chrysanthemum*. The gardens of one village generally show a certain degree of similarity in their contents. With trifling differences the same plants appear in each, evidently passed from one occupier to another. In another village a few miles distant another selection is probably in vogue, and it is extremely interesting in a 50-miles' bicycle ride to watch the variation exhibited by the cottagers' flowers as one passes from village to village. Where cottages have the inestimable advantage, both artistically and practically, of porches a now opening is afforded for its holder's gardening proclivities, for there are numberless flowering climbers that will wreath these with loveliness. *Jasmine* and *Virgin's Bower* (*Clematis Flammula*) are perhaps the most general favourites, but *Roses*, *Passion-flower*, *Clematis montana*, and large-flowered *Clematises* are often employed, and one of the prettiest I have seen was covered with the great white *Bindweed* in full flower. In the

formal beds are trimly edged. In looking into such a garden one is not seldom delighted with the flowers it holds—scarlet minks of white *Madonna Lilies*, beds of fragrant *Carnations*, of tenderly-tinted *Tea Roses*, clumps of old double *Rocket*, *Bergamot*, *Pansies*, *Love-in-a-mist*, *Irises*, *Mignonette*, *Stocks*, and *Lavender*, all of them beautiful and very sweet-scented. There are many other gardens of which much might be written—of the mill garden, with its *Paspalum Grasses*, its *Christmas Roses*, and *Mimulus* (yellow and blood-red), and the *Bulrushes*, *Willow Herb*, and *Loosestrife* around the mill-pool—of old-world inn gardens, and of the gardens of old Elizabethan manors now fallen in their estate to farm-houses. S. W. F.

Peruvian Lilies (*Alstroemerias*).—These are among our most showy herbaceous plants, and in the south-west are quite hardy, while in the colder parts of England, with a slight protection during the winter, all would be well with them, I think, especially if a fairly sandy soil and thorough drainage be afforded them. The golden varieties, no doubt, is the best

loer, and will thrive in a damper, stronger soil than the other varieties. All of them are grand for cutting, and stand a very long time in water. In light soils they require frequent watering during spells of drought in summer, and to be supported with branched sticks to keep the growth from falling over. I have found the less disturbance at the root the better for the plants. When it becomes necessary to remove them, early spring, just as growth begins, is the best time. They should be planted quite 6 inches deep. Here they will be secure against several degrees of frost if a few inches of sand or coal-ashes are placed over the roots at the end of November.—J. M. B.

ROSES.

MEDAL ROSES.

To me the most interesting of exhibits in an extensive show like that of the National Rose Society's display at the Temple are the medal blooms. These are collected from the whole of the stands, and the flowers so honoured are invariably perfect specimens. A silver medal goes to the best Hybrid Perpetual, Tea, and Hybrid Tea respectively, and in the two divisions—amateurs and nurserymen. Six flowers, therefore, are chosen. This year the finest Hybrid Perpetual was Mrs. J. Laing in both cases. These were very fine, splendidly developed blossoms. The best Hybrid Tea was a huge bloom of Mildred Grant in the trade exhibits, and Bessie Brown was the sort selected among amateurs. Maman Cochet, of the latter division, was that honoured as the finest Tea-scented; Cleopatra gained the other medal of this class. There is always some comment in regard to the medal Roses late in the day. It is not always remembered that the chosen blooms are considered the best when judged. It may be that they improve or lose in beauty as the day advances—mostly the latter—and, therefore, it is not surprising that other specimens which have improved are considered finer by the visitor. Thus, a splendid flower of Captain Hayward—one of the brightest of red Roses—and an equally fine Bessie Brown other than the one selected were much admired. Regarding these medal blooms, it is interesting to note that, with one exception (Maman Cochet), the sorts were raised in these isles. Mrs. John Laing and Cleopatra are the grandest of the choice varieties raised by the late Mr. H. Bennett. Mildred Grant and Bessie Brown are both from A. Dickson and Sons. The Gold Medal of the National Rose Society is also awarded to any new variety of exceptional merit. This year at the Temple two kinds were thought worthy. These were both Tea-scented—one named Lady Roberts, and the other Souvenir de Pierre Notting. The former is in shape the exact counterpart of an esteemed variety—Anna Olivier—but with deeper shades of buff and red tints. It is a charming Rose. Presumably, the latter is of French origin, although exhibited by Prince, of Oxford. The flower is not over-large, but the shape is first-rate. It is said to be a cross between Maman Cochet and Maréchal Niel. If that be so, it should grow to a large size to follow parentage. The combination of shades—yellow and pink—appeared to me its chief charm, and I should say it is a decided acquisition. H. S.

MAIDEN ROSES FOR EXHIBITION.

KINDLY tell me what Roses (exhibition) give best blooms as maidens, H.P. and H.T.? Also which exhibition Teas are best on standards, and which on dwarfs? Which are the best new exhibition Roses, and those a small amateur should go in for? I have 600 stocks (200 Manetti, 100 each of seedlings, standards, and cuttings) to bud now, and am anxious to do so to best advantage for next year's shows.—O. K. D.

[There are certain varieties of Roses that are only good for exhibition upon one-year-old or maiden plants, as they are termed, but if such varieties are budded where they are to remain they will give very good flowers the second and subsequent years. Of these varieties the principal are A. K. Williams (B), Horace Vernet (B), Xavier Olibo (C), Marchioness of Dufferin (M), Gustave Pignoneau (M), and Duchess of Bedford (B). These are all splendid show kinds, and several of each should be budded. There are also many Roses that produce good

flowers as maidens and also as cut-backs—a term usually employed for Roses that have been pruned back. If you desire to enter the larger classes at the shows you should grow five to ten each of the following as maidens, for not only do they produce splendid individual blooms, but they also come a little later than the cut-backs, consequently they are of more service in an early season. The following list should be grown: General Jacqueminot (M), Comte Raimbaud (C), Jeannie Dickson (M), Mrs. Sharman Crawford (M), Marie Baumann (C), Alfred Colomb (M), Caroline Testout (M), Etienne Levat (M), Duke of Fife (M), Frau Karl Druschki (M), Gladys Harkness (M), Mrs. John Laing (M), Robert Scott (M), Mrs. W. J. Grant (M), Mme. Jules Grolez (B), White Lady (B), Tennyson (M), Prince Arthur (M), Mildred Grant (B), Bessie Brown (B), Papa Lambert (B), Victor Hugo (B), Charles Lefebvre (M), Helen Keller (M), Suzanne M. Rodocanachi (M), E. Y. Teas (M), La France (M), Dupuy Jannin (M), Marchioness of Londonderry (M), Margaret Dickson (M), Duke of Wellington (M), Marquise Litta (C), Pride of Waltham (C), Tom Wood (C), Ulrich Brunner (M), and Antoine Rivoire (B). The following are best as cutbacks: Francois Micholon (C), Her Majesty (B), Mme. G. Luizez (M), Exquisite (B), and Mrs. Cocker (B). If you bud a few of each of these you will stand a good chance of carrying off some of the prizes, provided skill is employed in cultivating.

Tea Roses for exhibition are best from half-standards, and, if possible, I would advise that they be so grown, although certain kinds will produce fair blooms from dwarfs. These are marked with an asterisk. *Catherine Mermet, *Bridesmaid, Cleopatra, *Devoniensis, *Mme. Cusin, Mme. de Watteville, *Souvenir d'un Ami, *The Bride, *Mme. Hoste, *Souvenir d'Elise Vardon, *Souvenir de S. A. Prince, *Niphotos, *Anna Olivier, Innocente Pirola, Ernest Metz, *Medea, Maman Cochet, and *White Maman Cochet. The best new exhibition Roses are: Frau Karl Druschki, Mme. Vermorel (S), Boadicea (S), Mrs. Edward Mawley (S), Mildred Grant, Gladys Harkness, Bessie Brown, Exquisite, Papa Lambert, Dr. F. Gnyon (S), Lady Moym Beaulere (S), Duchess of Portland (S), Tennyson, Ben Cant (S), Lady Roberts (S). All of the kinds named would do well on the Brier, but for your guidance I have placed a letter against each kind indicating the stocks that give best results. For instance, B for seedling Brier, C for Brier cutting, M for Manetti, and S for standard or half-standard.—ROSA.]

NOTES AND REPLIES.

Pruning Roses.—Immediately after flowering, the climbing Roses against the house (Gloire de Dijon, Bouquet d'Or, W. A. Richardson, and others) send up long shoots 5 feet to 6 feet long. Ought I to cut them off or top them and nail them up?—GLOUCESTER DUKE. [Nail them in so that the wood can get well ripened, as on this depends the blooming next year.]

Rose Robert Scott.—Among the newer Roses this is not the least striking. It is a large, well-formed flower of a good type. The colour is a flesh-pink, with an exquisite finish to the petals. It is a cross between Mrs. W. J. Grant and Merveille de Lyon, raised in America, and not much known. It was seen in grand form at the Windsor Show the other day, and is one that should be noted by those who cultivate Roses for exhibition. It is said, too, by the raiser to be a good one to force and for pot culture generally.—H.

Pruning Marechal Niel Rose.—I have a Marechal Niel Rose in my small greenhouse. It flowered well this spring, and has run all over the house. It is not very robust. What had I better do with it now—prune it, or wait till autumn? I have a Niphotos just the same. What should I do with it?—REV. H. GOSSE.

[As a rule, strong-growing Roses planted out or grown in pots under glass are best pruned immediately after flowering, but this more especially applies to old established plants that have become quite a thicket of growth. In such cases some of the oldest shoots or branches are cut quite out, retaining as much as possible of the growth of the current season. By letting in sunlight and air to the shoots they are enabled to ripen off better, which is a necessary condition for the future success of the plants. Should your plants be much crowded with shoots, we would advise thinning at once, by cutting into the vacant spaces, the young shoots.

Any further pruning, such as shortening the lateral growths, will be best done in the early part of next year.]

Rose Fisher Holmes.—Few dark-coloured Roses have held their own like the splendid variety named above. It is what exhibitors term undersized, which perhaps renders it all the more useful to the novice, who, above all things, admires a shapely bud. And then its colour is so good. Fisher Holmes is a first-rate autumnal, blooming well and late, and is one of the few good H.P. crimson Roses to grow for that purpose. As a maiden plant the flower is superb, although small, the centre high and pointed, good alike on Manetti or seedling Brier, but more enduring on the latter. It makes a tolerably good standard, although I prefer Roses of a freer growth to standards—in fact, the more semi-pendulous the shoots the more graceful are these standard Roses.—ROSA.

Rose Noella Nabonnand.—I believe we have in the above a very fine climbing Rose, and one likely to be sought after. It has the beautiful rich velvety shading so much admired in Bardou Job, and (this is not to be wondered at, seeing that the variety under notice resulted from a cross between that Rose and Reine Marie Henriette. In the bud state Noella Nabonnand is lovely, and when fully expanded the large, semi-double blossoms are particularly showy. A wall covered with this Rose should be a splendid feature, and it is equally valuable for arch or pillar. One can also imagine what a glorious free-headed standard the Rose will make, especially if worked on a tall stem.—ROSA.

Climbing Roses for north wall.—Could you give me the names of two yellow or white climbing Roses suitable for a north wall? I often see Reine Marie Henriette praised in your columns. Here it does not do well. When in bud it is good, but when out all the colour goes.—T. S.

[As a nearly white Rose, you could not do better than plant Mme. Alfred Carriere. It is a splendid free kind, with large, showy, and very fragrant blossoms. In this position it should succeed well, and its not over-double flowers are very lasting. Celine Forestier is another reliable kind, pale yellow in colour, and one of the good old Roses that will probably never be surpassed. Commence well by cutting back the plants to quite half their length the first season, and, if they are nice bushy plants, we would advise you to cut one or two growths quite close down to the base. These, in course of time, will send up new shoots, and thus well furnish the wall. Reine Marie Henriette, as you say, is rather disappointing at times. We much prefer Waltham Climber No. 1, and also Waltham Climber No. 3. Cheshunt Hybrid is good on a north wall. In the bud no Rose is prettier, but when expanded the colour is not pleasant. Whilst the climbers are making growth you could well plant one or two of the dwarf Teas among them. Marie Van Houtte we have seen in such an aspect flourishing admirably, and doubtless others of similar strong habit, such as Mme. Hoste, Medea, Anna Olivier, etc., would also do well.]

Rose Mildred Grant.—No new Rose of recent years has created such interest as this, at least among exhibitors. This season has seen it in even better form than last year, when it was grown by the raisers only, Messrs. Dickson, of Newtownards. It is absolutely faultless as a show Rose. Its great size and charming shape, with attractive pink shades on a white ground, make it a variety all growers must have. It is a Hybrid Tea, and, like those kinds of that class, a free bloomer. If not rampant, it may be termed a good grower, with capital foliage. This variety has won more medals during the past two seasons for the best single flower than any other, old or new.—H.

Photographs of Gardens, Plants, or Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

The Prize Winners this week are: 1, Miss L. Bland, Carroney, Belfast, for Azalea and Holly; 2, Miss Mabel Gaisford, The Grove, Dunboyne, for Inias against Yew hedge.

TREES AND SHRUBS.

KALMIAS.

Among the dwarfier evergreens there are few better than the Kalmias. The genus is purely an American one, extending from the Arctic regions in the north to as far as Cuba in the south. The Kalmias belong to the Heath family, the flowers being rather flat and saucer-shaped and borne at, or near, the ends of the previous season's branches. They require the same conditions under cultivation as the great majority of their allies—the so-called "American" plants. A soil of a peaty nature is best, but in gardens consisting of pure loam

cuttings may also be employed, but seeds are preferable.

Both *K. angustifolia* and *K. latifolia* may be used for forcing. The plants should be potted up at the beginning of winter, and may be brought into the forcing-house at intervals to provide a succession, but slow and gentle forcing is necessary.

K. angustifolia is a very pretty dwarf shrub, growing from 1 foot to 3 feet high, and flowers during June. The flowers are of a purplish-red (but of different shades), each a little under half an inch in diameter, the corymbs being produced in the leaf-axils near the ends of the shoots, sometimes extending several inches downwards from the tips and

and useful as an edging for a group of the taller Kalmias.

K. A. VAR. RUBRA has flowers in which the purplish tinge of the ordinary form gives place to a purer red. Of the several varieties it is the richest in hue.

K. GLAUCA.—This species differs considerably in general aspect from the other two, and compared with either of them, but especially *K. latifolia*, is poor and scanty in appearance. Out of flower it is by no means so handsome a shrub. The glaucous white colour of the under surface of the leaves renders this species easily distinguishable. The flowers are reddish-lilac, each over half an inch across, and produced in terminal corymbs. The species was introduced from the United States in 1767. It is in flower, as a rule, early in April, and is thus two months or so in advance of its two fellow species.

K. LATIFOLIA.—This, commonly known as the Mountain Laurel, is much the largest of the Kalmias, and may frequently be seen 6 feet or 8 feet high in this country, whilst in the Southern Alleghany Mountains it is said occasionally to attain a height of 20 feet. It is a very handsome shrub both as regards its foliage and blossom, and in places where the conditions suit it there are few evergreens of greater beauty and value. The flowers appear in June in a cluster of corymbs terminating the shoot. Each flower is about three-quarters of an inch in diameter, and is rose-coloured. The shade varies in depth in different plants, and the flowers are sometimes almost white.

K. L. VAR. MYRTIFOLIA is a distinct and very pretty plant, of dwarfier habit, and its leaves are not much larger than those of the Myrtle. The flowers, also, are smaller than in the type, but the whole plant when in bloom is as pretty as it is neat and compact.

K. L. VAR. POLYPETALA.—In this the foliage does not differ from that of the ordinary *K. latifolia*, but the corolla, instead of having the usual saucer shape, is divided into several segments, as the name implies. It flowers each year at Kew at the same time as the others.



The Mountain Laurel (*Kalmia latifolia*).

Lonicera japonica.—This name includes the different forms of one species of Honey-suckle which are variously known in gardens and nurseries as *L. chinensis*, *Halleana*, *flexuosa*, and *brachypoda*. It is just now one of the most charming shrubs in flower, alike for the luxuriant elegance of its growth and for the sweet, strong fragrance of its blossoms. It is a climbing plant, but by giving it the support of three stakes 6 feet or more high, arranged on a tripod, it will form a dense, graceful bush, and may in this way be used to furnish the open border. It has broad ovate leaves, each from 1½ inches to 3 inches long, of a beautiful rich green. They are opposite, and a pair of flowers is produced in the axil of each one, so that four flowers appear at every joint. At first they are creamy-white, but gradually become yellow with age. The fragrance is like that of our native Honey-suckle, with a suggestion of Cowslip added. In mild winters this *Lonicera* is evergreen. It is a native of China and Japan.

Veronicas.—It is a great pity these charming plants are not more hardy in this country, as they make a grand show towards autumn. They are found in imbecile bushes throughout Devon and Cornwall and grow like weeds. It is best to give them a sheltered position and where plenty of sun can reach them to ripen the wood. Pruning should be done before growth begins in spring, and they grow in any good garden soil, most of the varieties increasing tenfold by seed in the counties named above, though they are easily rooted by taking cuttings in autumn and treating them similarly to *Pentstemons*, *Calceolarias*, etc., planting out in nursery lines early in April, when severe frosts are past. Most of the varieties are of a bluish tint, though a few are white and one or two reddish in colour. There are over 100 varieties, many being suitable for the rock-garden, and in localities where they do not prove hardy they are very suitable for pots, all they require being protection from very severe frost, standing outdoors from April until they come into flower, where they make a good display in a cool greenhouse. *Veronica Anterior* variegata is

they may be grown well by trenching deeply and mixing plenty of well-decayed leaf-soil and as much peat as can be afforded with the top spit. They have the same antipathy to lime at the roots, which renders the cultivation of so many ericaceous plants in chalky soils a difficult and expensive matter. A cool and continuously moist soil is an important desideratum, and this is why deep trenching is recommended. In hot, sandy soils the ground should be removed to a depth of 2 feet and replaced at the bottom with the best of the natural soil mixed with a heavier loam, filling the upper part with a mixture of peat, leaf-soil, and loam. All the three species here mentioned ripen seed in this country, by means of which they can be increased by layers and

forming a showy cylindrical shaped mass of blossom. It is a very free-flowering plant. It was introduced in 1736 from Canada, but extends from those southwards to the hills of the Carolinas. Of the several named varieties a cultivation the most distinct is

K. A. VAR. OVATA.—This, a native of the mountains of New Jersey, is easily distinguished by its larger, oblong or ovate leaves, which almost suggest a small-leaved *K. latifolia* in their glossy green colour and firmness of texture. The leaves are produced in whorls of three or four at each joint, and the whole shrub is of taller, more robust growth.

K. A. VAR. NANA is also a distinct and very pretty plant. It is of close, dwarf growth, forming a neat, dense bush 1 foot or less high,

a useful dwarf plant for edging in the flower garden during summer, and is also at home in the front row of a bank of plants in the greenhouse throughout the year.—J. M. B.

VEGETABLES.

PLANTING IN DRY WEATHER.

MANY consider that the best time for planting such things as Broccoli, Winter Greens, Savoys, Lettuces, and such-like is during the time of, or immediately following rain. No one will deny that it is much more easy to carry out such work under these favourable circumstances, but what of long spells of drought, when there are vacant spots put out of use by the maturity of their early crops? It certainly is not true economy to allow plants to remain crowded in the seed-bed while there is vacant ground on which they may be planted. It would be feared by some that to disturb plants in tropical weather such as that remembered in early July would spell failure in the attempt to get them established in new quarters. Such, however, is not the case if watering is possible for a few days. In dry weather there is much to gain in having firm ground to plant in, and, indeed, it is folly to dig in midsummer for the planting of winter crops. Rather plant or sow a crop that will mature in time for the ground to be cleared and dug in winter. Previous to lifting plants from the seed-bed, a good watering would be helpful. In old Strawberry-beds, from which the plants, weeds, and straw litter have been cleared, an iron bar will easily make suitable holes for the insertion of the roots, and, if these are well watered in, it is surprising how well moisture is retained. Necessarily, the plants will suffer and put on a poor, starved look for a time, but directly new roots take possession of the firm soil they soon make amends, and once they are well started further watering will not be called for. The evening is the better time for planting and watering, and, if the latter is repeated for about a week, the plants will then be self-supporting. I do not hesitate to plant in any weather, provided there are suitable land and seedlings to put out. When the soil is very wet and firm, the dibber makes a hole with smooth sides that is impervious to the free passage of air and water, and, as a consequence, neither roots nor plants progress with any degree of satisfaction. Those who may have been fearful of the attempt to plant Broccoli, Savoys, Winter Greens, etc., in dry weather may soon become convinced if they keep them watered for a few days and the ground is firm.

W. S.

TOMATOES SETTING BADLY.

IN some localities there is much complaint from growers of Tomatoes, who bewail the lightness of their crops through their failure to set. The cause of this is not very clear, because while one garden has suffered from this failing in a marked degree, in another it will be practically unknown. My indoor crops have never been heavier, and the same freedom would appear to characterise the outdoor plantings. While this is true of one case, several can be cited where the opposite is much in evidence. If the early indoor stock had displayed this stubbornness it might have been better understood, but when the failing follows each batch outdoors as well as those under glass it becomes at once a puzzling problem. Some of my plants have given crops averaging 10 lb. on a length of about 7 feet of stem, and these confined to boxes. The trusses were not more than 6 inches asunder, showing clearly the short-jointed nature of the growth. These were grown in a span-roofed house, and trained close to the glass. I find it advantageous, in dealing with Tomatoes in boxes or pots, to stand them where they can root through the bottoms into a bed of ashes or soil. It is not always practicable to do this, but is mentioned so that any of your readers who have the means placed within their reach may do so. I find that when the soil is exhausted in the boxes or pots the later set trusses suffer from lack of the needful support. On the other hand, if roots can escape through the bottom into some material, and coal-ashes in particular,

these late trusses become quite as good as those earlier formed. Cinder-covered stages maintain a state of moisture beneficial to any plant, and this same provision affords conditions exactly suited to Tomatoes. My span-roofed house accommodates a crop of Tomatoes at the same time as a stage full of plants, and all do well together.

W. S.

NOTES AND REPLIES.

Peas failing.—I enclose you some roots of Peas, and will be glad if you can tell me what is wrong with them. I never saw Pea roots in this state before. The entire sowing was the same. They grew badly all along, flowering later than they should, and were midwived very early. They followed a crop of Broccoli, and were spring sown. I should like to know if it would be possible to avoid this again and its cause?—F. WATT.

[It is difficult to say what is wrong with the roots of your Peas. The little nodules or excrescences on them are formed by certain bacteria, and are beneficial to the plant, as they assist it in obtaining nitrogen; but there was grub at the roots, which was probably that of the Pea-weevil (*Sitona lineata*), which would certainly injure them, but there must have been a great many to have really injured the crop. I should think that the inclement weather and, perhaps, aphides, had more to do with the failure than anything.—G. S. S.]

Early Potato disease.—As far as my experience goes I have never seen the disease so bad at this early season as this year. In a general way, when the atmosphere is favourable for its growth, I generally look for disease in the early part of July, and have noticed it often in such seasons from the 6th to 10th. I never remember seeing it before the 4th. But to my surprise it was visible in a field here on the 25th of June, and now, July 12th, many of the plants have not a green leaf on them. It made its appearance first on some of the early American kinds, amongst them Early Puritan. I observed it first on a patch in a close, hot corner, and not 50 yards away, where the air could circulate freely, it is not half so bad. I had an idea that if air could circulate among the plants this would ward off disease. It is clear crowding of leafage is to be condemned, but evidently this will not prevent it. In this field I have a quarter of an acre of a very late kind, and the tops have not grown enough to meet in the rows, yet the leaves are spotted as if hot water had been thrown over. In our village, on a hillside in the allotment gardens, the foliage is gone and the tubers are not larger than big marbles.—J. C., Forde Abbey.

Tomatoes in pits and frames.—Capital crops of Tomatoes may be secured in pits and frames, and any which may have been utilised for Potatoes or such like crops may well be used for Tomato growing. Varieties such as Early Ruby and Conference are excellent kinds for frames, not being strong growers, and also setting and swelling off heavy crops under such confined space. If the frames have already been occupied with Potatoes, no other preparation of the soil is needed. Before planting, a trellis should be erected, so as to bring the stems up to the glass. This trellis must also be close enough to prevent the fruits falling through. A trellis will be found a much better plan than allowing the stems to trail upon the surface of the bed, and then having to support the trusses of fruit—no easy matter. Squares of glass may be placed under these, but, on the other hand, these cause a condensed moisture to form under the fruits. Plant out along the front of the frame, training the stems slantwise. Sufficient shoots may be allowed to form without crowding, keeping all superfluous side growths promptly removed. Even if the frame should not already have been occupied with Potatoes, it is an easy matter to place a ridge of soil along the front, keeping it in position by a board or bricks. In this confined space the plants will require abundance of water and also feeding to swell off the crops. Do not attempt at any time to sprinkle overhead and close up the frame with sun heat, thinking that the plants or fruit will be forwarded, as on account of the sudden lowering of the temperature during the night and the stagnation of the atmosphere, disease is very apt to appear. Keep a little air continually on, increasing it more or less during the day, and reducing in the same ratio.

GARDEN WORK.

Conservatory.—Many greenhouse plants will now be in the open air, but they will require as careful management as when indoors, especially as regards watering. There is less danger of over-watering in dry weather, but the position the plants occupy will have some influence upon the supply of water required. At any rate, all plants in the open air should be looked over twice a day in hot weather. It is better to wait till a plant is dry, and then give enough to moisten all the soil. To anticipate the needs of a plant in this respect is not wise. Dewing over the foliage of Azaleas and other plants in the evening, when there is no dew deposited, is beneficial. No one should water a valuable specimen hard-wooded plant without testing its condition by tapping the sides of the pot. This is the best and surest test. Those who want Mignonette during autumn and early winter should sow soon seeds of any favourite variety. Machel is perhaps as good as any, but the size of the flowers is pretty much a matter of cultivation. The soil should be composed of good loam and leaf-mould, with a little old cow-manure, a sprinkling of bone-meal, and a dash of old plaster and soot. This would make an ideal compost for Mignonette when well blended and made firm in the pots. To some this mixture may seem needless trouble, but very few grow really good Mignonette. Sow the seeds thinly in 5-inch pots, or sow fewer seeds in 3½-inch pots, and shift into larger pots as required. Several sowings may be made during the autumn. Bulbs for forcing should be ordered early, and those intended to be forced early should be potted on arrival. Roman Hyacinths are much dearer than they were a year or two ago. It has been hinted that growers, or some of them, are forming a combine to raise prices. If so, they will have to keep the bulbs, as they are not necessary of life. What are termed Dutch Romans are very useful, and are cheaper, but will not force so well as the French Romans; but, if potted early, they will flower early, and this also refers to such bulbs as Freesias, which should be potted at once for early flowering. Double Daffodils, also, should be potted early for forcing. The permanent plants in the conservatory must be kept moist. Camellias especially want nourishment during the formation of the flower-buds. Weak soot-water will be useful to them and other things now.

Stove.—This is a good season for thoroughly cleansing the interior of the house and painting, if necessary, as the plants will take no harm if moved to another structure till the work is finished and the smell of paint passed away. It is far more difficult to grow plants well in dirty houses than in those which are clean and sweet, and insects also are more troublesome where the houses are dirty and in bad repair. This also is a time of ripening and resting, and more air should be given and the water supply in some cases reduced. Plants intended for table decoration during the autumn and winter should now be in 5-inch pots. Young, well-grown plants are the most suitable, and will include Crotons, Dracaenas, Caladiums, Cocos, and other small, neat Palms, and other dwarf plants of neat habit. The plants are usually grown in sets where much table decoration is done, giving as much change as possible. Among suitable flowering plants dwarf plants of Poinsettias, Begonias, Gesneras, Rivina humilis, and a few Orchids, such as the Cypripediums and some of the Dendrobiums, may come in the winter as a grateful change. In addition to plants, suitable foliage will be required, and a good stock of Asparagus plumosus and A. Sprengeri will be wanted, as also long trails of Smilax. Croton leaves are used a good deal in some places, and this means, of course, that large plants are in stock. Rather small but well-grown Maiden-hair Ferns are useful, especially that best of Maiden-hairs, A. Farleyense. All this means, of course, thoughtful attention and energy, with suitable places for their growth. Small, low places are best for these and other young stove plants.

Cold-frames.—There is seldom any resting time for these useful moveable structures. Now they are filled with Cucumbers, Melons,

Cinerarias, Cyclamens, Primulas, and various other young plants making growth. For the shade-loving plants it will be better if they can be placed in a shady spot with a couple of inches of ashes in the bottom. Worms in the pots are a great nuisance, and every effort should be made to keep them out. If a plant stands on the bare ground without an impervious foundation, worms will enter and soon block up the drainage. This is where the evil comes in. Though worms are useful as drainers in the open ground, they make wretched work in a pot, and should be cleared out with lime-water, or, better, their entrance prevented, which thoughtful men bring about by the bed of ashes or a foundation of boards, tiles, or slates. Plants in frames require abundant ventilation: in fact, on warm nights remove the lights altogether and let in the general night dews. Cuttings of many kinds of soft-wooded plants will root in the cold-frame now; and in a frame in the shade of a wall or fence, Pinks, Carnations, and choice evergreen shrubs may be rooted.

Ripe Grapes, if left too long on the vines will shrivel, unless shaded, and black Grapes lose colour and freshness if exposed to a hot, drying atmosphere. If there is a good Grape-room, ripe Grapes should be cut with suitable lengths of stem and placed in bottles of water in such a way that the bunches of Grapes hang free and clear of everything. In this room, with an occasional look round with the scissors, Grapes will keep longer than if left on the vines, and the houses may be thrown open to complete the ripening of the wood, or, if the lights are movable, they may be taken off as soon as the wood is firm and hard. The Grape-room must be ventilated, and no dust should be raised by sweeping, etc.

Orchard house.—Stone fruits will be getting plentiful outside now, and the trees in pots may be placed outside to ripen the wood when the fruits are all gathered. During the autumn any trees which require more pot-room should have a shift, and those not rejected should have some of the old soil removed and a top-dressing applied. No fruit-trees, even when its wood is finished for the season, should be left without moisture in the soil, or the buds will suffer.

Window gardening.—Window-boxes will be benefited by a little stimulant in the water. Fuchsias, Balsams, and other plants in flower, either in the house or in pots or tubs outside, will require some help now. Ferns and Palms must be shaded from the sun. Anything which requires repotting should have attention now if at all this season. Remove dust and insects with the sponge.

Outdoor garden.—There is a good deal of disease among patches of *Lilium candidum*, but away in the country, where they never buy imported bulbs, they seem healthy enough in the cottage gardens. Spraying early in the season with a fungicide seems the best remedy. Bordeaux-mixture, or sulphate of potassium in solution, $\frac{1}{2}$ oz. to the gallon, if used in time, is effective. It is best not to transplant very often, but the best time to move this Lily is immediately after the flower-stems die down early in August. Seeds of any choice plant should be looked after, gathered, and placed in an airy room to complete their ripening. Among the shrubs in flower now, the St. John's Wort are interesting, and the hardiest of them, *Hypericum calycinum*, is one of the best plants for covering the ground in shady places where other things will not grow. It is now in flower, and a wide patch of it is very effective. *H. Moserianum*, a taller-growing species with smaller flowers, makes a good group at a time when flowering shrubs are scarce. Among the shrubby Spiraeas, *S. arifolia* is very effective and graceful. Its habit of growth also is good. With a little pruning after flowering, a pyramidal outline will be given, which is more suited to its large, drooping sprays of white flowers. Somehow the season seems out of joint in the manner and time of flowering of many things among the hardy plants.

Fruit garden.—When the Peaches are gathered it is a good plan to cut out any old wood which is not likely to be required. This lets in the air and helps to ripen the wood. The young wood of Raspberries should be

thinned, leaving only enough of the stoutest canes for next year's bearing, and as soon as the fruits are all gathered cut out all the old canes. The autumn-bearing Raspberries should be tied to stakes or a trellis formed with wires to keep the fruit off the ground. If Red or White Currants on north walls are covered with hexagon netting they will keep fresh for a long time to use for tarts with the autumn-bearing Raspberry. I have kept them good till the end of November in mild seasons. A few bushes of Red Warrington Gooseberry may be preserved in the same way for some time. The old Strawberry plantations not required for next season's bearing may be chopped over with the spade and the rubbish burnt, the ashes scattered about, and the land planted with late Broccoli, if there are strong plants reserved which have been transplanted. In some districts Apples and Plums are falling from the effects of drought. This might be mitigated by a soaking of water and a rich top-dressing. Liquid-manure or house sewage will be useful, or a dressing of nitrate of soda watered in will be a great help in swelling off the fruit. In some gardens Strawberry runners are difficult to get in sufficient numbers, and in some instances older runners which were pricked out last autumn have been utilised, but strong runners of the current season are best.

Vegetable garden.—In our district the ground is hot and dry, necessitating mulching and watering. As regards mulching, when the manure supply fails other things may be used, such as the decayed vegetable matter or old potting soil, and sifted ashes among Lettuces and Endives check evaporation and keep the earth cool, as well as put a stop to the work of snails and slugs. Where the land is in good heart if the hoe is used freely to break up the surface this of itself forms a very useful mulch over the roots of the plants, and is a great encouragement to growth. This is the time to sow Winter Spinach, Tripoli and other kinds of Onions. Lettuces, Endives, Turnips, Radishes, and French Beans should now be sown in a frame to be sheltered from frost during the autumn. Liquid-manure may be given as freely as the supply will permit of to Celery, Leeks, Cauliflowers, Globe Artichokes, Lettuces, etc. Lift all early Potatoes as they ripen, and the land will come in for more of the crops named above, or may be prepared for Strawberries. If there is a surplus of Scarlet Runners, gather the pods of suitable size and place in earthen jars, with layers of salt, for winter use. Sow seeds of Telegraph or some other good Cucumber for planting in a warm house next month for winter use. In the meantime have the house thoroughly cleaned inside and whitewashed with hot lime, and, if necessary, painted. Keep the growth of Tomatoes thin, but do not remove any of the main leaves. E. HOBNAY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

August 11th.—Made a further sowing of Winter Spinach and Onions. The necks of the forward spring-sown Onions have been bent down to increase the size of the bulbs. Cut down Pelargoniums and put in cuttings. Sowed Mignonette for autumn and winter blooming. Our new plantation of Strawberries will this season follow the earliest lot of Potatoes, which have been cleared off and the ground dressed with soot and a little bone-meal lightly forked in. The ground was trenched and rather heavily manured for the Potatoes, so nothing further is required now.

August 12th.—Finished layering Carnations and Picotees. The soil will be kept moist to hasten root formation. We are still doing a little summer pruning to fruit-trees, including a little thinning to Gooseberries where the young wood is crowded. The young canes in Raspberry plantations have been thinned, leaving only the requisite number for next season's bearing. We shall increase our stock of Superlative next autumn, so all available young shoots suitable for transplanting have been left. Apples are falling a good deal; but they will have a good crop, and can spare

August 13th.—We have been busy putting in cuttings of various plants for next season's bedding out, so it has been necessary to give some thought to the necessary changes in the arrangement, and we always like to make a few changes so as not to have the garden always the same. Begonias have been rather a strong feature, and Cannas will be more used in future, special attention being given to the preparation of the beds. It has been necessary to water some beds of moisture-loving plants, but we do as little watering as possible, trusting to mulching in some form and deep working.

August 13th.—Paper collars have been placed round Celery and the forwardest Leeks to help the blanching. We have always more or less potting to do, as many young plants are propagated and grow, and these require shifting on from time to time. Winter-flowering things especially are receiving attention now. A good batch of winter-flowering Begonias, including *Gloire de Lorraine*, has been placed in 5-inch pots in a pit. Cyclamens, also, and Primulas are for the most part in 5-inch pots. Heracleous Calceolarias have been pricked off into boxes, and Cinerarias are ready for shifting on.

August 13th. The hulls intended for forcing were ordered when catalogues arrived, and the first batch of Freesias and Roman Hyacinths has come to hand and will be potted immediately, and double Daffodils will have attention as soon as possible. The budding of standard Briers has been finished, and attention will be given to the dwarfs at once. A spare frame has been prepared for cuttings of choice evergreen shrubs; it is placed on the north side of a wall and the soil specially prepared. Peaches are gathered before they are quite ripe and either packed away or placed in cool fruit-room.

August 16th.—Sowed more Brown Cus and All-the-Year-Round Cabbage Lettuces. As plants become large enough they are transplanted to suitable positions. Transplanted a bed of Parsley to a warm site, where a frame can be placed over it in winter. All the bottom leaves were removed before planting and a good soaking of water given after. We always find this bed useful in winter, and it is generally reserved for bad weather. Made a further sowing of Turnips for winter use. Roses in beds have received a soaking of liquid-manure to help late blooms.

BEEES.

Earwigs in hives (*G. S. Stubbs*).—It is very rarely indeed that earwigs enter a hive. They, however, very frequently take refuge in coverings of straw hives where sacking or like material is used. In the case of frame hives, earwigs sometimes take refuge between the quilts or coverings of the frames, and, although they do no harm, it is not pleasant to have insect life in such close proximity to the honey. In this case, the renewal of the quilts will usually banish them from the hive, while, if they frequent the floor-board, a thorough scraping and cleansing of the same will prove effectual. Where straw hives rest upon a floor-board, a slight application of paraffin to the edges of the hives will keep earwigs at a distance.—S. S. G.

LAW AND CUSTOM.

Sale of land subject to a right of way.—Can a field be sold subject to a right of way to a meadow beyond it "As used and enjoyed by the owner and occupier heretofore," when that way has been closed for forty years and there is no indication of it on the plan attached to the conveyance, and all evidence in field and fence is lost, a permanent hedge and ditch running where the gate and posts must have been? Or does the fact that the owners of the field were also tenants of the meadow the whole time relieve the owner of the meadow of all his responsibility in seeing that his tenants keep the right of way open through their own land, although they did not need to use it, and permit him when they sell their field and give up his meadow to compel his new tenant of the meadow to cut a wide way through the hedge which was passed into the hands of the new owners of the field, and cast his crop across it as if there had been no break of forty years?—E. A. W.

The owners of a field are at liberty to sell that field subject to any right of way they may think proper to reserve or to grant, whether to

the public or to individuals or to the occupiers of certain lands. On the facts stated, there might be a question as to whether the owner of the meadow had or had not lost such right as he previously possessed, but I take it from your statement that the field in question has been expressly sold subject to such a right of way, and no purchaser or other person can deny the right of the vendor to sell subject to such right. The owner of the meadow cannot compel his tenant to make a way through the hedge of the meadow, still less to cast his crop across it, whatever that may mean, neither can he himself do these things; but if the occupier refuses to do it, the owner of the meadow may give him notice to determine his tenancy, and when he has resumed possession may exercise his right in such way as he thinks fit.—K. C. T.]

United Horticultural Benefit and Provident Society.—The usual monthly committee meeting of this society was held at the Caledonian Hotel, Adelphi-terrace, W. C., on Monday evening, July 14th. Mr. C. H. Curtis presided. After the minutes of the last meeting were read and signed, four new members were elected. The death of a member was reported, and the amount standing to his credit in the ledger was granted to his nominee. A request for assistance from the Convalescent Fund was granted to a member who has been ill for a long time. Four members were reported on the Sick Fund.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in this column free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of GARDENING ILLUSTRATED, 11, Furnival-street, Holborn, London, E.C. Letters on business should be sent to the Publisher. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING ILLUSTRATED is sent to a large number of subscribers, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Weeds on lawns (R. D.).—The ground was probably foul with the seeds of weeds before the Grass seeds were sown. All the annual weeds, such as Groundsel, may be destroyed by mowing the tops off frequently, never permitting them to run to seed. This is the most expeditious way of getting rid of them without injury to the Grass seeds.

Mildew on Roses (O.).—Roses are often mistlewed from being planted in a wet, heavy soil, with the surface hard and close from much treading. If the ground be well drained, and the surface often stirred, mildew will seldom give much trouble. When it does so dust flowers of sulphur over the affected parts as soon as it makes its appearance.

Raising Cobaea scandens from seed (R.).—Bottom-heat is not absolutely needful for raising seeds of Cobaea scandens. The seeds will come up in an ordinary greenhouse. Seedlings will bloom the same season, but the seed must be sown early in the year in a warm house, so that good, free, strong plants are ready for planting out in a cool greenhouse by the beginning of May.

Insect attacking Roses (H. W.).—The insect attacking the leaves of the Roses is the grub of one of the Sawflies. Syringe the bushes with soft-soap and Tobacco-water, or soft-soap and the extract from boiled Quassia-chips. In the winter remove the soil from under the bushes to a depth of 3 inches, and burn or bury it deeply. This will kill the chrysalides, and so prevent an attack next season.

Propagating Sweet-scented Verbenas or Lemon-plant (Aloysia citriflora) (V. P.).—This sweet-scented plant may be propagated from cuttings taken from the old wood in March, or the young shoots when firm in August. In either case cover with a bell-glass, and shade from bright sunshine. Let the soil for the cuttings be a mixture of loam, leaf-soil, and sharp sand, and this, when put in the pots, should be sprinkled with water before the cuttings are inserted.

Annuals for windows (R.).—For a potting compost about equal parts of good loam and leaf-soil will suit the greater part of them. It is necessary to be very watchful in regard to watering them, as, if allowed to become dry when young, many annuals run to wood, or woody in character. Other matters will be stated in due season when they are allowed to get into that state.

useless to attempt to put much further growth into them. Annuals in pots offer some advantages over permanent plants for window decoration, as one does not regret throwing them away when done with, so quickly can they be replaced with others.

Camellias—pruning (Mrs. M. Kildale).—Camellias should have what pruning is necessary immediately after flowering, but, as a rule, camellias in pots do not require much pruning. If the plants are planted out and the roots in good condition you may prune them if it is necessary to keep them within bounds, but the mere cutting of the blooms is, as a rule, all that is really necessary. If in good health leave them alone.

The Algerian Iris (Iris stylosa) (Algeria).—This is quite hardy, but the flowers are so delicate that unless the position is well sheltered you ought to protect them. It flowers in midwinter, the flowers being hidden in grassy foliage. Its silky, rhy-lily, fragrant flowers are very useful for cutting. There are several varieties, including a white form. They all require very light, warm, well-drained soil or raised borders. The other specimens you send are too dried up for us to hazard a name.

Araucaria albens (syn. Phylanthus albens) (Stejneger).—This is a pretty greenhouse climber that flowers freely towards the end of summer and in the autumn. The slender twining stems are clothed with leaves of a peculiar whitish tint, the flowers, borne several together in the axils of the leaves, whitish. It is a native of Brazil, whence it was introduced in 1830. It is easily raised from seed sown in heat in the spring, using sandy loam and fibrous peat. It has flowered and fruited in a garden in the open air near Dublin.

Wireworm in Carnations (A. B.).—Your Carnations have been attacked by wireworm. Many remedies have been given to destroy them, but it is too late after the Carnations have been planted out. The best way is to give a dressing of gas-lime, fork it in, and let the ground lie fallow for a year, frequently stirring it in the meantime. You may put slices of Carrots on the end of pointed sticks, burying the Carrots 2 inches or 3 inches in the soil. Examine these daily, when the wireworm will be found on the Carrot slices and may be destroyed.

Mealy-bug on Clematis (A. E. Harrison).—Without seeing the insect you refer to, the only conclusion we can come to is that the Clematis has been attacked by mealy-bug—one of the worst plant pests we have. Well syringe the plant with paraffin emulsion, the recipe for making which is: 1 quart soft-soap, well mixed in 2 quarts of boiling water; while hot add 1 pint of paraffin, and mix well with a syringe, then add ten or twelve times the quantity of water. When using see that this is kept well mixed to prevent the paraffin coming to the surface. See note re Mealy-bug on Vines, in our issue of August 2, p. 300.

Roses refusing to expand (J. L. M. Rhyll).—Generally speaking, varieties having thin petals are the worst in this respect. Heavy rains saturate the flower, and the petals, being so thin, become stuck together, which the sun, if it shines, seems powerless to prevent. Such Roses should really be shaded. They are too full of petals. If planted near a wall this trouble would not occur so much, if at all. It really pays to have a number of neat shades at hand ready to place over blooms of great merit, for it is very disappointing after watching the progress of the growth to find the flower-buds refusing to open.

Climbing Roses (C. Kirk).—1. As you already possess so many first-rate kinds it is rather difficult to suggest others, but we think you will find Climbing Kaiserin Augusta Victoria, Celine Forestier, and Mme. Alfred Carriere three valuable kinds. 2. It is not easy to name a Rose for contrast to Gloire de Dijon, but either Monsieur Desir or Longworth Rambler suggest themselves. The latter is freer, but the former is the better flower. Waltham Climber No. 1 is also a splendid bright red climber, similar in habit to Gloire de Dijon, but not quite so perpetual. 3. Clustered Roses of fast growth are Felicite-Perpetue, Flora, Virginian Rambler, and Ruags, all good, but should select in order given. The Garland and Mme. d'Arhley are two splendid pillar Roses.

Plants for sheltered spot, etc. (R. J. C.).—Your suggestion to sow Grass seeds should be carried out at once, but the evergreens could not be planted yet for some weeks. Could you not also add such things as Hollyhocks, Sunflowers, Perennial Pea, Delphiniums, and other showy plants to help to hide the wall? Or, if the latter be roughly built, why not other seeds of all flowers, Snapdragon, Fuchsia, Asterias, Poppies, etc., and sow in the crevices mixed with soil? These things would give a floral beauty quite unusual. Plants suitable to the wall are many—Sedums, Saxifragas, Corydalis lutea, Achillea umbellata, with Silver and Gold Thyme. These things, if planted in early autumn—say September—and kept fairly moist, soon take to their respective places, and give satisfaction generally.

Garden Pinks (W. M.).—The following rank amongst good faced or show Pinks, the edgings of the petals being red or purple: Jessica, John Ball, Lancer, Boiard, Modesty, Mrs. Pettifer, Tottie, Derby Day, Ada Louise, Bertram, Emerald, and Master Harry; of border kinds, suitable to furnish flowers for cutting: Mrs. Sinkins, Her Majesty, and Albino, white: Anne Boleyn, Asot, Ernest Ladhams, Paddington, Diamond, Godfrey, Hebe, Lizzie Duval, and Charles. These latter mostly have dark centres and white or coloured ground. Whilst the faced or show Pinks need special culture, some being "timid," the border Pinks generally are fairly robust. All can be propagated freely from pipings or cuttings, put into sandy soil under a handlight in June. Single are best got by sowing seed, as from that plants come freely. Of Male Pinks, the old one and Napoleon III. are the best, and almost the only ones. Transplant Pinks in October or November.

Iris Kamperi seedlings—treatment of (Bodford).—As the seedlings become large enough you had best pot them, say into 3-inch pots, and give them pot treatment for a year. Then for another year you had best plant them out in a frame or pit, or in a specially prepared bit of ground in a cool, sheltered, and partially shaded spot, where frequent waterings and sprinkling overhead can be given them. Even the young seedlings thoroughly appreciate liberal care, rich and deep

soil, with plenty of moisture, so long as this does not haze about them. The size of the plants will be the best guide as to when they are fit to plant permanently; but in any case, when you plant them, do not make the common error of doing it in late autumn or winter, early spring, April, being one of the best months in the twelve. Do not throw the seed-pot away until you are well assured you have the majority of the seedlings, as frequently quite new seeds do not vegetate all at once, or with uniform regularity. Place the seed-pots in shady corners or in a frame, but if no seedlings appear by the month of March, place the pots in a warm greenhouse till they appear. By this means a longer season of growth in the first year will be assured.

Sweet Peas failing (A. B. H. S.).—Without seeing your garden we cannot satisfactorily explain the cause of failure. From the specimens sent to us, however, we should attribute the cause of failure to a want of moisture to a large degree. They have a poor, dried-up appearance, such as one meets with in gardens which lack a proper supply of water, and without copious applications of water it is not possible to cultivate the Sweet Pea so satisfactorily. In view of what you say regarding the ground being "thoroughly well prepared beforehand, and at time of sowing in excellent order," we cannot very well attribute your failure to the poor condition of the soil, and yet in our own garden we have grown the Sweet Pea on the same ground for several years, and have never yet had to record a failure. To do these matters the ground must be thoroughly well tilled. Deep cultivation is essential to success, and heavy manuring must be regarded as an accompaniment. Sowing so late as mid-May, and this followed by the abnormal weather of the present season, you could not very well expect to have strong, healthy plants within a period of six weeks. Your absence from the garden during the period referred to is probably responsible to a considerable extent for the failure, constant overlooking, as you no doubt know, being an important item in one's system of culture. We should advise you to raise your plants in pots in future, giving them rather cool treatment after the seedlings are through the soil. Plant them in clumps 3 feet apart, taking out the soil round the soil filling in with half or half a barrowful of good manure. We are confident you would succeed with this method.

FRUIT.

Seedling Oranges (S. B. Elliot).—Your seedling Oranges may be years before they show any bloom. The Orange plants sold by nurserymen have all been grafted with good kinds, and this is the only way to ensure early fruit bearing. Any gardener should be able to graft these for you.

Grapes "rusting" (M. B.).—The Grapes are badly attacked with "rust," which may arise from an over-heated fire (the house being heated by fuel, causing an escape of sulphurous fumes when the berries were young and tender, or they were rubbed with the hair or brush when being thinned. But we think the overheat fire is the cause.

Filberts and Nut-trees (E.).—The chief thing to attend to in their management after the trees are established is their pruning, and you would do better than take a well-managed Gooseberry-bush as a model, only, of course, the former will be many times larger. A low, wide, spreading bush, producing abundance of short, stubby, fruitful spray is the thing most desired.

VEGETABLES.

Maggot in Potatoes (Alec).—The maggots among your Potatoes doubtless were brought into the soil in the cow manure. When you have lifted the crop give a dressing of unslaked lime, and ridge up the ground for the winter. This, we think, will disperse them.

Scabbed Potatoes (F. Fowler Ward).—It is quite clear what is the cause of scab in Potatoes, you inclining to the opinion that it is a form of fungus. We think the fungus is only an accessory, arising from the broken condition of the skin brought about by some unknown cause. It is generally held that the scab depends on the absence of lime in the soil, and that a good dressing of this is very helpful. No doubt your soil would be all the better for a good lime dressing. Never use any manure which there are wood shavings, as the decayed wood sets forth ferment in all fungus diseases, and may be the cause of the scab in the case of your Potatoes.

Woodlice in Mushroom-bed (C. Booth).—From the specimen of Mushroom you send we think you will find that the culprit are woodlice, to get rid of them trapping is the only cure. Place some Potatoes, cut in half and hollowed out, in their haunts. They will congregate on the Potatoes, and may be destroyed by plunging into boiling water. If you can get their haunts at the bottom of a wall or in other positions, they may be killed by pouring boiling water over them. You can also get bricks, tiles, or boards near their haunts, under which they will creep, and may then be collected and destroyed.

Poultry-manure for vegetables (M. F.).—This manure may be spread over the soil and be dug in it as last as it is made, or it may be mixed with refuse and heaped, and be permitted to lie until somewhat sweetened. It is not good material to make liquid-manure of, the best way to rather it is to cover the floor of the front-hoop with sifted ashes, and then rake off the droppings every other day. In this way the floor is kept clean, and the manure is easily removed. Mixed with ashes it soon dries and works freely.

Sleeping disease in Tomatoes (H. B. Pollard).—Your Tomatoes are suffering from what is known as the "sleeping disease," caused by a fungus, Fusarium imperfectum, the spores of which attack the delicate root hairs and rootlets of the plant, finally invading the whole of the roots and spreading up the stem. The treatment recommended is that directly a plant is observed to droop it should be pulled up and burned, the soil also in which it has been growing being removed and mixed with lime. Are they growing in the same soil as you had them in last year? If so, this tends to disease, as Tomatoes do well must have a change of soil every year.

Pulverising clay soil (Farmers).—To get clay soil partly sweetened and pulverised by the use of a hot-plate on it in October heaps of fresh lime, at the rate of one bushel per rod. Just cover up each heap with soil described from close round, and very soon the lime will

rest and slack, bursting the soil covering. Then at once spread it evenly over the soil and dig it in. You should find most useful street sweepings, especially such as contain much horse droppings. If you could work that, some 3 inches thick, into the clay it would do good. So, too, will lawn Grass mowings, stable manure, tree leaves, or other such material. Great good results also from making up a wood and coal fire in the garden, and placing some of the clay over it. In that way in the course of the winter many cartloads can be charred, and should then be spread over the soil and dug in.

Beans and Broccoli (Garden Lover).—The reason why your Runner and Dwarf Kidney Beans make gross escape and pod very late is no doubt due to the greatly enriched and, perhaps, damp nature of the soil, and, no doubt, also too much shade. If these are not the causes, and they are the common ones in such cases, then there would be some peculiarities connected with your garden of which we know nothing, and cannot indicate unless you had further information. What you describe as a Purple Broccoli is doubtless Early Purple Cape Cauliflowers, these will occasionally button or produce tiny heads prematurely, but few persons grow them now. Such varieties as Snowball, Mammoth, and Autumn Giant, all white ones, are much superior. If you refer to the Purple Broccoli, nothing is more unusual than for that to flower prematurely. If it be that, pinch out the flower, and make the plants break afresh.

SHORT REPLIES.

Lozenges.—Put the cuttings at once into pots, stand in the open air, and when well rooted move to a room from which you can keep out frost. Keep fairly dry during the winter and pot off singly next spring.—*A. Constant* under "Gardening Illustrated."—See reply to D. S. M., re "Mildew Grapes." In our issue of July 12, 1902.—*Cyclamen.*—See note in our issue of February 22, 1902, p. 678, as to the value of rotted leaves. Peat is only used for hard-wooded things, as Heaths, Azaleas, etc., and peat-bark-fibre is employed for plunging plants in, and serves well as a mulching to retain moisture.—*Anon.*—You cannot do better than plant Sweet Briar, Honey-suckle, climbing Roses, Mock Orange, Choleya ternata, Camelia, Forsythia, Aloyria citriflora, and Magnolia. There was no signature to your query.—*Stueser.*—1. Get Hobday's "Villa Gardening," from this office, price 6s. 6d., post free. 2. Yes, if you incorporate some rather heavier soil at the time of planting. 3 and 4. Consult our advertisement columns.—*A. B.*—Your Rose is not sufficiently well established to perfect so many blooms; pick off the flowers and encourage the plants to grow freely.—*W. G. Callahan.*—You will find the recipe for destroying worms on lawn in our issue of May 17, p. 161. Your lawn

evidently wants draining.—*P. J. W. Fear.*—See note under heading "Imported Orchids in New Zealand." In our issue of June 21, p. 218. The photo you sent was, unfortunately, not clear enough for reproduction.—*N. J. H.*—It is very difficult to assign any reason without seeing the fruit, but from what you say we should imagine that your Peaches have split stones. See reply to "S. J. A." in our issue of June 14, p. 209, re "Peach-trees Casting their Fruit."—*A. N. T.*—Impossible to advise without further particulars as to size of house, etc. The temperature you give is that kept up in a stove, and if we were to recommend greenhouse plants such a house would be far too hot for them. It is too hot for Tomatoes.—*H. M.*—You had better get Shaw's "Market Gardening," from this office.—*J. W., Cambridge.*—There is practically nothing to be done in the way of killing slugs but hand-picking.—*R. J. C.*—See reply to "Wildbrook," in our issue of August 2, p. 301.—*D. McCallum.*—You give us no particulars as to the soil, etc., in which the Peas are growing. We should imagine they have been sown too thickly, causing mildew, while they are probably dry at the roots, and have fallen a prey to red-spider.—*L. H.*—Your Grapes have been badly affected by mildew. See reply to "D. S. M." in our issue of July 12, p. 282, re "Grapes Mildewed."—*Inyranus.*—Difficult to say without further information. Rose query will have attention.—*Miss Elizabeth J. Bennett.*—The best thing you can do is to well syringe the plant with some good insecticide, paraffin emulsion being as good as any. The recipe for making this has recently been given in our pages.—*A. K. Cockburn.*—The best and only thing you can do is to trench the ground, and in the operation to clear out every piece of root you can find.—*A. B. Todd.*—See article on "Air Roots on Vines" in our issue of July 5, 1902, p. 244.—*Lazol.*—Your Rose has been severely attacked by mildew, the best cure for which is dusting well with sulphur. Your Begonia and Gloxinia leaves have been attacked by thrips, which fumigating will destroy.—*W. L. W. Boidie.*—Try giving the wire arches a coat of white lead paint, as the acid from the zinc is injurious to the young growths of any plant. Peaches often suffer in this way.—*J. Burtenshaw.*—No need to be alarmed. The leaves of Gros Colman Vitis assume the colours yours have when dying off. In your case this may have been hastened, as we find traces of thrip and red-spider on the leaves.—*Greenmount.*—The leaf looks as if it had been scorched. Are you quite sure that the plant has not been allowed to get dry, or did you fumigate when the foliage was damp?—*Knowe.*—Kindly make your query plainer.—*A. P. Davison.*—It would be advisable to cut down the spike when it is fading, as by doing this you will strengthen the plant.—*T. H. P.*—In the word Polygonum the second o is short, as in the Greek word for knee.

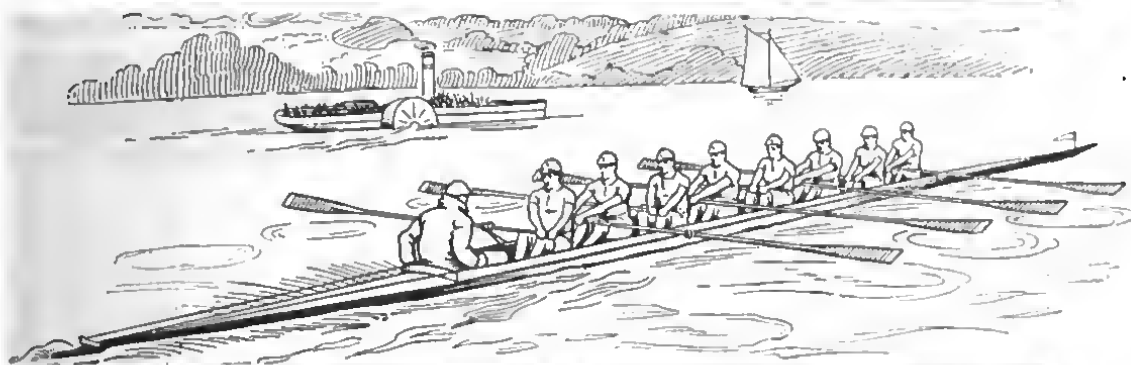
NAMES OF PLANTS AND FRUITS.

*. * Any communications respecting plants or fruits sent to name should always accompany the parcel, which should be addressed to the Editor of GARDENING ILLUSTRATED, 17, FURNIVAL-STREET, HOLBORN, LONDON, E.C. A number should also be firmly affixed to each specimen of flowers or fruit sent for naming. No more than four kinds of fruits or flowers for naming should be sent at one time.

Names of plants.—*B. G. I.*—*Spiraea confusa.*—*Don.*—*Lathyrus sylvestris.*—*Ebric.*—Flower quite shrivelled up, but evidently a Clematis—probably *C. montana.*—*N. D. P.*—*Arum liliaceum.*—You can do nothing to change the colour or destroy the offensive odour; 2. The Calla must have a very moist position; 3. Try the white forms of *Lilium speciosum.*—*F. Guardia.*—*Gloriosa superba.*—*Tenny Beginner.*—*Bloo Cupidone* (*Catanacho corulea*), easily grown in any soil and quickly raised from seed.—*David Jones.*—2, *Lysimachia vulgaris*; 3, *Tropaeolum polyphyllum*; 7, *Spiraea Bumalda*; 8, *Aconitum Napellus versicolor*; others next week.—*D. McCallum.*—*Lysimachia vulgaris.*—*A. H. J.*—*Stachys lanata.*—*E. Arnold.*—We cannot name florists' flowers; Plinks are propagated by pipings or layers immediately after flowering.—*A. B.*—Quite impossible to name from such scraps as you send.—*E. W. Page.*—We cannot undertake to name from such specimens as you send us.—*M. K. C.*—Kindly send better specimens, with numbers affixed to each. See our rules to correspondents.—*Miss G. Elkington.*—*Campylopus alliarifolia.*—*F. L. S.*—1, *Sedum album*; 2, *Echinochloa frutescens*; 3, *Spiraea filipendula* fl. pl. 1, 4, Send in flower.—*Tyneville.*—*Diplazis glutinosa*; easily increased by cuttings.—*B. T.*—1, *Cape Leadwort* (*Plumbago capensis*); 2, *Habrothamnus slossans*; 3, *Paest. flora* sp.; should like to see a piece of the growth as well as a bloom.—*T. H.*—1, *Verberis barwinii*; 2, Please send better specimen; 3, *Achillea ptarmica* fl. pl.; 4, *Solidago virginica*; 5, *Achillea millefolium* rosea; 6, Send in flower; the *Asparagus steni* you send is what is known as *fasciated.*—*Smilax.*—Please send fresh specimens and affix a number to each, so that we may be able to identify them.—*Regular Reader.*—Specimen quite dried up.—*F. Wilson.*—1, *Agrostis* sp. (f) *canina*; 3, *Aira caespitosa*; 5, *Avena elatior*; 6, *florens* sp.; 7, *Dactylis glomerata*. You ought to have put the specimens through two sheets in the paper. The Fern specimen is insufficient.

Catalogue received.—Cooper, Taber and Co., 90 and 92, Southwark-street, London, S.E.—*Wholesale Bulb Catalogue.*

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GARDEN & PLANT PHOTOGRAPHS, 1902.

THE EDITOR OF GARDENING ILLUSTRATED announces Photographic Competition for the season of 1902.

Class 1.—SMALL GARDENS.—A prize of FIVE GUINEAS and a SECOND PRIZE of THREE GUINEAS for the best ten photographs or sketches of picturesque small gardens, including town and villa gardens, rectory, farmhouse, or cottage gardens.

Class 2.—FLOWERS AND SHRUBS OF THE OPEN AIR.—A prize of FIVE GUINEAS and a SECOND PRIZE of THREE GUINEAS to the sender of the best series of not less than twelve photographs of the above. These may include wild plants or bushes, or any plant, flower, or shrub grown in the open air, including also half hardy plants put out for the summer, and either single specimens or groups, or the objects resulting therefrom, in beds or borders. Shoots also of rare or beautiful plants photographed in the house may be included in this class.

Class 3.—INDOOR FLOWERS AND PLANTS.—A prize of FIVE GUINEAS and a SECOND PRIZE of THREE GUINEAS for the best series of indoor plants—greenhouse, stove plants, Orchids, or any other plant not of the open air—either single shoots, plants, or specimens, or the effects resulting from good grouping or other arrangements of such plants separately or in association with others. Ferns or groups of Ferns in houses may be included in this class.

Class 4.—BEST GARDEN FRUITS AND VEGETABLES.—A prize of FIVE GUINEAS and a SECOND PRIZE of TWO GUINEAS for not less than twelve photographs of the best kinds of garden fruits and vegetables, Grapes, Peaches, Apples, Pears, Plums, Cherries, or any other fruit grown in Britain, to be shown singly or on the branches. Overcrowding, as in dishes at shows, should be avoided. The aim should be to show well the form of each kind, and as far as may be life-size. The object of this is to get good representations of the best garden fruits and vegetables under the old names, though we do not want to exclude real novelties when they are such.

Class 5.—GENERAL SUBJECTS.—A prize of FIVE GUINEAS will be awarded for the best twelve photographs of any garden subject not included in the previous classes, such as winter gardens, waterside effects, rock gardens, picturesque effects in gardens, vases, cut flowers, table decorations, and pretty garden structures.

All competitors not winning a prize will for each photograph chosen receive the sum of half a guinea. In order to give ample time to prepare good photographs the competition will be kept open until November 29th, 1902.

WHAT TO AVOID.—Cut flowers or plants should not be arranged in vases with patterns on them. Backgrounds should be plain, so as not to come into competition with flowers. Figures of men or women, burrows, scattering pots, rakes, hoes, rollers, and other implements, iron railings, wire, or iron supports of any kind, ladders, and all like objects should be omitted from these photographs. Dwarf flowers are ineffective when taken directly from above. The camera should be brought low down for such. All photographs should be mounted singly, and not several on a card. They should not be mounted on cards with black backs, and the photographs should not be less in size than 5 inches by 4 inches. The subjects should not be overcrowded. The following are the rules to be observed by all competitors:—

FIRST.—The photographs may be of objects in the possession of either the sender or others, but the source whence they are obtained must be stated, and none the copyright of which is open to question must be sent. There is no limit as to number, and no fee to pay. The Editor is to have the right of engraving and publishing any of the chosen photographs. The photographs may be printed on any good paper that shows the subjects clearly. Platinotypes and bromides should not be sent, but those on albumenized and printing out papers are preferred for engraving. All photographs should be properly toned.

SECOND.—The name and address of the sender, together with the name and description of the objects shown, should be plainly written in ink on the back of each photograph. Care should be taken to avoid the ink being seen on the face of the photograph. This is very important.

THIRD.—All communications relating to the competition must be addressed to the Editor, 17, Farnival-street, Holborn, London, E.C., and the class for which the photographs are intended should be marked on the parcel, which must also be labelled "Photographic Competition." Unsuccessful competitors, who wish their pictures to be returned must enclose sufficient postage stamps for that purpose.



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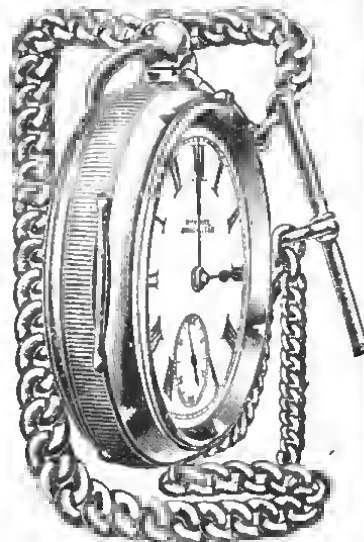
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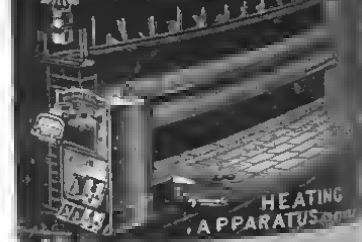
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VEGETABLES.

NOTES ON EARLY PEAS.

The past spring will long be remembered as altogether against vegetation; yet, in spite of the long-continued cold, sunless weather, Peas evidently did not mind it so much as many vegetables, and, though growth appeared slow above ground, the roots were active in laying a good foundation, so that when warmer weather came a reaction would set in, which certainly the case, for I do not remember greater roadway being made after the 1st of May and the first week in June. Our Peas cannot be called an early one, for, as a rule, it is from the 6th of June to the 12th of June before one can gather the first dish of Peas, but this year it was the 22nd, from the east border—not the best position for the first crop—but inside our walled garden fruit trees occupy the whole length of the southern wall, which deprives us of an early border. Our first gathering was from seed sown January 30th, while a row sown in the open on February 17th was but a few days behind that of the former. *Opinionos* differ as to which is the best to sow for an early crop—the dwarfs or the taller varieties—and, after giving both an extended trial, I prefer the dwarfs, and the one that has given me most satisfaction is *Harstoner*, truly a grand Pea for first crop, not reaching more than 10 inches to 12 inches in height, but literally covered with well-filled pods of good size, while the flavour is all that could be desired in an early Pea, and one that I can with full confidence highly recommend. *Chelsea Gem* is another favourite with me, a very heavy cropper, and of the finest flavour; this reaches over 2 feet generally with me. Then comes *Daisy*, which follows quickly in the train as a second early Marrowfat, with large, handsome pods well filled and of excellent flavour, and nearly 3 feet in height with this season, owing, no doubt, to the bountiful shower during May and early June, which greatly favoured the Pea crop. Of the taller kinds, *Exonian* and *Gradus* both do well with me, though the former is considered by many to be a bit miffy. It certainly is rather a weak grower, though it crops well and the flavour is right. In *Gradus* we have a Pea hard to beat as a second early, and I have no hesitation in saying it is one of the best and finest Peas in cultivation when procured true to name, and one we shall bear more of as time goes on. Dwarf Peas are often sown far too thickly—I mean from row to row. Instead of 2 feet being the maximum, much better results would be had if given another foot, while *Daisy* should have 3 feet 6 inches to 4 feet apart, and even the very dwarfest grower should be supported with bushy sticks, thus preventing the haulm getting crippled. In a future issue I hope to deal with maincrop and late varieties of Peas, the succession of which is quite as important to the gardener as that of earliness.

NOTES AND REPLIES.

Gourds failing.—I have attempted to grow Gourds this year with little success; most of the fruits drop off when well formed. They are placed in various parts of the garden in sunshine and shade, rich and poor soil, and they are all about on a level as to quality. Owing to the very late, cold spring, they were kept waiting too long in the pots, and the foliage began to turn yellow. They also had to weather some cold spells late in June. Do you think this check has caused the mischief? Is there anything specially to be guarded against in their culture?—P. M. G.

[The check you mention is, no doubt, the cause of failure, one great point in the culture being to keep them growing on freely until planted out. See note on culture of Vegetable Marrows in our issue of July 26, p. 286.]

Vegetable Marrows failing.—Would you kindly tell me in your next issue of GARDENING what is the cause of my Marrow-plants going like the enclosed? They are on a border facing south. The soil is light, about 1 feet deep, on gravel. I give them plenty of river water. I have tried them in different parts of the garden, both with and without water, and also by mulching and without, but they go the same. Sometimes one plant will fail, while the next one will be all right.—J. BRATSHAW.

[We have seen what is called the "yellows" very much in both Marrows and outdoor Cucumbers this year, and attribute it to lack of wurmth. These plants need plenty of sunshine. Yours is a plant of the Bush Marrow, and seems to be more liable to that disease than do the rambling varieties. Primarily the cause is found in root-stem gumming. The stem just beneath the soil splits and then the plants collapse. We have seen Cucumbers plants under glass suffer greatly in that way, and found the best remedy in the following year was to give them a stiffer soil. As yours is a light soil it may be that this is the cause of the gumming and splitting. The complaint is a common one, but, this season, being so general, we think it is more due to general low temperature and too much moisture than to any other cause.]

Potato Onions.—Would you kindly tell me the name of the enclosed—*Echallots* or *Onions*? I entered some of my best bulbs in a local show as *Echallots* (cottage's class), and they were rejected as not being *Echallots*; but neither of the judges could tell me what else they were. I have enclosed what was left of the seed-bulbs I purchased, and also one root just as they were lifted.—KIDDERMINSTER.

[The judges at your show were right in disqualifying you, as your bulbs were not those of Shallot, but were what are commonly known as Potato or underground Onions (*Allium aggregatum*) or the cluster-producing Onion. Bulbs have to be planted in November or March just as Shallots are, but need rather more room. They never flower. You must have noticed that the bulbs are rounder than are those of the Shallot. Many years ago these Potato Onions were commonly grown in gardens and used. That was before there were such fine ordinary or seed-raised Onions in commerce as we now have. The true old Shallot has a skin of the same colour as your Onions have, a pleasing nutty brown, and there is a form of it that has skins of a dull white colour. The large Jersey or Russian Shallot is red and coarser in texture than is the true Shallot. You should get bulbs of both to grow another year.]

Judging allotment gardens.—We have a garden allotment prize, and the gardens have been judged by the head gardeners. Twenty-three competed for six

prizes. Ought the competitors to see how many points each competitor had? Ought the judges to judge these vegetable gardens by the schedule, or could they give points for flowers, fruit-trees, etc., which are not in the schedule? Are there any rules for judging the best cultivated allotment? How is it that Runner Beans flower best without sticks?—GRANVILLE JOHNSON.

[When allotments are judged by points, and it is the only satisfactory way of doing so, the number of points given to each judged plot should be published by the secretary. At shows, generally, it is done by posting them on a large card at the entrance to the flower show tent. When you ask whether the judges should judge the allotments by the schedule, of course, they must, but as we do not know the conditions of the schedule, we cannot say whether they are justified in giving points to fruits and flowers which you say are not in the schedule. But if these things are not excluded, they should, of course, be judged. We hold that dwarf or bush trees, bush fruits, and Strawberries should be represented on any good allotment. So also should flowers, and we like to see a border some 6 feet wide full of flowers at one end of each allotment. There is no county in which allotment judging is better done than in Surrey. There the chief portion of the judging is done by the County Council instructors, who have great experience, as they judge several hundreds each year, and have their own printed lists of crops, etc., on forms to work by. They include every possible crop, and give a maximum of ten marks for such things as neatness, order of cropping. Some crops have a maximum of eight marks, according to value, and others six or four, according to their values, and not a thing grown in gardens or on allotments is overlooked. The results when totalled up are sent to the secretaries of the various societies for whom the judging has been done. This system inspires the completest confidence. Runner Beans begin to flower sooner if not staked, but then the crop is later and so much less. Good staked Beans carry three times the flowers and pods those do that are not staked. These Beans well repay deep soil and tall stakes.]

Runner Beans.—We seem likely to have a very short season with these most valuable Beans, as hardly a pod was gathered from plants raised under ordinary conditions during the month of July. Out of hundreds of rows I have seen in diverse places, many quite strong, 6 feet in height and freshly flowered, yet hardly in one case can good pods be found at the end of the month. This late cropping is due to the exceedingly prolonged coldness of the spring and early summer. How is that difficulty to be faced another year should similar climatic conditions prevail? No doubt it is wise to sow in some three or four dozen of small pots filled with good soil one *Beau* each, and raise them under glass. If that be done early in May, the plants should be 12 inches in height at the end of the month, and if then planted out into good soil in a warm, sheltered position, they should have a couple of weeks start over those sown in the open, cold ground. Of course, plants thus raised should be well hardened before they are planted out.

PLANTS AND FLOWERS.

INDOOR PLANTS.

FINE-LEAVED BEGONIAS.

THERE is now among the fine-leaved Begonias an infinite variety, some being suffused all over as with silver, whilst the combinations of pale green, dark green, bronze and silvery variegation in many kinds are beautiful in the extreme. Some of these form quite a picture of themselves and are well worth a study. These Begonias are most accommodating plants, being of free and vigorous growth. They are excellent plants for an amateur to grow in his greenhouse, where he does not let the temperature ever fall below 40 degs. For the stove and intermediate house they are also well adapted. Where a wall which is unsightly wants covering with growing plants these Begonias are first-rate material to use. All that they seem to require is just sufficient soil to establish themselves; after this their roots will ramify in all directions and cling to the bare wall, more particularly if it be bare brick-work. If the position be a damp and shaded one, these Begonias do equally as well or even better than under what might be thought to be more favourable conditions. If they are required to cover a dry wall, all that one has to do is to keep them well supplied with water. I have been particularly struck with the beautiful effect produced by their use in a planted-out fernery. Here the roots will delight to ramble and cling to the rockwork, particularly sandstone. Thus grown in a cool fernery they will generally retain their foliage all the year, looking bright and cheerful in the dull days of winter.

As pot-plants their value is pretty well known and appreciated for the decoration of plant houses. They also make capital decorative material for the house, in many instances being singularly appropriate to the surroundings. Small plants usually face all one way; thus they are well adapted for vases upon brackets, niches, or corners. They are most accommodating as to soil, but that which is light suits them best; mellow loam, leaf-mould, and sand answer well. Large pots are not at all requisite.

PROPAGATION is simple and easily effected by the leaves; all that one has to do is to prepare a pan with sandy soil, and then after cutting through the ribs of the leaves to peg one or more upon the surface of the soil, the outer portions of the leaves being cut away. Plenty of young plants will soon be the result. This is far better than the cumbersome system of dividing the older plants, whereby the beautiful effect of a small plant is lost.

PLANTS FOR COLD GREENHOUSES IN WINTER.

(REPLY TO "D. T.")

THE question raised is one beset with difficulties—viz., as to how one may have flowers in the winter time in greenhouses where there are no means of artificial heat. With most blossoms wanted between December and March it is a matter of heat at the disposal of the grower—the rest is easy, and mainly resolves itself into preparing plants, bulbs, etc., so that a succession of flowers may be kept up, bringing them into warmer quarters as circumstances demand. But with a cold greenhouse it is different. Here one has to make the best of things, and, as far as is possible, afford what protection one can in the severest weather. Very much, of course, depends upon the situation of the house itself, and, if I had to erect a cold-house, I would prefer a lean-to one having a south aspect, so that every gleam of winter sunlight would be taken advantage of. As already pointed out, bulbs, like

Hyacinths, Tulips, Narcissi, may be potted up this autumn, and to these may be added Snowdrops, Scillas, and Chionodoxas, some of our bulbs which, with the shelter of a house, will commence to bloom in the earliest days of the year. A glance at hardy plants will show us that there are many that bloom in the open, even in the darkest days of winter. Such are the Christmas Roses (the Hellebore), which, often from want of a slight protection, lack purity in their blossoms, but, covered with a frame-light or potted up, yield us most liberally unsullied flowers. If room can be found in the house, I would lift carefully in November plants of *Jasminum nudiflorum*, whose yellow blooms, often starved and pinched out-of-doors, are beautiful and abundantly produced with the slightest shelter. Fragrant flowers, too, must be thought of, and because the house lacks heat it does not follow that sweet smelling things shall not be grown. We think of that old shrub the Winter Sweet (*Chimonanthus fragrans*) and know how on many a wall it opens its blooms in the depth of winter, the scent pervading every room into which sprays of it are brought. This, too, is of service. I well remember also how pots of Neapolitan Violets brought under glass in October will bloom with equal freedom as in a frame, and Brompton Stocks and Wallflowers—flowers that for sweetness and prodigality of blossoms one would find it difficult to surpass—how by potting them in October one may have flowers for



A fine-leaved Begonia.

weeks before those out-of-doors show colour. Mention has been made, and rightly so, of *Azalea mollis*, which in the first days of spring lends a sweetness to a house, and the same may be said of Lilacs. One is reminded, too, of the Lilies of the Valley, Solomon's Seal, *Dieolytras*, and Irises, beginning with that earliest sort, *reticulata*, which need little more than a covering to bring them into bloom in the springtime slightly in advance of those outside. I have stated my preference for a lean-to house, if limited to a cold one, and my reason is that with a good wall at the back some protection is gained, and in severe weather a covering of mats, or blinds, or even brown-paper, will keep out a deal of frost, if it is not possible to exclude it nearly altogether, from harming the hardy subjects already alluded to, by using an oil-stove. Under any circumstances if there is a readiness on the part of people who have cold-houses to make the best of them, there is no any need for them to be entirely bare of flowers, for in making the most of those that bloom in the open, one may have Christmas Roses more pure, Violets, Wallflowers, and early Irises more sweet, and Jasmines more lavishly produced, and all of them weeks before those out-of-doors have unfolded their first buds.

LEAHURST.

NOTES AND REPLIES.

Cutting down *Nepenthes*.—I have some *Nepenthes* which are doing very well. I have been told that unless I either cut them back or cut off the pitchers, they will not bear pitchers another year. I shall be glad if you

will give me brief hints as to the culture of the same! And if they are to be cut back, what is the best time?—J. A. R.

[If your *Nepenthes* are doing well and have pitched freely you should neither cut them down nor cut the pitchers from the plants. September is regarded as about the best month in the year in which to see this section of interesting plants. After September the plants will begin to lose their pitchers from natural decay. The growth will also be less vigorous, consequently during the winter months, with cooler and slightly drier conditions, little advancement in growth will be made until the middle of February, when the lengthening days will stimulate the growth. As soon as this renewed activity is observed the tops of the growth may be cut off to within 5 inches or 6 inches of the base. Allow the plants to remain undisturbed in the old pots and compost until the new breaks appear. When these are observed the plants may be carefully turned out of the old potting compost, and fresh material, consisting of fibrous peat, living Sphagnum, a little leaf-soil, and plenty of rough silver-sand, given. Afford ample drainage. The coarse Bracken roots abstracted when picking the peat may be substituted for the crocks. Where the Bracken roots are used less water will be required. To increase your stock, the tops you cut off as above suggested may be made into cuttings in the usual way. These should be placed into pots of chopped living Sphagnum Moss and sand, or they may be plunged in a propagating case in which there is a brisk bottom-heat, where they root quickly. Another method of propagation is that commonly known as ringing—that is, take a knife and remove one of the leaves where the wood is in a half-ripened state; the point of the knife should be then inserted into the bark, drawing it about an inch on each side of the joint from where the leaf is removed in three or four places around the stem. Then bind some green Sphagnum, or a halved pot containing some moisture-retaining substance. Into this the plants will soon emit new roots, and they may then be potted up in the usual way. —H. J. C.]

Canas in pots failing to flower.—I have seven or eight *Canas*, which flowered the first year I had them (1900) beautifully in pots in the porch; since, though treated in the same way, they have never thrown out a flower-stem. The plants look perfectly healthy, and have plenty of good strong leaves. —ROSEVAX.

[Your *Canna* question is somewhat of a puzzle, for, as far as we can judge by your letter, the plants should flower freely. Is the porch a shady one? If so, this would account for the production of leaves at the expense of blossoms. It should be borne in mind that the *Canas* are liberal feeders and revel in bright sunshine, though during the flowering season the blossoms remain fresh longer if shaded. Some varieties, too, have a tendency to break up into many weaker crowns, and these flower much better if they are divided when repotted in the spring. We should think more exposure would result in the production of blossoms, and as these develop the plant may be removed to the porch.]

Azaleas not flowering.—My *Azaleas* last year did not bloom well, although treated the same as other years, and brought into the house by the end of September. Was it the change of temperature that caused the leaves to drop? I ought to say they were not repotted last year. —A. E. S.

[These plants lose a proportion of the older leaves each year—i. e., those lowest on the stems, twigs, or branches. If the loss of leaves is out of all proportion to those newly formed, then the plants have been more or less dry at the roots. This, if repeated a few times, would mean the loss of root-fibre in that portion of the plant affected, and the fact of the plants not flowering materially strengthens the view we have taken. All hard-wooded plants require great quantities of water, regularly applied at the moment of becoming dry. Small quantities given at any time, whether the plant requires it or not, are equally bad. Far better allow the plant to become nearly dry, and then thoroughly saturate by a double dose of water. Established plants of *Azalea* require a thorough watering daily in summer if in a sunny place in the open, being first examined to ascertain the condition of dryness.]

Carnations for winter.—I have a batch of *Carnations* raised from seed sown in early spring; they are now in 6-inch pots in an open frame. I want them to bloom during winter in the greenhouse. Kindly say if the

flower-buds now appearing should be pinched out? Any hints as to their treatment will be appreciated.—R.M.M.

[Your Carnations may belong to the summer-flowering race, in which case, if you pick off the buds now it is very probable that none will develop later on. Carnations are of different sections, and if yours belong more or less to the perpetual-flowering class they will continue to produce buds. Such being the case, we should advise you to let the flowers develop, as an autumnal display is preferable to none at all. With regard to the treatment, as your plants are in 6-inch pots, it is not very probable that they are full of roots, but if they are, a little weak manure and soot-water occasionally will be of service. Carnations in all stages need a free circulation of air, and in a stuffy atmosphere they are soon spoiled, hence, when taken under glass to develop their blossoms this fact should be borne in mind. The Carnations that bloom through the winter belong to what is known as the Tree or Perpetual-flowering class, the plants of which are struck from cuttings early in the spring,

ROSES.

ROSE MME. PERNET-DUCHER (H.T.).

It is freely conceded by all who have planted the Hybrid Teas in quantity that Mme. Pernet-Ducher is one of the best garden Roses we have. Its grand trusses of loose white flowers, the numerous carmine-tipped buds and half-open blossoms of pale canary-yellow, when massed, produce a picture not surpassed by any other variety of my acquaintance. It is such a splendid perpetual-flowering kind, and, like all semi-double Roses, especially beautiful in autumn, when its fine petals have a cooler season to develop. Some time ago I had a pillar plant of this Rose in a pot, and, when in bloom, I never beheld a more lovely object, the great white petals being so persistent. As a standard it makes an exceptionally fine head, not quite so large as *Gustave Regis*, but perhaps even more decorative, the plant being more compact in growth than this well-known variety. As a cut flower Mme. Pernet-Ducher

should be dug and some burnt earth, gritty sand, or sifted coal-ashes incorporated rather liberally. A layering trowel, quite flat and about 4 inches or 5 inches wide, 3 inches or 6 inches deep, is a very handy tool when layering Roses and shrubs. The trowel is inserted in the soil, and then the branch bent over towards the latter. It will then be seen where the cut in the branch must be made. I prefer that the cut part should be under the soil about 4 inches, and 4 inches or 5 inches of the branch should appear above. The cut is made in the upper surface of the growth. Commence to cut the bark near to a bud, and bring the knife in a slanting manner along the shoot for about 1 inch, then cut off extreme point of the tongue—i.e., the cut part. Fold the branch beneath the cut with one hand and gently bend it into the niche in the soil prepared for it by the trowel. Great care is necessary not to snap off the end of the branch. By making a sufficiently deep niche layering pins are not required. The soil is made firm after inserting the layer with the



Rose Mme. Pernet Ducher.

and grown on during the summer, the last portion of the time out-of-doors. In the autumn, when the heavy rains set in, they are taken under glass in a light, airy house, when, if kept free from aphides, the blooms gradually develop.]

Aspidistras.—There is no subject amongst fine-foliaged plants so popular as the *Aspidistra* for rooms, etc., and none that will stand—for a time, at least—apparent neglect. There comes a time, however, when it requires special attention; when, owing perhaps to close confinement or gas, the foliage turns yellow, and it needs a change. It is just then when the benefits of a greenhouse are most felt, and a few weeks will generally bring about the desired improvement. In the absence of a greenhouse the next best thing is to seek some other remedy. One of the best ways is to keep the leaves of *Aspidistras* clean by washing them with soap and soft water twice a week and syringing them occasionally. A little soot in the watering-can, or guano, will aid in keeping them in good condition, and air freely admitted to the room at this time of the year will be advantageous.—L.M.

is very lasting. I proved this only last week. A mass of the exquisite trusses was taken to a country flower show, and the next day I was able to stage them at another exhibition. A very showy bed of this Rose could be made by interspersing some pillars of Grass or Tepitz, loosely secured to 4-foot stakes or canes. The simultaneous flowering and the contrast in colour could not fail to have a fine effect. I do not, as a rule, favour the contrast form of planting on the one bed, but in this case make an exception. Rosa.

LAYERING ROSES.
(REPLY TO "E. M.")

Now is a good time to propagate Roses from layers. All old-fashioned varieties are very easily increased in this manner, and most of the present-day kinds too. It is necessary that the branches to be layered should spring from the base of the plant, and, of course, they should be fairly pliable so that stiff, erect growers are not so readily increased by layers. These had better be reserved for cuttings. Lay the plant to be layered the ground

handle end of the trowel. The stools should be watered now and then if the weather is very dry, but do not water the soil about the layers. Fine own-root plants are obtainable in this simple way in eighteen months.

Rosa.

EXHIBITING ROSES.

THERE is a growing dislike to the system of showing Roses in long lines of boxes. In fact, it follows the complaints noted in recent years in regard to *Chrysanthemums* and *Dahlias*, and changed methods are likely. Roses in vases are certainly beautiful, but there seems to us room in an exhibition for both arrangements. Show Roses are grown to their utmost size by good cultivation, the specimens are judged individually, and therefore we want to exhibit them in their most perfect state without a spot, in such a position that the eye of the judge shall best examine them. Boxes answer this purpose, and it would be a bold person who would say that this long established system has not been the chief element in making the Rose so popular as it is. But after noting the really grand cases of blossoms in

one or two instances at the recent Temple show one is forced to conclude that the Rose lends itself to other forms of exhibiting. Handsome, well-grown flowers are noble when arranged together and tastefully in suitable glasses. To my mind a big vase of the variety Killarney was quite one of the most beautiful things in the show alluded to. White Maman Cochet made another grand exhibit. In fact, it is the better kinds of Roses that are the most admired in whatever way they are shown. I do not care much for most of the so-called garden Roses. The best of the bunches as we see them exhibited are the choicer kinds of Roses in a badly developed state. If I were asked why people show garden Roses, I should say because they either cannot or will not grow Roses well. Rambling over a wall or trellis I can admire the lovely rambling Roses, but cramped in a bunch as we see them at shows they seem out of place—at least, in competition. I can also admire the charming Laurette Messimy in a mass, but this unless in a mass is not a Rose to care for. Roses in vases should be encouraged and extended in every possible way, and more especially at what may be termed country exhibitions. In this case those who compete are mostly near, and the blossoms may be taken without much in the way of packing. This question of the large amount of packing required to convey Roses with long stems a distance so that they shall not be damaged is one that, perhaps, will tell in favour of the older system of exhibiting.

S.

NOTES AND REPLIES.

Two yellow Roses for arches.—Kindly give me the names of two good yellow Roses suitable to grow on arches and a pink, but not the ordinary Ramblers, but strong climbing Roses.—P. B. S.

[Climbing *Porte des Jardins* and *Celine Forestier* are among the good yellow sorts suited to climbing or covering arches. *Alister Stella Gray*, though of not quite the colour, is a very charming thing in bud and blossom. To these may be added *W. A. Richardson* and the well-known and fragrant *Gloire de Dijon*. *Euphrosyne*, a *Polyantha* kind, with clusters of bright rose, semi-double flowers, is a good vigorous climber.]

Decayed wood on Roses.—I enclose two branches of Rose-wood and shall be glad if you will say what causes the old wood to rot in the way this has done? I have only noticed this on *Baroness Rothschild* and *Merveille de Lyon*. My house stands 500 feet above sea level, and the soil is a heavy clay.—IGNORANTS.

[It is nothing unusual to find growths partially decayed similar to those sent, and there are several causes, such as insect punctures, frost-bites, injury by gales, etc. In this case we believe the injury arises from the action of frost upon unripened growths. It is a great mistake to foster this old wood. Better far have only one well-ripened young growth than a lot of weakly old shoots. We should advise you to rid your plants more of the latter another year.]

Growing Crimson Rambler Rose.—Will you tell me the proper treatment of the *Crimson Rambler* Rose? Mine was a mass of bloom last year; this, though perfectly healthy, there is hardly a flower.—K. K.

[We fear there is a wrong impression abroad that this grand Rambler should have all flowering wood cut out after such growths have blossomed. It is true the young wood, if well ripened, will give the best trusses, but to obtain a really good mass of blossom one must have 2-year-old wood well covered with lateral growths. These latter are shortened at time of pruning, whereas the young rods are left intact. Growth more than 2 years old may be cut out with advantage, for this gives the remaining growths a better chance of ripening. If you had given us some information regarding the treatment of the plant since last blooming time, we could have told you where the fault lay; but we suspect that the flowering growths were removed too liberally.]

Rosa Felicité Perpetue, Baltimore Belle, and Dundee Rambler falling.—These Roses, after appearing particularly healthy and showing a tremendous number of buds in early June, suddenly went wrong, the leaves turned yellow and dropped off, and a large proportion of the buds rotted off. Is this the result of bad weather or bad treatment? If the latter, where did the fault lie?—AOK.

[You do not say whether the Roses were established or newly planted. And further you ask us if they were planted in the ground or in pots.]

treatment without informing us as to treatment they have received. Hardy Roses of this description should certainly not fail to thrive if the soil is in good order. Often, if there is stagnation of the soil, the young roots decay, and the result is as described. You had better replant in the autumn if they are worth it, but it would be safer to procure some new plants, and as these Roses may be readily obtained on their own roots, we should advise you to procure them in that form. When replanting have the ground well and deeply dug, adding grit and burnt earth if the soil is heavy.]

Diseased Roses.—Would you kindly say if red rust in Roses is shown by orange spots on the under sides of the leaves and on bare stalks by a sickly-looking condition of the bushes and the buds failing to open and putting off? If so, what is the cause and what the remedy? I have some Hybrid Perpetuals showing these symptoms badly. They are planted on a dry bank in a sheltered position.—AOK.

[You will find some remarks upon *Orange-fungus* in a recent issue of *GARDENING*. From your description we should say your plants have had attack of this troublesome disease. Hybrid Perpetuals on the *Manetti* stock are very prone to attacks of this fungus, which is rendered all the more acute in your case from the dry position in which the plants are. Where *Orange-fungus* continually gives trouble in this way, it is better to transplant the trees and bushes every third or fourth year, trenching the ground, and incorporating some lime or chalk, together with a liberal dressing of cow-manure. We should also advise you to procure more of the Hybrid Teas and Teas, and ask for them on the seedling Brier. This stock, from its deep-rooting nature, keeps the plants in a growing condition, whereas the *Manetti* stock ripens so very early. Where possible to obtain them, plant some of the Hybrid Perpetuals on their own roots; Teas and Hybrid Teas also, if you can get them.]

Moving Rose Fortune's Yellow.—I have a *Rose Fortune's Yellow*, which had to be moved, so was put down to about 5 feet. It is now standing out of doors in a pot, and is making a quantity of very healthy shoots, some now about 2 feet long. Would it do well on a south wall? It takes up too much room in the greenhouse. Also, should it be pruned much? It blossomed very little last spring, although it made tremendous growth. It is about three years old, and never blossomed at all till this year.—MRS. WILLOUGHBY L. COTTON.

[In your district this exquisite Rose should grow well outdoors, and we should advise you to plant it out without delay. It prefers a rather dry, well-drained soil, and one in which lime is present in a liberal degree. Do not break the ball of earth in any way. It would be better to plant it out now rather than allow it to remain in the pot, as it will then obtain a good hold of the soil before winter. Do not prune it at present. You will do well to spread out the growths that the sun may harden them. The plant may even not flower next year; if, however, you encourage growth and do all you can to thoroughly ripen the wood, you will be rewarded by a glorious mass of blossom later on. Should the plant produce a perfect thicket of growths next season, some of the shoots may be entirely removed to the great advantage of the remainder. *Fortune's Yellow* objects to being cramped in any way, so that a lofty wall is preferable, and unless this can be afforded under glass, it is a variety that should not be planted there.]

Roses for small greenhouse.—I have bought a small lean-to greenhouse, 12 feet 6 inches long and 9 feet 6 inches wide, and not having a wall against which I could erect it, I have decided to put it in the middle of my garden, and should like to convert same into a Rose-house. I have had no experience in Rose culture, and shall be obliged if you will give me your advice as to the best soil for and varieties to grow in pots? Would a *Marchal Niel* grow and cover the back?—AOK.

[You could not put the small structure to a better use than converting it into a Rose-house. For the centre of house a solid staging about 1 foot to 2 feet high should be built, the outer wall of the staging made of bricks and the inner bed of coal or coke ashes. The Rose plants could be placed upon inverted pots, and thus brought nearer the glass. Those known as extra sized pot-plants would be best to procure, but a smaller size could be purchased and potted on. They would do well, excepting that considerable time would be necessary ere you got any return. The best classes of Rose are the Hybrid Perpetuals and the Hybrid Teas, and a dozen good kinds, as named below, should give you variety enough.—MRS. JOHN

Laing, Ulrich Brunner, Fisher Holmes, Frau Karl Druschki, Caroline Testout, La France, Mrs. W. J. Grant, Marquise Lilla, White Lady, Admiral Dewey, Madame Ravary, Liberty. If you could wait a year, a good plan would be to purchase selected bush-plants from the open ground and pot them up into 8-inch pots this coming October, using a compost of two parts top spit loam and one part well rotted manure. Pot the plants firmly and plunge them in the open in a bed of ashes, protecting the plants from severe weather with some mats or Bracken Fern. Prune the plants in March, and still keep them plunged where they are until early in June, when they should be plunged into more open quarters and set well apart from each other. The plants will blossom outdoors about the same time as other Roses. Such plants are thus rendered fit for greenhouse work the following winter without any further preparation save pinning and top dressing with a little new soil. As regards *Marchal Niel*, we would advise you to prepare a border in the house and plant therein a dwarf or half-standard of this Rose. Such a plant will be ample for your small house. The border should be 3 feet deep and about 4 feet long, and 2 feet to 3 feet wide. Remove the old soil, put in bottom 6 inches of rubble for drainage, and then fill up the hole a foot above surface with compost such as advised above, excepting that it would be well to add a quart of bone-dust thoroughly mixed and incorporated with the soil. Prune the *Marchal Niel* rather hard the first season in order to induce some good long growths for flowering the following year.]

Rose Irish Glory.—No single Rose of recent years has pleased me more than this. We not only want single Roses early, but also late, and from the single Teas we may expect the latter. *Irish Glory* has the immense petals of the best Hybrid Teas, the colour a silvery pink with crimson shading. On a cool day the flower, ere expanding, is beautiful with its long pointed buds. It appears to be a good grower. What a lovely bed this would make edged with the pure white large-petalled single *Irish Beauty*!—W.

Rose Killarney.—It is most difficult to exaggerate the beauty of this charming Hybrid Tea. Seen on a cool day, its glorious broad-petalled, semi-double flowers are beautiful, but the finest phase of the flower is the extra long-pointed bud. In colour it is a flesh pink shading to a paler tint, with sufficient distinction from any other pink Rose to warrant its introduction to this numerous group. As an exhibition flower it is truly marvellous how such a thin variety maintains its beauty, the long blossoms refusing to fly open, as is too often the case with varieties of this description. On the plant is, however, the way to see *Killarney* at its best.—E.

Rose Liberty.—The more I see of this brilliant Rose the more I like it. That it is free-flowering cannot be denied—in fact, every new shoot is crowned with buds. It would be possible to have crimson Roses all the year round by a little management with a good stock of *Liberty*. Some pot-plants grown outdoors this year had their buds removed before they expanded, in order to encourage growth. These plants are now producing another fine crop of buds, just as the first bloom of the bush-plants is waning. Many of the Hybrid Teas can be treated after this manner. My suggestion is to have a double set of plants of a few of the leading kinds, such as *Mrs. W. J. Grant*, *Caroline Testout*, *Killarney*, etc. the one set being allowed to flower unhindered, the other set all the first crop of buds being removed when visible. By so doing, a break in the continuity of blossoming is avoided. *Liberty* will be a grand garden Rose, not so brilliant, perhaps, as *Marquise de Salisbury*, *Princess de Sagan*, or *Gruss an Teplitz*, but producing flowers of far more shapely form than either.—ROSA.

As many of the most interesting notes and articles in "GARDENING" from the very beginning have come from its readers, we offer each week a copy of the latest edition of either "STOVE AND GREENHOUSE PLANTS" or "THE ENGLISH FLOWER GARDEN," to the reader of the most useful or interesting letter or short article published in the current issue, which will be marked "AW".

OUTDOOR PLANTS.

EREMURUS ROBUSTUS.

The *Eremurus robustus* figured was planted October, 1900, and last year threw up a spike about 6 feet high; this year the spike measured over 9 feet, and the flowers were magnificent. Peach-shaded Lilac is a description of the



Eremurus robustus. From a photograph sent by Mr. A. P. Davison, Broughton Grange, Banbury.

colour. I find it quite hardy. This garden is 420 feet above sea level, and in the winter I lay some clean straw over the *Eremurus*, as the spike and foliage die down every year. I had to tie it on to a support this year as we had such winds in May. It was at its height of bloom on June 14.

ARTHUR P. DAVISON.

Broughton Grange, Banbury.

MINIATURE-FLOWERED TUFTED PANSIES.

This delightful race of plants lost its best advocate by the death of Dr. Chas. Stuart, of Chirnside, N. B. Many persons unacquainted with this newer race fail at first to appreciate their charming qualities, but when once convinced of their value, cultivators of Tufted Pansies soon become admirers of the miniature sorts. Until people come to recognise these plants as specially suitable for rock and alpine gardens, and also as plants for massing, the trade specialists will not make much of them. Dr. Stuart used to say that the miniature-flowered or *Violetta* type needs to be grown in the same place undisturbed for two or three seasons for its splendid qualities to be appreciated. Under conditions such as these the results are satisfactory, and readers of GARDENING ILLUSTRATED would be well advised to take in hand a limited collection of plants to begin with. The blossoms are sweet scented.

The miniature-flowered kinds are a very limited quantity, the craze for large flowers being the reason why these smaller-flowered sorts were to a large degree ignored, and in consequence many delightful flowers received but slight attention and were lost. The following brief descriptions of some I am now growing may interest readers:—

VIOLETTA.—Palo white, with a yellow suffusion on the lower petal. The blossoms are

good substance, and are slightly less than 1½ inches in diameter. It is very free flowering.

LADY IN WHITE.—Another very dainty white sort, having a neat yellow eye. The plant has a sturdy, tufted habit, and is a protuse bloomer.

QUEEN OF THE YEAR.—This is unique in its form and colour. The blossoms are circular in shape and have plenty of substance, the colour a distinct shade of china-blue with a whitish centre; free flowering.

GOLD CREST.—A pretty little yellow rayless flower, developed somewhat less freely than in most others, on plants bearing something to be desired as to habit. The blossoms are very small.

LITTLE PRINCE.—Of special value, as it is one of the very few sorts of a rich clear purple colour. The little blossoms are very dainty in appearance, and the variety should be included in this collection of six sorts.

PRINCESS MAY is a pure snow-white flower of charming form and with a neat yellow eye. The habit of the plant is good, and it is also free flowering. D. B. CRANE.

HARDY CYCLAMENS.

CYCLAMENS are, excepting the Persian one, as hardy as Primroses; but they love the shelter and shade of low bushes or lill copses, where they may nestle and bloom in security. In such places as they naturally inhabit there is usually the friendly shelter of Grasses or branchlets about them, so that the large and handsome leaves are not exposed or torn to pieces by wind or hail. The Ivy-leaved Cyclamen is in full leaf throughout the winter and early spring, and for the sake of the beauty of the leaves alone it is desirable so to place the plants that they may be saved from injury. By acting on these considerations it is easy enough to naturalise the hardier kinds of Cyclamen in many parts of the country. Good drainage is necessary for the successful culture of Cyclamens in the open air. The species grow naturally among broken rocks and stones mixed with vegetable soil, grit, etc., and are therefore not liable to be surrounded by stagnant water. The tuber should in all cases be buried beneath the surface of the earth and not exposed, as in the case of the Persian Cyclamen grown in pots. The chief reason for this is that in some species the roots issue from the upper surface of the tuber only. They enjoy plenty of moisture at the roots at all seasons, and are admirably adapted for the rock garden, enjoying warm, sheltered nooks, partial shade

RAISING FROM SEED.—Hardy Cyclamens are best propagated by seed sown, as soon as it is ripe, in well-drained pots of light soil. Cover the soil after sowing with a little Moss, to insure uniform dampness, and place them in shelter out-of-doors. As soon as the seedlings appear gradually remove the Moss. When the first leaf is fairly developed, they should be transplanted about 1 inch apart into seed pans of rich light earth, and encouraged to grow as long as possible, being sheltered in a cold-frame, but always allowed abundance of air. When the leaves have perished in the following summer, the tubers may be planted out or potted, according to their strength. The following are the more important species and varieties:—

C. ATRINSE.—A hybrid variety of the *Comm* section. The flowers are larger than in the type, varying in colour from deep red to pure white, and are plentiful in winter.

ROUND-LEAVED CYCLAMEN (C. Coum).—This is frequently in bloom in the open ground before the Snowdrop; yet, to preserve the flowers from unfavourable weather, the plants will be better for slight protection, or in a pit or frame planted out. Grown in this way during the early spring, from January to the middle of March, they are one sheet of bloom. Every year, soon after the leaves die down, take off the surface soil as far as the tops of the tubers, and top-dress them with loam, well-decayed leaf-mould, and some rotten cow-manure, well mixed together, or in alternate years give them only a surface dressing of well-decayed leaves or cow-manure. During summer, or, indeed, after April, the glass should be removed, and they ought to be lightly shaded with Larch Fir boughs (cut before the leaves expand), laid over them, to shelter from the extreme heat of the sun. As soon as they begin to appear in the autumn, gradually take these off. Do not use the glass until severe weather sets in—at all times, both day and night, admitting air at back and front—and in fine weather draw the lights off, remembering that the plants are hardy, and are soon injured if kept too close. They do not like frequent removal. There is a pretty white variety of *C. Coum* known as *C. hylemide*.

C. CYPRINA (syn. C. neapolitanum).—This well-defined species has rather small heart-shaped leaves of dark green, mottled on the upper surface with bluish-grey, and of a deep purple beneath. The flowers, which are pure white, tinted with soft lilac (the mouth being spotted with carmine-purple), are well elevated above the foliage. This distinguishes it from most of its allies, except *C. persicum*, and its foliage distinguishes it from that at a glance. It is one of the most beautiful of the hardy



Cyclamen cyprum (syn. *C. neapolitanum*).

and shelter from dry, cutting winds. An eastern or south-eastern aspect is best, always provided there is partial shade. We have seen them growing under trees among Grass, where they flowered profusely without attention.

kinds. It is found on shaded rocks in mountainous districts in Cyprus and other places in South Europe.

EUROPEAN CYCLAMEN (C. europeum).—The leaves of this species appear before and with

the flowers, and remain during the greater part of the year. The flowers are a reddish-purple. *C. europæum* thrives freely in light, loamy, well-drained soil. Where it does badly in ordinary soil it should be tried in a deep bed of light loam, mingled with pieces of broken stone. In all cases it is best to cover the ground with Cocoa-nut-fibre. It luxuriates in the debris of old walls and on the mountain side, with a very sparing quantity of vegetable earth to grow in.

Ivy-leaved Cyclamen (*C. hederifolium*).—Switzerland, South Europe, and the north coast of Africa. Tuber not unfrequently 1 foot in diameter, and covered with a brownish rough rind, which cracks irregularly so as to form little scales. The root-fibres emerge from the whole of the upper surface of the tuber, but principally from the rim; few or none issue from the lower surface. The leaves and flowers generally spring direct from the tuber without any stem. At first they spread horizontally, but ultimately become erect. The leaves are variously marked; the greater portion appears after the flowers. The flowers continue from the end of August until October, and are purplish-red, frequently with a stripe of lighter colour. There are a pure-white variety, and also a white one with pink base or mouth of corolla; these reproduce themselves tolerably true from seed. Strong tubers will produce 200 to 300 flowers. Some are delightfully fragrant. They are quite hardy, but are worthy of a little protection to preserve the late blooms, which often continue to spring up till the end of the year. This species is so perfectly hardy as to make it very desirable for the rock garden and the open borders. It will grow in almost any soil and situation, though best in a well-drained rich border or rock garden, which it well deserves. It does not like frequent removal. It would be peculiarly attractive in a semi-wild state in pleasure-grounds and by wood walks. *C. graecum* is a very near ally, and requires the same treatment. It is much larger in all parts than *C. hederifolium*, but otherwise is very nearly allied.

Iberian Cyclamen (*C. ibericum*).—Belongs to the *Coum* section. There is some obscurity respecting the authority for the species and its native country. It blooms in spring, the flowers varying from deep red-purple to rose, lilac, and white, with intensely dark mouth; and are more abundant than those of *C. Coum*.

Spring Cyclamen (*C. vernum*).—The leaves rise before the flowers in spring; they are generally more or less white on the upper surface, and are often purplish beneath. This likes a light soil, in a rather shady nook sheltered from winds, its fleshy leaves being soon injured. The tubers should be planted deep, say, not less than 2 inches to 2½ inches below the surface. *C. vernum* is considered by many as only a variety of *Coum*. There is a white flowered variety.

NOTES AND REPLIES.

Begonias.—These are surely very fluky things. In a long excursion round the London parks we were surprised to see how bad they were in colour and shabby in effect. For anything so inconstant, and so much depending on what never really comes to us—that is to say, moist, and at the same time beautiful weather—we think they get a very undue place in our gardens, and that many neglected things are more deserving of attention.

Lychnis Haageana.—In the great "lull" that happens between the passing of the summer flowers and the splendours of the autumn Roses and other beautiful early autumnal effects out-of-doors, there are few plants that help better than this with its splendid colour. Its only defect, if such it be, is that it is not perennial, and must be raised every year. I know nothing more worthy of that or any other attention we may give it, if we seek good effect in July and August.—B.

Increasing Dahlias.—In the issue of August 2, p. 303, I see that cuttings of Dahlias can be obtained. I would feel greatly obliged if you would, through the medium of your correspondence column, let me know how this is done? As I have some fine Dahlias, I would be glad of this information.—DALLIA.

[Lift the old roots when the tops have been cut down by frost, and store them away in a frost proof cellar during the winter. Next spring put the roots into heat when you

growths will soon form. These make good cuttings, and soon root if put singly into small pots plunged in heat. When well rooted shift into larger pots as may be necessary, and plant out in May.]

Perennials for garden.—May I again trouble you with some requests in your valuable paper? I have removed to Staplehurst from Ashford, and have a lovely garden, with big lawn and a banked border all round it; but it is a very heavy soil of clay. Of course, annuals are not happy in it. At the top of the borders there are perennials. Would you advise me to have more of them and what? I have Phloxes, Day Lilies, Canterbury Bells, Larkspurs, and Irises. *Nasturtiums* are doing well as an edging. I have also *Geraniums* dotted here and there, which are doing well, only there are still blank spaces.—A. E. S.

[You do not say at what season you would prefer these to flower. Suitable plants for a strong soil are: Christmas and Lenten Roses, Tritomas, Peonies, Flag Irises, Hepaticas, Gaillardias, Michaelmas Daisies in variety, Sunflowers, Hollyhocks, Perennial Pea, Pyrethrum, *Helenium pumilum*, *H. autumnale*, Rudbeckia Newmanii, etc. These, save the Hollyhocks and Gaillardias, are best obtained in plants in early autumn, while the Hollyhock and Gaillardia-seed may be sown at once. Usually, in strong soils, *Campanula persicifolia* in variety is a success, and so, too, *C. grandis*, *C. lactiflora*, etc. You should also try the hybrid *Colombines* that come freely from fresh seeds. You have not given us the size of the border, or the positions where the blanks occur, so we are unable to reply in more definite terms.]

White Lilies in cottage gardens.—We all know too well the failures of white Lilies in gardens generally. I have lately been seeing some very good ones in cottage gardens, which may, perhaps, give a hint as to their treatment. I notice the best on the shady side of the houses, and if that is done, exposure to the sun in cold nights may have something to do with the poor results we often get from these Lilies. I have never been in a country where the white Lilies grow, but I have noticed that other kinds of Lilies are very often wood plants, which means that they get a certain amount of shelter and shade from the trees above. These good cottage garden Lilies that I saw were growing on the surface of the ground in some fine clumps; the bulbs had risen two inches above the level. It may be that we sometimes plant too deep. Many of your readers have had as good an opportunity of observation as I have, and, perhaps, may be able to throw light on this question. We all deplore the malady of the white Lily.—B. V.

Dwarf Phloxes.—I will feel obliged by being informed what is a good selection of dwarf Phloxes, the time for sowing or planting so as to bloom next season, and how I can secure a long succession of blooms? Is it best to sow seed or get plants?—P. B. S.

[If we exclude the early Phloxes, by which we mean *P. suffruticosa* and its varieties, there are really very few naturally dwarf Phloxes. These plants are dwarf by reason of age and treatment only. For example, Phlox Mrs. E. H. Jenkins, one of the finest of the pure white kinds that we have, flowered finely at 18 inches high when only six months old from the cutting. But at four years old the same kind will produce grand heads of white bloom, on stems from 4 feet to 5 feet high, with special treatment. Again, these Phloxes add inches to their stature, and endless pips or blossoms to a naturally fine head of bloom, in proportion to the amount of moisture applied to or reaching the roots. Phloxes are not only gross feeders, but great lovers of moisture, and in these two particulars are rarely everdone. We cannot recommend you to try seed of these, as it is uncertain whether seedlings may appear in three months or three years, or not at all. Plants in pots may be put in now, or in October from open ground, with every hope of a good flowering next year. A deep and rich soil is very necessary for the plants. The following are among the dwarf kinds: Edith, white, purple eye; Coccinea, fine red; Etna, dazzling red; Cocquelicot, vermilion-orange, a superbly coloured kind; Ball of Fire, rich red; Mrs. E. H. Jenkins, pure white; Independence, white; Mrs. J. Hinnett, rose; Mignon, lilac-rose; Oriental, salmon; Bouquet, pink; Pantheon, cerise-salmon; Faust, white and pale pink; Geant des Batailles, white, crimson eye; Aurore, orange-scarlet; Sylphide, pure white; Le Mal di, purple-violet; and Sen-

tris, royal purple. The season of flowering may be extended by rooting cuttings in spring, and planting as soon as rooted sufficiently on a north border to flower; and, secondly, by rooting a later batch of cuttings and growing the plants in pots, as described recently in these columns.]

Raising seeds in boxes.—Everyone is acquainted with the disappointments that often attend raising seedling plants in open-air beds, even when the spring is genial and the seed vegetates freely. Slugs, grubs, or fly some-times make sad havoc, much of which may be obviated by sowing such as must be sown early in boxes, and the sowing of main crop seeds and late sorts may be deferred until more genial weather enables the young seedlings to push rapidly into leaf and beyond the most critical stage of their existence. It is just when in the seed leaf that they are so set upon by insect pests; when fairly in the rough leaf they are comparatively safe. A box to contain enough plants of Lettuce, Cauliflower, and other tender vegetables that it is desirable to get as early as possible need not be very large, and the same remark applies in the case of flower seeds. If there is not room for such boxes under glass, the young plants may be helped considerably if a sheet of glass is laid over the box, only filling the latter in that case half full of soil, and by elevating it on bricks the young plants will be more out of the reach of slugs and similar pests.

Sweet Peas making tall growth.—Mine are doing remarkably well this year, although they came into flower some weeks later than usual. The earliest batch of plants is quite 7 feet high, and they are developing blossoms of the very best. Only in one or two instances does there appear to be a want of robustness in the constitution, and this is more noticeable in the pretty striped variety America and the new brightly-coloured Coccinea. I have never known the Sweet Peas to grow away so freely at this advanced period. There appears to be little or no evidence of deterioration either in the growth of the plants or their individual sprays of blossoms, and there is a prospect of a long continued display. The flower-stalks in several instances have been at least a foot in length, and these, too, of a stout, erect character. The blooms, too, have been, and are still, exceptionally large and of superb colour, the erect standards of some sorts possessing remarkable substance. These facts prove that good culture will always leave its impress upon the flowers and justify one in providing a liberal supply of plant food in the way of deep culture and liberal manuring, and in the warmer weather copious supplies of clear water, followed later by an equally copious supply of liquid-manure.—W. V. T.

Clematises.—Clematises sometimes turn out failures after being planted in the garden for a time, through their being put into worn-out soil or, at any rate, soil devoid of much nutriment. No climbers need a richer compost or are deserving of more attention than these, as they yield their clusters of blossoms with a prodigality surpassing nearly all others. The convenience of purchasing them in pots in bloom has, I apprehend in not a few instances, given rise to mistaken ideas with regard to them, some who buy them at this time of the year assuming, perhaps not unnaturally, that if they can be bloomed in small pots with but little soil, they need but little material when planted out in the open. This will account for many plants, not merely Clematises, but other climbers, when set out against walls doing badly, for, as a rule, the soil is sparse and far from being the best. Walls are most convenient for them to climb over, and there is no better place when the ground is properly prepared. The bed should first of all be well drained, then filling up 2 feet or 3 feet with good turf soil or old dung. In this they will thrive and do well. Clematises make excellent pillar plants in the garden, and being of quick growth soon cover a structure. They will be benefited with manure-water twice a week, and, being gross feeders, one may continue with it up to the time of the buds forming. Treat Clematises generously and few flowering climbers are more beautiful in a garden or over a house-front.—TOWNSMAN.

TREES AND SHRUBS.

HYDRANGEAS IN REGENT'S PARK.

Visitors to the south-west of England cannot fail to appreciate the fine effects of the Hydrangeas that are to be seen in such profusion, and many are envious of the favoured conditions under which they flourish in that salubrious climate. The accompanying illustration represents the outcome of a visit to some of the gardens in South Devon and Cornwall. It shows the value of this plant for rather large decorative purposes in other gardens where it cannot be planted permanently in the open air. It is one of the easiest subjects to deal with. For our purpose, in the London district, it is grown in large pots of from 18 inches to 24 inches in diameter. The plants are protected from damp and frost in winter, they are grown in a greenhouse in spring, and may be moved to the open garden as soon as danger from frost is past, about the end of May. The

pink blossoms, but after transplanting to the woods the blue colouring appears with the first flowers. C. JORDAN, *Regent's Park.*

GENISTA (ROCK BROOMS).

THESE are dwarf and very often tufted in growth, yellow in flower, and of some beauty. They are easily grown and raised, and, being good in habit, should be worth attention in those sandy places where the true alpine flowers are despaired of. They would go well with the Rock Roses, Heaths, and Rosemary, which might be grown in such places. From the following selection we omit those that are too large for the rock garden, or that have been found to be tender in the neighbourhood of London.

G. ANGELICA (Heather Whin) is a dwarf spiny shrub, not often growing to a height of 2 feet. It is widely distributed throughout Western Europe, and in Britain occurs on moist moors from Ross southwards. The short leafy racemes of yellow flowers appear in May and June.

G. HISPANICA, a native of South-western Europe, is a compact undershrub, evergreen from the colour of its shoots. It scarcely attains more than 1 foot or 18 inches in height, and the crowded racemes of yellow flowers are borne at the tips of the spiny twigs from May onwards.

G. HORRIDA (Pincushion Rock Broom).—A very curious close-growing spiny plant with yellow flowers closely set and big as a ball of Moss. Seems of easy culture on open, sunny places, and the poorer the soil the better. Height 10 inches to 14 inches.

G. PILOSA, a widely distributed European species, is a dense, prostrate bush and a delightful rock-garden plant. In Britain it is rare and local, being confined to gravelly heaths in the south and south-west of England. It grows freely, flowering in May and June. Like the rest of the British species of the genus, it has bright yellow blossoms.

G. PRAECOX is a garden name for *Cytisus praecox*, a beautiful hybrid between the white



Hydrangeas in Regent's Park. From a photograph by G. A. Champlin.

plants bear from one to two hundred heads of bloom: these are not of large size, which is not desirable, for they last longer and do not wither so readily when of moderate size. A liberal supply of liquid manure is required to support so many flowers, which are not only showy when fresh, but continue satisfactory as their colour deepens for a considerable time afterwards. The plants are arranged on the grass, with a shrubbery for background, the pots are plunged to half their depth in the ground, the turf being relaid around them. Enormous numbers of Hydrangeas are grown in some of the best Cornish gardens. At Menabilly, Mr. J. Rasleigh's beautiful place near Fowey, there are probably twenty thousand in the plantations near the mansion, bordering the carriage drives and walks, and Mr. Rasleigh is still planting about two hundred additional each year. In regard to colour, the greater number of blooms are blue of varying shades to the deepest azure. Mr. Rasleigh selects cuttings from plants of deep blue, these being inserted for convenience in the open borders of the kitchen garden; in this cultivated ground they invariably produce

G. ASPALATHOIDES, a native of South-western Europe, makes a densely branched, compact, spiny bush from 1 foot to 2 feet in height. It flowers in July and August (the yellow blossoms are somewhat smaller than those of *G. angelica*) and is a good shrub for the rock-garden.

G. ANNANTICA, found wild in the neighbourhood of Naples, is very nearly allied to our native Dyer's Greenweed (*G. tinctoria*). It is very dwarf in habit, and its many racemes of golden-yellow flowers come in late summer. A desirable and beautiful rock-garden plant.

G. EPIHEDROIDES, a native of Sardinia, etc., is a much-branched shrub 2 feet in height, bearing yellow flowers from June to August. The aspect of the plant much resembles that of *Ephedra distachya*.

G. GERMANICA, a species widely distributed throughout Europe, makes a bright rock-garden shrub not more than a couple of feet in height. It flowers very freely during the summer and autumn months, and the stems are inclined to arch when 1 foot or more high. It is sometimes met with under the name of Spanish Broom.

Spanish Broom (*Cytisus albus*) and *C. purgans*, a golden-flowered species.

G. RADIATA, a native of Central and Southern Europe, is 3 feet or 4 feet in height, evergreen from the colour of its much-branched spiny twigs. The heads of bright yellow flowers appear throughout the summer months. It is hardy, at any rate, in the south of England.

G. RAMOSISSIMA.—A native of Southern Spain, and one of the best garden plants in the genus. It grows about 3 feet high, and the slender twigs are laden in July with bright yellow flowers. This also passes under the name of *G. cinerea*.

G. SAGITTALIS (Winged Genista).—A singular plant, its branchlets winged (by the stem expanding into two or three green membranes), and bearing rich yellow flowers in summer; the shoots are usually prostrate, and the plant is rarely more than 6 inches high. It is met with in the Grass in the mountain pastures of many parts of Europe. In cultivation it is a valuable plant, hardy and vigorous in the wettest and coldest soil, forming profusely-flowering tufts when fully exposed. Easily raised from seed.

G. TINCTORIA (Dyer's Greenweed).—A dwarf native shrub, with numerous slender branches, forming compact tufts from a foot to a foot and a half high, and becoming quite a mass of pretty yellow flowers in early summer. It is grown in many of our nurseries, and merits a place among rock-shrubs. There is a double variety. Not unfrequent in many parts of England, but rare in Scotland and Ireland.

G. TINCTORIA VAR. ELATOR is a tall-growing form from the Caucasus, which under cultivation frequently grows from 4 feet to 5 feet high, and bears huge paniculate inflorescences.

G. VIRGATA.—A native of Madeira and one of the most beautiful species of the genus. At Kew there are many old plants from 6 feet to 10 feet high, and as much through, which in July are one mass of colour, every one of the slender branchlets terminating in an upright raceme of golden-yellow blossoms. These plants must be twenty or thirty years or more old, and must have passed through winters which injured many of our native shrubs and trees. Sometimes *G. virgata* flowers a second time in October, but never so profusely as in July.

CHRYSANTHEMUMS.

SEASONABLE NOTES.

This is a critical period in the growth of this plant, as in most cases now what is termed the natural "break" occurs, and if a sharp look out is not kept for earwigs, greenfly, etc., they will do irreparable damage to the embryo buds. The injury thus inflicted is never got over, the result being in the end poor, imperfect blooms. This is most disappointing to the cultivator, especially if he be an exhibitor, as he has no other lateral growths to fall back on, as in the case of the grower for decoration only. The plants will be benefited now with a little weak soot-water, given once a fortnight, and afterwards with guano, a handful being mixed in each canful when watering. The earliest batch should now have the buds set and may be fed a little once a week, discontinuing same gradually as flowers show colour. I refer to plants of *La Vierge*, *Madame Desgrange*, *G. Wermig*, *Mrs. Hawkins*, *G. Glenny*, etc. These make most beautiful plants for the embellishment of the conservatory, and require no stakes of any kind, which I think is a great advantage. Now that autumn is approaching, and rains more frequent, tying as growth proceeds must be attended to. D. G. McE.

B. C. W., N.B.

NOTES AND REPLIES.

Chrysanthemums planted out.—The rage for monster blooms has cooled down considerably, for owners of gardens find that they are about the most expensive of all flowers to produce, and market growers are compelled to adopt the planting-out system. With care in pinching, lifting in good time, and slight disbudding, beautiful plants can be produced with one quarter the labour required for plants grown wholly in pots.—J. GROOM, Gosport.

Early-flowering Chrysanthemums.—The boisterous weather of Saturday and Sunday, July 26th and 27th last, has left its mark upon the early-flowering Chrysanthemums. The moister weather of the present summer season had caused these plants to make very free growth, and, in consequence, the heavy branching growths of many of the best sorts were broken down by the tremendous force of the gale. Fortunately, in some collections, the growers had taken the precaution to stake their plants, and also to securely loop the brittle shoots to the stakes. In such instances the loss has been small. The members of the Mme. Masse family of these plants appeared to suffer more than most others, this being accounted for by reason of the grand branching shoots which they so freely develop. Growers of these plants who have not yet staked and tied their specimens should, therefore, do so without delay. With the approach of August we may expect some boisterous westerly and south-westerly gales, and, for this reason, see that not only the main stems of each plant is safely secured to a stake, but also the heavy branching shoots are securely looped to the stakes.

We make it a rule first to make one knot round the stake, and then loop the branch within another knot, as this gives each stem a certain amount of "play." Keep the soil frequently stirred between the plants. Some of the earlier-blooming plants have already developed their first crop of buds, and, for this reason, it would be well to give them an occasional supply of manure-water.—E. G.

GARDEN PESTS AND FRIENDS.

SILVER LEAF IN PEACHES.

I WAS much interested in reading the remarks on "Silver Leaf" by your correspondent "H. B. J." in your issue of August 2, for in June last I had the pleasure of hearing Professor Percival, of the South-Eastern College, Wye, read a most interesting paper on this disease before the Linnean Society. For many years various persons have investigated this complaint, but with no success. Professor Percival showed most conclusively that it is caused by the attack of a fungus, *Stereum hirsutum*. It appears that the peculiar grey colour is caused by certain spaces between the cells of the leaf just below the cuticle which are filled with air, and not to any changes in the colouring matter of the leaves. How these spaces are formed is at present unknown. It appears that if a branch that is badly attacked be cut across it will be found that the central part of the wood is discoloured, and in mild attacks, even when nothing can be seen by the naked eye, by examination with a microscope it will be found that the cells are stained with a brown colour. Many trees were examined, and in every case it was found that the above-mentioned fungus was present on the roots or root stocks. This, however, was not conclusive that the fungus was the cause of the "silver leaf." In March this year Professor Percival inoculated some healthy trees with the fungus "on one and two year old branches, from 18 inches to 2 feet from the ends. In the first week in May, that is eight or nine weeks after inoculation, the leaves upon these branches exhibited the characteristic silvery appearance." This conclusively proved that the fungus was the cause of the disease. It was interesting to find "that while the disease showed itself above the wound right to the top of the shoot, below the wound it only appeared on the leaves of the next bud or spur, 2 inches or 3 inches away. Moreover, the disease has only appeared hitherto (May 19) on those leaves developed from buds which are placed on the same side of the shoot as that on which the inoculation was made, the leaves from buds off the straight line drawn from the wound to the tip of the shoot being normal. From these experiments and other observations on the course of the disease it would appear that the disturbing cause is conducted rapidly in the sap of the plant." At first sight the views propounded by "H. B. J." and Professor Percival do not seem to agree, but on consideration they are not opposed to one another. For though the direct cause of the complaint is not as "H. B. J." suggests, "weakness through over cropping," it is highly probable that it is owing to some weakness in the tree which enables the fungus to infest it, and such treatment as will restore it to its original vigour prevents the fungus from living on its tissues by restoring them to a perfectly healthy condition. G. S. S.

NOTES AND REPLIES.

Caterpillars.—I send several caterpillars in a tin box, and hope they will arrive safely. They may be very common, but will be glad to know what they are?—M. STAINSON.

[The caterpillars are those of the "Cinnabar moth" (*Euchelia jacobaeae*), a common insect. The caterpillars generally feed on Ragwort or Groundsel. The moth measures about 1½ inches across the wings when they are spread open. The forewings are of a smoky grey colour with a narrow red line near the front margin, and two red spots on the end margin. The hind wings are red with a blackish edge.—G. S. S.]

Insects on Roses.—I will be much obliged if you can tell me what the insect in enclosed box is and how it can be destroyed? It has ruined my *Crimson Rambler*

this year and also attacked the pink *China Rose*, since all the leaves, etc., and preventing them from making any good growth. It is found on the leaves as a grub (enclosed) and the insect.—M. A. M. K.

[The insects you enclosed are not the culprits which have injured your Roses. One of them (the long, spotted one) is the grub of one of the ladybirds, the other is the chrysalis of one of the hoverer flies, whose grubs are most useful in destroying green-fly. These grubs are long and narrow, and are about ½ inch in length. They are bluntly rounded off at the tail, gradually tapering to the head, which is pointed. They have no real legs. The number of aphides they will destroy in a short time is marvellous. I have watched one suck out the contents of a full-grown green-fly in a minute and a half, and immediately begin on another, which it despatched at the same rate, and continued feeding in this way for some time. When full grown they become chrysalides, which are small Pear-shaped bodies about three-tenths of an inch long. The ladybird grubs are quite as voracious, and, being able to move about more rapidly than the other grubs, are perhaps even more useful. The Rose-leaf you sent was covered with the dead bodies of green-flies, which had evidently been killed by the grubs. What may have eaten the leaves I cannot say, but it is quite certain that the grubs which I have mentioned, and which were the only ones I could find, did not. G. S. S.]

Insect on Apple-tree.—The enclosed insect was just taken out of a young Apple-tree. It was about the middle of the fruit. I find some of my young trees infested with a small insect, which is white. I am the trees a winter dressing of caustic soda, etc. You kindly tell me what to use as a dressing for them. You tell me the name of the maggot?—A. CONYER, Bland.

[The insects you find in the wood of your Apple-trees are the caterpillars of the Wood Leopard-moth (*Zeuzera aesculi*). You can destroy them by pushing a sharp-pointed wire into the hole and stalling the insect, or they may sometimes be pulled out by means of a wire with the end formed into a hook. If they cannot be reached in this way they may be stifled by pushing as far as possible into the hole a plug of tow or cotton wool, soaked in turpentine or paraffin oil. The mouth of the hole should then be closed by means of some well-tempered clay, so as to keep the snail in. The moths may sometimes be caught on the trees. They are very handsome insects, with bodies about 1½ inches long, banded with black and white, the wings when spread open measuring about 3½ inches across. They are white with black spots, and are nearly transparent. As to the white insect you mention, I cannot say anything about it without seeing it. Please send a sample.—G. S. S.]

Winter moth in Hornbeam-hedge.—A Hornbeam-hedge in my garden, about 10 feet high, has for several years been spoilt by winter moth, and this year was completely stripped. Is it possible to get rid of it by the system of butter paper described in your paper a few weeks ago, or should it be cut down? I am very unwilling to part with its shelter in a bleak situation, but something must be done, as the pest is spreading to the trees.—L. B.

[I do not think that it would be possible to apply the greasy hand system of destroying the winter moth to a hedge so as to be of much use, as every stem would have to be banded, and all long Grass, etc., thoroughly cleared away, so that there was no chance of the females being able to reach the branches except by passing over the bands. When full grown the caterpillars let themselves down to the ground by a thread, bury themselves in the ground and become chrysalides. If the soil on to which they are likely to have fallen was removed to a depth of 3 inches and burnt or buried a foot or more so that the moths would be unable to emerge from the soil next spring, I believe you would not have much trouble with the pest next year. If the caterpillars again made their appearance, as soon as they were noticed the hedge should be sprayed with Paris green or paraffin emulsion. I would not cut the hedge down.—G. S. S.]

Insects in woodwork.—Please oblige me with names of the wood-boring insect, and, if you can, suggest a remedy? The woodwork of the house and some of the furniture are literally swarming with them. I find them flying in at windows. I have a lot of loam and sawdust, house, etc., faced with Oak top wood. Would this account for their presence?—SARFORS WALTERS.

[The insect attacking the woodwork of your house is *Anobium domesticum*. The beetles belonging to this genus are commonly known

as "Death-watch Beetles," on account of their occasionally making a ticking or tapping noise, which by superstitious persons is supposed to portend a death in the house. The tapping, however, is only a signal to their mates. Any woodwork that they are infesting should be painted or tarred; furniture that cannot be treated in this manner should be well rubbed with furniture polish or turpentine, which should be well rubbed into the little holes; or woodwork may be well washed over with 4 oz. of corrosive sublimate dissolved in a gallon of methylated spirit. This mixture is, however, a deadly poison, and should be used with the greatest care. The beetles lay their eggs on the surface of the wood in the spring or early summer, and it is at this time that the means just mentioned are most effective, as many of the beetles as possible should be destroyed. It is by no means unlikely that they come from the sources you mention. Examine them and see.—O. S. S.]

ORCHIDS.

HARDY LADY'S SLIPPERS.

Amongst terrestrial Orchids the *Cypripediums* are certainly the most beautiful. Their requirements are shade, moisture, and a peaty soil. In all gardens, low-lying, shaly

calcareous soil, or in narrow fissures of limestone rock, in well-drained, rich, fibrous loam, in an east aspect.

C. acaule (Spotted Lady's Slipper).—A handsome kind, seldom seen in gardens, 6 inches to 9 inches high, flowers in summer, solitary, rather small, white, heavily blotched, or spotted with deep rosy-purple. Found in Canada, N. Europe, and N. Asia, in dense forests amongst the roots of trees in moist, black vegetable mould. Requires a half-shady position in leaf-mould, moss, and sand, and should be kept rather dry in winter.

C. japonicum (Japanese Lady's Slipper).—About 1 foot high, its lustrous stems, which are as thick as one's little finger, bearing two plicate fan-shaped bright green leaves, rather jagged round the margins. The flowers are solitary, the sepals of an apple-green tint. The petals, too, are of the same colour, but are dotted with purplish-crimson at the base, the lip large, and curiously folded in front, as in the better known *C. acaule*, to which it seems most nearly allied; the colour of the lip is a soft creamy-yellow, with bold purple dots and lines.

C. macranthum (Large Lady's Slipper).—This bears large flowers of a uniform purplish-rose with deep-coloured veins; early in June—lip finely marked with deep purple reticulations. This handsome and at present rare

NOTES AND REPLIES.

Growing *Laelia superbians* and *Dendrobium suavisissimum*.—Can you give me any information as to how to grow *Laelia superbians* and *Dendrobium suavisissimum*? The former was a newly imported plant last spring, and has made three small bulbs, and it is now only just starting to grow. The latter I fail to do any good with. It makes good bulbs, but never blooms. They are both grown in a house a little shaded, and given plenty of moisture; summer heat, 80 degs. to 90 degs., and 50 degs. in winter. The old bulbs of *Dendrobium suavisissimum* are similar to those of *Caloglyphis cristata*, but a little longer, and some of them appeared to have flowered; but the bulbs that I have grown are similar to those of *Dendrobium thysanotum*. I see both of these varieties are marked intermediate house in Orchid catalogues.—V. B.

[*Laelia superbians* should be grown in the store where the summer temperature is from 70 degs. to 75 degs., and not less than 60 degs. in winter. It should be grown in a basket, so that it may be suspended near the roof, for it requires an abundance of light, sufficient shade being given to prevent scorching of the leaves in the summer. The potting compost should consist of good fibrous peat, leaf-soil, and rough sand, the surface being covered with chopped Sphagnum Moss. The material should be made moderately firm about the roots. Do not dip the plants, but water the surface of the Moss when it becomes dry during the active season of growth. Some grow *L. superbians* in the utility a house, but it rarely flowers satisfactorily when so treated. *Dendrobium suavisissimum* should also be grown in a basket in the above-mentioned temperature from the beginning of March until growth is complete in the autumn. It should then be removed to a cooler and drier position, only sufficient moisture being required to prevent the shrinking of the pseudo bulbs during the resting season. Any repotting required is best done in the spring. It is not advisable to repot more than is absolutely necessary. Afford plenty of light at all seasons of the year, as unless the growths are thoroughly ripened they rarely flower in a satisfactory manner. I consider 50 degs. in winter too low for either of these species; excepting in very cold weather 60 degs. should be the normal temperature of a house for these Orchids. An intermediate house should not fall below 55 degs. in winter in very cold weather.—H. J. C.]

Dendrobium Pierardi

(*Orchid Lovr*).—This fine Dendrobium, which is a common plant in India, is very widely distributed over that country. To grow it well it requires strong heat and abundance of moisture to produce strong growths, which in its native country have been found each 6 feet in length. When fully grown the plant should be dried off and kept considerably cooler than during the summer. This will cause the bulbs to swell up and the leaves to fall. The plant is deciduous, and loses all its leaves before flowering. Early in the season, about April, the flowers will begin to show all along the stems. These, generally borne in pairs, are of a creamy-rose or cream in some forms, the lip large, soft sulphur-yellow, with a few purple streaks at the base. A good compost for it is fibrous peat and Sphagnum Moss. During growth the plants should be given the warmest position possible, at the same time keeping well supplied with water; but during the winter a temperature of from 55 degs. to 60 degs. is ample. There are several forms of this, but the best is *D. P. latifolium*, which bears finer flowers and rather more freely than the type.

Propagating *Clivias*.—Propagation is a simple matter when one has old plants to deal with, as, after they have ceased flowering, the suckers which spring from the base should be severed with a knife and potted off separately in a compost of old loam, finely-sifted leaf-mould, and coarse silver-sand, and if the plants can be placed under a frame in the



The English Lady's Slipper (*Cypripedium Calceolus*) in the Royal Gardens, Kew.

spots can always be found, and, even if not existing, may be readily prepared for these and other plants whose requirements are similar. It should be remembered that this class of plants flowers for the most part in summer, and starting rather late into growth, an opportunity is provided for other things, particularly early and late flowers, without in the least interfering with the plants here dealt with. The following are among the best of these cultivated kinds, and, as a rule, they do well in the positions indicated above:

C. acaule (Stemless Lady's Slipper).—A dwarf species with a naked downy flower-stalk, 8 inches to 12 inches high, flowers large, solitary, purplish with a rosy-purple (rarely white) lip, nearly 2 inches long, which has a singular closed fissure down its whole length in front. Northern States of North America in woods and bogs. Thrives in moist peaty or sandy soil or leaf-mould.

C. calceolus (English Lady's Slipper).—The only British species and the largest flowered of our native Orchids, 1 foot to 1½ feet high, flowers in summer, solitary (sometimes two), of a dark brown colour, with an inflated clear yellow lip netted with darker veins, and about 1 inch in length. North Europe, and occasionally in the northern counties of England, where, however, it is now almost exterminated. Very ornamental for the rock-garden, where it should be planted in sunny sheltered nooks of

plant grows best in pure loam of a heavy nature. Siberia.

C. pubescens.—A dwarf species with a pubescent stem, seldom more than 2 feet high, flowers early in summer, on each stem one to three blooms; greenish-yellow, spotted with brown, with a pale yellow lip from 1½ inch to 2 inches long, and flattened at the sides. It is found in bogs and low woods, from Pennsylvania to Carolina. Does well on dry sunny banks, among hem, stones, and grit.

C. spectabile (Moccasin-flower).—The most beautiful of this group; 15 inches to 2½ feet high, flowers in summer, one or two on each stem (rarely three), large, with inflated, rounded lip, about 1½ inch long, white, with a large blotch of bright rosy-carmine in front. A variety (*C. s. album*) has the lip entirely white. In America it grows in open boggy woods, moist meadows, and also in peaty bogs in the Northern States. Good native specimens produce from fifty to seventy flowers on a single tuft, 3 feet across, formed on a thick mat of fleshy roots. The plant is hardy, and succeeds if planted out in a deep, rich, peaty soil, with a few nodules of sandstone or rough sandstone grit mixed with the soil. It also thrives in turfy loam on a moist bottom; in any case, however, deep planting is necessary, as the roots are then cool and moist during the hot weather, and do not suffer from frost in the winter.

house and kept close for a few weeks, this will help in the formation of roots. After blooming, old plants should be repotted, if found necessary. As window plants, when in flower, Clivias are most acceptable.—TOWNSMAN.

FRUIT.

SOME GOOD PEACHES.

Will you give me the names of four best Peaches and two Nectarines for an amateur to grow under glass in Lancashire, second early and midseason sorts, to ripen in August and September? By best I mean flavour, size, and free bearing, and, as I cannot be home in middle of day to fertilise blossoms, free setting and non-liability to cast flowers and fruit. I see Goshawk is spoken of in catalogues as best flavoured of all. Is this so, and has it any undesirable traits which more than outweigh its excellence in that respect? I do not wish to force, but have plenty of heat, but my disadvantages are (1st) that my greenhouse is shaded part of the day, and so does not get all the sun it ought, and (2nd) not being able to attend to the trees in middle of day. I have a tree, however, of Lord Napier Nectarine which is fruiting and doing very well. Perhaps you could add a few words as to making up of border?—PEACH.

[The variety Goshawk is not usually accredited with possessing the highest quality, though all the same a good Peach, and may be included in a selection of four varieties. Others we would name are Hale's Early, a very good American variety, preceding the ordinary mid-season kinds and a free cropper, Bellegarde, a fine September Peach when not much forced, with Royal George and Dymond. In some gardens Royal George is subject to mildew, and for this reason cannot always be successfully grown. No finer flavoured fruit exists, however, under good culture. Stanwick Elruge, white fleshed, and Pine Apple, yellow fleshed, are two good Nectarines, unsurpassed in their section and season. These are all free setters given reasonable treatment. If your tree of Lord Napier does well there is no reason why others should not do likewise. While in bloom abundance of air is absolutely necessary, and with a little air left on all night the pollen would be dry in the morning, and could be distributed by giving the tree stem a sharp rap with the hand. This would dispose of the necessity for mid-day attention. In the construction of Peach borders it is desirable to provide an under rather than an over-rich soil. What is known as strong calcareous loams are best suited for Peaches, but there is no hard-and-fast rule. Peaches must have lime, either naturally present in or incorporated with the soil, and it is well in any case to provide some. Old lime obtained from demolished buildings is better than new, though if it cannot be procured, now lime must be substituted in less quantity. Be sure, however, in the use of this to mix it well with the soil, or it may, if placed in layers, become injurious to water. Good garden soil, if of a suitable nature, and free from tree-roots, will grow good Peaches, with the addition of some lime, or a little burnt ballast or burn-bake. Animal manure must be avoided in making Peach borders; if any deficiency exists employ some of an artificial compound, and use this in moderation. Make the soil firm by treading or ramming, as this promotes sturdy short-jointed growth. Drainage will depend on the nature of the sub-soil. If of an open character none will be required, if heavy and badly-drained, then employ brick rubble, stones, or clinkers to raise the soil off the saturated base, and provide an outlet for superfluous moisture to escape. In soils of a light or medium nature too much drainage is an evil, for it promotes bud and fruit dropping through drought, which is fostered by it. Plant, if possible, in November, for then the trees may form a few autumn roots, and do not attempt to secure a crop the first year.]

SYRINGING FRUIT TREES.

During the heat of summer it is well-nigh impossible to give growing crops of fruit, whether they be under glass or in the open air, too much water, for if the heat is sufficient they will evaporate through healthy foliage a large amount of it, and great care is necessary in keeping the roots abundantly supplied, for any lack of moisture will cause the foliage to droop under bright sunshine, and then red-spider, and other pests, that are attracted by

drought, come on, and they are not so easily got rid of. One of the first things to fly to when drooping foliage prevails is the syringe, and a good shower bath overhead soon revives the leaves; but this damping should be followed by a thorough soaking of water to the roots, enough to reach the lowest of them before the sun acts on the leaves again, for healthy foliage of fruit-trees ought never to flag under any heat we get in this country if the roots are healthy, and there is enough moisture in the soil for their needs. The following is the plan I adopt with regard to overhead syringing.

VINES.—Syringe the rods with tepid water when the house is started for forcing, as soon as the sun's rays begin to decline, and the house is shut up with a good, brisk heat, and this is continued, on bright days, up to the time the bunches are in flower, when the atmosphere is kept rather drier, merely damping the paths and any dry spaces to create a moist, genial atmosphere. This, also, is continued until the Grapes are ready for thinning; but after this is performed I give the Vines overhead a thorough drenching with the syringe after a bright day, so as to make the leaves quite clean, and thoroughly wash out every small berry, old bloom, etc.; but after this has been repeated two or three times I use the syringe no more. In the place of overhead syringing I use a good deal more water in damping the floors, side-walls, stages, etc.—in fact, every dry spot in the house—and shut up with a good lot of solar heat, and then in half an hour the whole interior of the structure is like a vapour-bath. This is continued until the berries begin to change colour, when a drier atmosphere and more ventilation are necessary to ensure high finish.

PEACHES AND NECTARINES under glass or on open walls are very liable to red-spider, and after the fruit is set a good drenching with the syringe or garden-engine is of the greatest benefit in dislodging green or black-fly and keeping red-spider from getting a footing. Care should be taken to have clean water after the fruit gets half grown, but in the early stages of growth I find a little soft-soap dissolved in the water one of the best of things for promoting clean, healthy growth.

CHERRIES are very liable to the attacks of black-fly, and after the fruit is set the garden-engine or syringe may be vigorously plied on them with good results. Soap-suds diluted with clear water make a good wash, as it is just after the fruit is set that the attacks of fly are most troublesome, and a few copious drenchings then act beneficially in more ways than one, as the abundant blossom of Cherries when the fruit is set needs a good deal of washing to get the fruit cleared of it, but they swell at a great pace, with plenty of washing, and the roots get the benefit of all the water that reaches the soil.

PLUMS are not so much affected by fly as Cherries, but a few thorough good washings to dislodge all half-set fruits and cleanse the foliage of dust is a great help, and if any signs of scale, American blight, etc., appear on the bark of any kind of fruit-tree, ply the syringe freely, and they will be greatly checked, if not entirely cleared off.

WARTS ON VINE-LEAVES.

COMPLAINTS come frequently from those who have not had much experience in Grape culture about the prevalence of warty-like excrescences upon the under sides of the leaves. This is the effect of one of the errors—too much moisture—in the treatment of Vines which amateurs commit. Especially in the case of young Vines is it more noticeable. Vines which have their foliage covered on the under side with warts cannot perfect a crop of Grapes so well as those which have their leaves free of such unnatural excrescences. This defect in growth is the outcome of too much moisture upon the leaves and atmospherically. In the latter form the mischief is most generally committed, although in conjunction with an insufficient supply of fresh air. Amongst cultivators generally it is a rule to damp the surface of the borders, paths, walls, and stages, if there be any inside the house, twice daily, and in some instances oftener. This treatment is all very well when judiciously carried out—that is,

when the days are bright, so that an abundance of air can be admitted to the house without unduly cooling the temperature; but loading the inside of the house with moisture when the outside elements do not admit of sufficient fresh air being admitted causes the formation of the warts. In the case of new vineries, or even old ones, where the Vines have just been planted, many persons make it the rule to thoroughly drench the foliage twice daily during the time growth is active. This treatment may be correct when the weather is hot and the outside atmosphere dry, but when the atmosphere is loaded with moisture, and but little of the sun's power felt, then the daily syringing twice, or even once, is a mistake. Grape-growers who are year after year successful study the appearance of the weather daily before determining the treatment the Vines shall receive for that day, as upon this point depends much of their success. A superabundant quantity of atmospheric moisture inside any vinery must be avoided. Moisture is necessary for the life and success of the Vines in perfecting their crop of fruit, but it should be given in such a manner as to be easily balanced by a judicious supply of fresh air.

The first thing to do when Vine-leaves are affected with warts is to check the supply of moisture in the air by damping down the borders only when the weather is bright, and this but once daily, preferring the afternoons at the time of closing the house. Air should be admitted very early in the morning, when the temperature reaches 70 degs. When the temperature is allowed to rise to 80 degs before any air is given, the air in the house becomes stagnant, and is not conducive to a healthy growth of the Vines. The pores of the leaves become so gorged with an excess of moisture that assimilation is hindered to a certain extent, the result being warty foliage. If the atmosphere outside is loaded with moisture, it is the height of folly to do likewise in the vinery. By equalising the supply of moisture and heat in the vinery—both very necessary matters in Grape culture—Vines affected with warty foliage can be cleared of these excrescences in the future growth. It is not possible, perhaps, to rid the present leaves of the warts when once thoroughly affected, but the after growth can be made perfect by a judicious application of air to the house, aided by the proper regulation of moisture.

NOTES AND REPLIES.

Good Raspberries.—I shall be much obliged if you will kindly give me the names of the best red and yellow Raspberries? I find that so many of the beautiful-looking fruits now sold are tasteless and not fit to eat. C. H. BEXWICK.

—Will you please give me the name or names of two good Raspberries? Soil heavy and rich, clay subsoil.—F. M. G.

[Good Raspberries are—Reds: Superlative, a large and handsome fruit, with an absence of watery juice. We have seen this with canes each 8 feet and 9 feet high. Red Antwerp is an old kind but good. Baumforth's Seedling is large and richly flavoured; and Norwich Wonder, a strong grower with richly flavoured fruit. Yellows: The Guinea, a yellow Superlative, and equally as strong in growth; and Yellow Antwerp, a good old kind.]

Strawberries falling.—I send a specimen of Strawberry-plant, and will thank you for your opinion as to woody growth of roots and poor fibre? The plant has been in ground for three years; the soil is light, about 2 feet to 3 feet, on gravel. The crop has failed this year, and was only partial in 1901. This same ground has been used for Strawberries for some years, but every three years the ground is trenched 2½ feet deep and thoroughly manured. The want of sufficient rain prevents good fall crops.—M. CHALLIS.

[It is not to be wondered at that your Strawberries fail, seeing you grow them on the same ground year after year. Do you use the runners from your own plants also? You ought to try the annual mode of culture, which has been frequently referred to in these pages. In such a soil as yours you ought to water and mulch freely just previous to the fruit ripening. The plants are evidently starved from want of food and moisture.]

Renovating weakly Vines.—I have a vinery with five Vines, which are planted in an outside border and do not touch the wall. They are old Vines and have borne some very heavy crops; but now they only bear an average of four or five bunches each, and are showing a lot of small, watery wood. Do you think I had better

take them up and cut off the tap-roots, and plant them nearer the surface? They are now about 4 feet down and gone into the clay. Do you think I shall get any benefit from it? If so, please say when is the best time to do this?—G. H.

[The weak state of your Vines points to the fact that in former years they were over-cropped, and probably not given sufficient nutriment to sustain their unusual load of fruit by watering and manuring. When Vines are so heavily cropped it takes a surprising quantity of water and stimulant to properly support them. If your Vine roots are, as you say, in the subsoil, at a great depth, your best course is to lift them and arrange them nearer the surface in fresh soil. This may be done at the end of October or in November. Every care should be taken that the roots are kept moist, and preserve as many roots as possible, particularly those of a fibrous nature. A digging fork is the better implement to employ, because this can be used without unduly breaking the roots. If you cannot remake your border entirely, procure as much new soil as you can and incorporate with the old, also lime-rubble, $\frac{1}{2}$ -inch bones, and hurot refuse. In the larger roots make some V-shaped incisions with a sharp knife here and there about $\frac{1}{2}$ inch deep; this will cause new roots to form. It is a good plan to mulch the surface with manure to keep out the sun and air in summer. If the surface is kept constantly dry the roots harrow deeper for moisture, and in this way get into the subsoil, of the results of which you have had ample experience.]

Removing mulching from Strawberries.—Most growers will admit that much of the success of the next year's crop of Strawberries depends on their treatment during the autumn and winter. No hard-and-fast line can be laid down, seeing so much depends on soil, climate, etc. While this is so, errors are often made in their treatment at this season of the year. I am convinced that the early removal of the straw that has been used to keep the fruit clean is one of the greatest. This especially applies where the soil is light and the climate dry. In spring early mulching is recommended to keep in the moisture. Why remove this as soon as the fruit is gathered, seeing the next two months are often the driest in the year? To remove this, exposing the soil to hot, dry sun after the roots have been induced to work near the surface cannot be beneficial to root action, more especially in hot, dry soils. For several seasons I have, as soon as possible after the crop is gathered, had all the runners and any rough or partly dead leaves cut off close to the plants, pulling up all weeds, and moving the mulching so as to make all clean. Everything is left spread over the ground and round the plants, the runners soon drying up. When the hot weather is over, about the end of September, this is removed, and about the end of the year a dressing of dung is given the beds.—J. CROOK.

Peaches and Nectarines.—When the fruit is cleared from the trees in the earliest season they must still be well attended to, or next season may see a partial failure. After syringing ceases, this being when the fruit is on the point of ripening, the borders, previously constantly being moistened and, it may be, trampled on frequently, commence drying, cracking very probably following in due course. Lightly loosening the surface with a fork and mulching with strawy manure are good preventives of this, and if not carried out prior to the crops being gathered should be done immediately after, the mulching in this case following upon a thorough good soaking of water, or, better still, liquid-manure. Newly-moved trees will continue growing after the crops are gathered, and this growth should be fostered by means of morning and evening overhead syringing. Older trees should have much of the wood that has just produced fruit cut out, and if there is any red-spider on them, instead of daily syringing the trees and thereby keeping them growing later than desirable, the better plan is to thoroughly coat both surfaces of the leaves with flowers of sulphur. Squeeze a double handful through a canvas bag into a 3-gallon can of water, and well syringe the trees with this mixture. If the first application does not suffice, repeat the dose. The house should be set widely open and the border

never become very dry. See that the borders supporting the successional trees are in a thoroughly moist state when the fruit commences ripening. Every morning all fruits that are ripe enough to gather without actually dragging them from the trees ought to be collected and stored in a cool, dry room ready for packing or home consumption, the quality and keeping properties being improved by this timely attention. Let ripening fruit have plenty of air.

GARDEN WORK.

Conservatory.—Though watering, shading, and ventilating glass structures may be called routine work, yet it must be intelligently carried out. No work calls for more judgment than watering plants in pots. If more is given than the plant needs, the soil becomes sour and the plant suffers, and if this state of things continues the plant dies and the gardener's reputation suffers. Never water a plant till it is necessary. Do not try to anticipate what the plant's needs may be in a few hours' time. Wait till the plant is thirsty and then moisten all the soil and leave it till it becomes dry. No good plantsman would water a specimen plant till he had tested its condition with his knuckles on the side of the pot. This is the best test. It is true there are niceties of sound to be considered, due to the way in which the plants are potted. A loosely potted plant may sound dry when the waterpot is not urgently needed, but experience soon teaches discrimination, and nowadays the tendency is towards smaller pots and firm potting. The market grower has taught this by the way in which he produces a large plant in a comparatively small-sized pot covered with a profusion of blossoms. No loosely-potted plant will do this. It is impossible to obtain a compact, well-flowered plant with the soil in a loose condition. Good drainage is of the very first importance, and for the drainage to be free the material must be placed in a proper position. This is of more importance than mere quantity or depth. One large crock over the hole in the bottom of the pot, with the hollow side downwards—a flat crock over the hole might act as a check upon the escape of the water, and the plant suffer from an excess of moisture. On the large crock in the bottom a layer a size smaller is placed, and on these, again, a few pieces about the size of small Beans. A few bits of fibrous soil will complete the drainage. For Ferns, Jado or Cocoa-nut-fibre may be used. The depth of drainage will depend upon the size of the pots, and in some measure upon the class of plants grown. The market grower does not worry himself much about drainage, but the plants leave his hands when they come into flower, and the purchaser, as a rule, does not study this matter. Nine-tenths of the plants purchased in a market disappear after flowering. Among the thousands of Azaleas imported annually, how few live over the second season. The same thing occurs in a less degree with other market plants, and some of these failures are due to defective drainage. Arum Lilies, if they remain in pots, must soon be seen to and repotted, dividing the crowns where necessary according to the size of pot required. Arums want a generous soil and free drainage, and after repotting, the plants must have a sunny position on a coal-ash bed, or precautions must be taken to keep out worms in some other way.

Flowers for winter.—These cannot be obtained in the short, dark days without artificial heat, and this is where the stove or forcing-house does its best work. Among the plants which are, or should be, grown in quantity for winter work are Poinsettias, Euphorbias, especially *jacquiniaeflora*, Begonias, to include *Gloire de Lorraine*, and others. The semperflorens type flowers freely in winter, and the same may be said of the insignis family. A group of insignis in the conservatory in the dead of winter is always attractive, and the flowers last well. *B. fuchsoides* is an old one, but is superior as a decorative plant to some of the modern kinds, and it is so distinct and does not require so much heat. I have had it planted out in a light, warm conservatory

where it grew and flowered all winter. The stove produces many flowers in winter, both in climbers, which may be planted out, and others in pots or tubs. The demand for flowers for cutting is enormous, and everything in plant culture has to be looked at from that point of view. *Justicias* are bright, and flower freely, but do not last long in a cut state. A good plant or two of *Jasminum gracillimum* will be very useful. *Ipomœa Horsfalliae* is very bright, but the flowers last only one day, but a fresh supply opens every morning. *Allamandas* are gorgeous, and in a cool stove where they have plenty of room and nourishment they will last well into the winter. Among smaller things are *Centradenas*, *Plumbago rosca*, *Pentas rosea* and *P. alba*, and, of course, there should be many flowering plants of *Eucliaris Lilies*.

Renovating early-forced Vines.—If the roots have got too deep or out of hand, one need not wait much longer to set about their renovation if a good supply of tufty loam can be obtained. Get it chopped up and prepared ready for use. Bone-meal or crushed bones is always valuable in a Vine border, and there are other manures, such as Thomsons', which are exceedingly good for Vines which have been run down by over-cropping, or where the roots have got into bad condition. The work of lifting the roots may be done in September. Cover the roof with something to shade the foliage, as it is important to keep it fresh as long as possible, and use the syringe freely to the same end, and when the work is begun follow it up as briskly as possible till completed and the roots are made comfortable again. The Grape-Vine, when the roots are placed in a good rooting soil, will repair damages with astonishing rapidity.

Strawberries for forcing.—This has not been a good season for obtaining runners, but the difficulty will be best overcome by growing a few rows of young plants especially for runners for forcing, as the plants ought now to be in their fruiting pots, or, at least, ready for shifting on. Good stuff, especially as regards the quality of the loam, is essential, and it should be fortified with bone-meal and a dash of soot, and some suitable mixture of artificials. Stewed bones are quite safe, but chemical manures should be used very carefully. Many good growers use only stable-manure, but I like a little soot and a dash of bone-meal. All fruits seem to like this. The potting must be firm, and space should be left at the top to hold water, and the pots must not be too small for such strong growing sorts as *Royal Sovereign*. Six-inch pots must be used. I expect more *Royal Sovereign* will be forced than any other, but *Leader* has been highly spoken of. Size is a necessity now-a-days, and *Keen's Seedling* and *Hericart de Thury* seem to have dropped out of the running. Stand the plants thinly on coal-ashes or boards to keep out worms, and water carefully and damp the foliage daily. Keep all the runners pinched back. For late forcing, *Sir Charles Napier* is a good kind.

Window gardening.—If any plants of a permanent nature require a larger pot, now is the time to do it. Use clean, well-drained pots, and it is not wise to give very large shifts at this season, though the character of the plant will be considered. Palms, Rubbers, *Aralias*, and other fine foliaged plants may be potted now, and, in a case of emergency, *Azaleas* and *Camellias* may be potted. Very few succeed with these as room or window plants, but *Myrtles* which have been neglected of late years might be brought back to health with advantage.

Outdoor garden.—It is time now to put in cuttings of the usual tender summer-flowering plants. Tuberous *Begonias* are gradually making their way, and where the varieties are well selected they make very bright masses, but the ordinary mixtures are not quite satisfactory. I have seen them used in window-boxes in a satisfactory manner. The *Maiden's Wreath* is a charming thing in a mass in the border, and the long flower-spikes are exceedingly useful for decorative work. *Seedling Petunias* make very bright beds in dry, sunny spots. The size of some of the flowers among seedlings is enormous, but they do not stand the weather so well as the smaller-flowered kinds. Still, there is a demand for these monster

flowers. Single-flowered Hollyhocks are bright and effective, and are certainly making their way in most gardens. The Everlasting Peas are most useful and reliable. They are easily raised from seeds, and though the seedlings vary a little in colour and growth they are all useful. There has been rather a dearth of good border flowers, except such things as Gillardias and Coreopsis, which can always be counted upon. Lemoine's Hybrid Gladioli are showy, and free from disease than other forms, and good muses of the Peruvian Lily (*Alstromeria*) are bright and effective. Sow seeds of Pansies for blooming next spring. Give liquid-manure to all things which require help, and they are numerous this season.

Fruit garden.—There seems to be a general consensus of opinion among growers that "Lealer" is one of the best and most profitable Strawberries to plant, and it is always an advantage to have the best of anything. The tendency of the age is to strive after big things, and in consequence the Alpine Strawberries are neglected, but a bed of Alpines from this onwards will be useful, and if the plants are well nourished the fruit will come a good size. A punnet of Alpines on the table at breakfast will be an aid to digestion. In the matter of ripening wood in fruit-houses, the process will be completed in all early houses. If it is not, a little fire heat may still be used. Exposure to cold, damp air is not so good a ripener as the circulation of warmth. In the matter of Peaches, I have often wished for the movable lights we had in the past, for the sake of the exposure and the moistening of dry spots which had been overlooked in the borders. Trees in pots, of course, may be outside now, but the roots must be kept in a moist condition. This is the time when the buds are maturing, and if the roots are too dry, injury may be done that will show itself next spring in the buds falling. Summer pruning among fruit trees should be continued, and if the weather continues dry a good soaking or two of some quick-acting liquid-manure will be of great help.

Vegetable garden.—Cauliflowers may be sown about the 20th, or the sowing may be deferred a few days, and the seeds sown in a cold frame, or, to be on the safe side, both sowings may be made, and we generally sow a few seeds in heat towards the end of January. Early Erfurt is a good Cauliflower, with Asiatic and Veitch's Autumn Giant for succession. The Early London seems to have lost caste among growers, possibly because it seems more difficult to obtain true than was formerly the case. The same may be said about the Walcheren. Lettuce and Endive should be sown freely now, good hardy kinds being selected. Late-sown Horn Carrots may be thinned a little, but not so much as the spring-sown crop, as the roots will be used young. Keep the hoe going among late-planted Greens, as the plants are not making much growth in consequence of the drying of the ground. Give liquid-manure to Celery and Leeks, and any other crop that appears to require it. Dust a little soot from time to time over Celery to keep off the fly. Sow late Turnips after Potatoes. Spinach and Onions will come right if sown now. Sow all things in drills, and if the weather continues dry, well soak the drills with water. Sow on the damp soil, and cover with the dry soil. E. Hornay.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

August 18th.—The forwardest Primulus and Cinerarias have been shifted into 5-inch pots, and are on a coal-ash-bed in a frame in a partially shaded position, very freely ventilated. Stable-manure is being collected for making up Mushroom-beds in Mushroom-house. It will be turned and made ready in an open shed till some of the moisture and rankness has been driven off by fermenting. Vines in pots intended for next year's forcing have been placed outside to ripen.

August 19th.—Fero spores from various kinds of Pteris, Cyrtomium, Adiantum, etc., have been sown in pans filled with loam made firm, and well moistened before sowing. The pans will be covered with glass and placed in the

shady pit. They will be kept moist by dipping in a tank when required. It is best to grow one's own spores, taking them from well-grown plants in a well-ventilated house. Earthed up Celery, Sowed Spinach, Turnips, Giant Zittau Onions, and various hardy Lettuces. Gathered vegetables for pickling.

August 20th.—Chrysanthemums are looked over frequently to destroy earwigs and remove surplus growth. Some of the buds are being selected. Liquid-manure is given to plants which require feeding, but discrimination is used. Potted the first batch of Roman Hyacinths. Freesias also have been potted. Gathered seed of various hardy and other plants, of which good seeds could be obtained. Liquid-manure is given to Leeks, Celery, and Cauliflowers.

August 21st.—Made a first sowing of Cauliflowers for spring, as the ground was dry. The seeds were sown in drills, the latter being well moistened, and the seeds sown on the damp soil, covering with dry soil from the sides of the drills. There will probably be rain soon. We do not usually have to water when sown in thoroughly damp soil. It is necessary to pick over flower-beds to keep them in good order once a week or so. Cuttings are being taken.

August 22nd.—The syringe is used freely among Azaleas, Camellias, and other greenhouse plants in the open air in the evening of hot days. The buds of Camellias, where too numerous, have been thinned. All flower-buds are picked from Zonal Geraniums intended for winter flowering which are now in the open air. The watering is carefully done. A water-logged plant seldom does any good.

August 23rd.—Put in cuttings of a few really good Hollyhocks. Single joints are obtained by cutting up the side growths, and are thrust into beds of sandy soil in a close frame. They will be kept moist and lightly shaded when the sun is hot. Ventilation is given in the morning to prevent damping. The cuttings soon form roots, and are potted up and wintered in pots. Liquid-manure is given to Roses, Asters, Phloxes, Dahlias, and Hollyhocks. A few good specimen plants have been taken to conservatory, including Bougainvilleas, Plumagos, etc.

BEES.

SEASONABLE WORK IN THE APIARY.

EVERYONE in the Heather districts, very little surplus honey is stored after the end of July. Supers should therefore be removed without delay, for if left on the hive for any length of time after the cessation of the honey flow, the contents are likely to be removed by the Bees and stored in the hive. After the removal of the supers the hive should be closed up, and draughts excluded, to encourage the rearing of brood, as colonies possessing abundance of brood in August remain strong and populous during the winter and spring. Such colonies are ready for work early in the following season, while weak stocks lose much valuable time in having to rear large numbers of young Bees in the spring. Stocks strengthened at the end of the honey season by having Bees of driven hives joined to them, are of far greater value than those receiving no addition. They are better able to stand the severities of the winter, their first swarm in good seasons filling the hive with stores and brood before colonies not so strengthened in the autumn have made preparation for swarming. In the case of straw hives heavy with honey, it answers very well to remove the Bees by the process of driving, putting two or three lots of driven Bees together in one hive, and liberally feeding them on sugar syrup. If a sufficient quantity of sugar syrup be supplied—and about 30 lb. should be given, as much is used in the elaboration of wax for the construction of the combs—stocks so formed always prove profitable in the following season. It is well, however, to remember that combs made from sugar syrup are more brittle and more easily broken than those made in the natural way. If it be preferred, the driven Bees can be united to colonies that are to be kept through the winter. This is a great saving of labour to the Bees, as, of course, in this case there is no comb-

building to be performed. The hive to be driven should, after having had a little smoke puffed into the entrance, be gently removed from its stand and inverted, and, if round-topped, should be placed in a pail or pan to keep it steady. An empty skep should then be placed over it, mouth to mouth, and a cloth tied round the junction to prevent the escape of any of the Bees in their upward march into the empty skep. The sides of the tall hive should then be rapped with the open hands sufficiently hard to jar the comb; in a few minutes the Bees will be heard rushing up with a loud hum, and, the rapping being continued to keep them on the move, they will shortly be found to have left their old hive and clustered in the top one, which can then be removed and placed upon its old stand to receive any flying Bees belonging to the colony.

The reason for injecting a little smoke into the entrance of the hive to be operated upon is that the Bees thereby become alarmed and partake freely of their honey as at swarming time, and in this gorged condition they seldom sting, and consequently are the more easy to manipulate. The smoke from smouldering touch-wood, brown paper, or fustian is the best for this purpose, and should be used in a bellows smoker. When it is wished to see or capture the queen the empty skep is fixed up like an open lid by means of a skewer and driving-irons (which are pieces of stout wire turned at the ends and pointed), the algs of the hives being brought together at the point towards which the combs run. Should a time become queenless no time must be lost in uniting the Bees to a colony possessing a fertile queen. It can be done in the case of frame-hives by quietly inserting the combs, with adhering Bees, on the outsides of each colony. This should be done in the evening, after a little smoke has been injected, and the united Bees fed with a little syrup. The loss of a queen can generally be discovered by the incessant agitation of the inmates of the hive which crowd at the entrance and run about over the floor-board as if in search of something, this being continued after the Bees of other hives have settled down for the night. A queenless stock can also be saved by introducing into the hive a fertile queen. A queen-cell containing a young queen, or a frame of comb containing eggs or brood, will prove effectual early in the season. In queen introduction a queen-cage is sometimes used; in this the queen is confined when first placed in the hive lest the Bees should destroy her. By being placed between the combs for a time in the cage and then set at liberty, she is generally well received by the queenless colony.

S. S. G.

LAW AND CUSTOM.

A gardener's perquisites.—My gardener was engaged at 25s. per week, with conditional contract of four apartments and 5 tons of coals found yearly. When engaging him I distinctly mentioned that I allowed "no perquisites." Still, he argues that he is entitled to vegetables for himself, his wife, and family of six, these taken by his own hand at his own discretion, and not from me or my cook as we can spare them. Is it recognised that gardeners have all the vegetables they can use, or do vegetables come under the head of "perquisites"? A clear reply to the above will much oblige.—F. W. M.

[There is no rule of law or custom which allows a gardener to take for his own use and for the use of his family such vegetables as for that matter any vegetables as he chooses. Such, if taken by permission, would certainly be perquisites, and as you expressly stipulated that no perquisites would be allowed, it is clear that the man cannot claim vegetables as of right. This answer is written in the hope that it is sufficiently clear, but I must warn you that I profess no knowledge of Scotch law.—K. C. T.]

Photographs of Gardens, Plants, or Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

The Prize Winners this week are: 1. Mr. Geo. H. Towndrow, Kennetholme, Mulvera Link, for Rose on an old corrugated iron shed. 2. Mrs. Readman, Myrtle Park, Hereford, for wall fruit-trees in bloom.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in GARDENING free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of GARDENING, 17, Furnival-street, Holborn, London, E.C. Letters on business should be sent to the Publisher. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind really assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only taken in those directions are observed.

PLANTS AND FLOWERS.

Tradescantia zebrina (V.).—This plant requires a average winter temperature of not less than 50 degs. F., is, when not thriving well in a cool greenhouse, but among one of the best of window plants for a warm room. It should be grown in a basket or the pot should be suspended, the shoots then drooping down from a dense centre of beautifully marked foliage. A rather light, sandy rich loamy compost should be used, and good drainage should be provided, as abundance of water at the roots is needed in the summer.

Crimson-flowered Flax (Linum grandiflorum).—This is a fine showy annual which may be had in bloom from May to October by means of successive plantings. Seed sown in autumn will produce plants for spring blooming, and sowings made from March till May will yield a display in the summer and autumn. It is best sown in good rich soil, and plunged in a hot border with plenty of water, plants may be raised for the greenhouse or window during October, and November. The flowers are of a glowing crimson blue.

Dahlias failing (Portland).—Your plants are being left by earwigs, which are very partial to Dahlias. The best way of destroying them is by trapping them, or, as they are night feeders, by catching them after dark. The best traps are the hollow stems of Sunflowers or Broad Beans, from which they may be blown into a pail of boiling water. Small garden pots filled with Moss and placed in the top of stakes also form good traps. In fact, anything in which the earwig can hide during the day is useful. Gather the lavender when in full bloom, and dry it well in an airy place.

Propagating Cytisus racemosus from cuttings (B.).—This is not one of the easiest of hard-wooded plants to propagate, the cuttings often remaining for a long time before making roots. The best time to take the cuttings is when the plants are in free growth before the hot weather sets in. Cut them to three joints, and insert them in a light, well-sanded compost, planting in pots in a cold-frame, keeping them close, and shading the plants in a greenhouse, and do not allow the soil to become dry, and by the spring some will have taken root, all these can be potted off singly.

Diseased Hollyhocks (M.).—The plants are infected with the Hollyhock fungus (Fusicladium malvarum). As a rule, the best plan in such cases is to pull up the affected plants and burn them. Those which do not seem to be attacked, or, if so, but slightly, should be washed with soapy water, in which a liberal solution of flowers of sulphur has been dissolved. The sulphur will settle at the bottom of the vessel, and must be frequently stirred up when the water is being used. Sulphur is very effective in destroying almost any fungus. When in time, and may this one in its very earliest stages, but it will not do so when it is once established.

Begonias dropping their flowers (S. H. A.).—The dropping of flowers in Begonias is due to the hot weather that we have experienced this season. The first half of July seems to have tried the Tuberosa Begonia very much, for we hear many complaints of their flowers falling this season. That infectious disease known as Begonia rust is very troublesome this season; but, as we say nothing about the foliage being attacked, we presume it is only the drooping of the flowers that gives trouble. In that case it is clearly caused by a check of some kind, but what that is can only be a matter for conjecture. We can only suggest drought at the roots or the soil, while the manure used may have been in too high a state. The answer to "Paddy" on Begonias in issue 3, p. 290, may be of service to you.

Conservatory and plants (J. G. A.).—So far as we are able to gather from your letter, there is nothing really wrong with the structure itself to cause such an absence of bloom and so many general failings. We consider, therefore, there is a local cause or causes that are not clear to us. The glass predominating in the structure should, by reason of its position, favour the good growth of the plants. The fact that "Ferns do not thrive" would indicate a general absence of sunlight and sunheat, and the failure to flower at this season of the year of the very best seen Geraniums, so often brought into good bloom in cottage windows where little sun reaches the plants, would confirm this view. Then you say the Geraniums that are brought into bloom outside soon lose their flowers when taken into the conservatory, so it is obvious sufficient light and warmth do not reach the plants. In the circumstances, the only hope of turning the conservatory to account would be to make it a cool or shady tunnel, for, if Geraniums and such-like will not bloom therein, there is certainly no hope for Roses and other things that of necessity depend upon wood that is

well matured. Plants that could be recommended as companions to the Ferns are Candelabras, white and red Lapagerias, etc. If you still wish for flowering plants, greater light must reach the building, by removal of either shrubs or trees.

Tufted Pansies—when to propagate for autumn planting (E. G. H.).—There are several advantages in autumn planting; but to obtain the best results it is important that you commence operations without delay. Too often the insertion of cuttings is deferred till too late, and for this reason one hears of complaints of failure. If your requirements are not over-large, you should have little difficulty in obtaining cuttings from the plants now flowering in your beds and borders. It is only when a very large quantity of stock is needed that it is necessary to cut back the old plants. The object of this cutting back is to induce the plants to make fresh growth. If the soil round about the plants be forked over, and also mulched with some light and sandy compost, working the latter into the crown of the plants by the aid of one's fingers, a change in their appearance will be seen very soon. Copious waterings will give a much needed stimulus, and the resulting stock will be cuttings that will root very quickly. Referring again to the requirements of an ordinary individual, he can obtain just now beautiful stock pieces in the crown of his plants. These should vary in length from 2 1/2 inches to 3 1/2 inches in length, and, if rather more than ordinary care be observed, they may be detached with fresh young roots adhering. With material such as this the future is assured, and by the early days of October charming little tufts should be ready for planting out in their flowering quarters. You cannot at present do better than make up a slightly raised bed in a cool quarter of the garden for the cuttings. Let this be of a light and sandy character, and before the cuttings are inserted see that the surface is made even and level. Insert the cuttings some 2 inches apart, and allow rather more space between the rows.

Plants not growing (John Thomas).—We have always every hope of any soil that will grow a good crop of weeds; but, as you say yours will not even do this, we are rather non-plussed. Still, there must be a reason for such a failure as this, and we confess we do not know a similar instance. Are you sure you have really dug it? We ask this question pointedly, because we know instances where digging 3 inches deep has been regarded as sufficient, and, judging by the plants sent, the roots have certainly had no opportunity for descending. The few roots are in a tuft, as though the soil at 3 inches deep was quite hard and more or less opposed to roots getting through it. Provided there is a fair depth of soil, and that it has not been poisoned chemically or otherwise, we see no reason why it may not be brought into cultivation. We therefore suggest trenching, or, if the soil will not move, a double trenching, so that the whole area may be brought to a depth of 11 inches or 24 inches. This, with a further good manuring, should help matters considerably. By doing this in early autumn, and applying a further surface-dressing of old manure during frost in winter, to be pricked in with the fork in March, you may expect better results another year. We imagine a hard "pan" exists a few inches from the surface that fine roots will not or cannot penetrate, hence the plants are starved. In future abolish trenching when planting small things, as Stocks. Treading may be quite right for trees and plants of strong, vigorous growth. Smaller things, as Stocks, Asters, etc., if planted with hardfork, are best when gently firmed by the fingers of both hands pressing the soil about the stem and roots.

TREES AND SHRUBS.

The Yew-tree (Taxus baccata) (M. E.).—This is responsible for causing heavier losses to farmers than all the rest of our native poisonous plants put together. Cattle will eat green parts of the leaves and twigs of this tree, and seldom survive the indulgence. Cases in which they have not only survived, but were apparently nothing the worse for eating plentifully of Yew-leaves, have led some persons to deny the existence of any poisonous properties in the Yew. The truth of the matter, however, is that in the early part of the year the young spring growth shoots of the Yew, which are very plainly distinguishable from the older wood by the tender light green hue of the leaves, contain but little, if any, of the poisonous property, and, consequently, at that season, cattle may browse upon these young shoots to their heart's content without being anything the worse for doing so. Later on, however, when the foliage of these shoots of the Yew has become of a dark green colour, as the rest of the tree, it will also have become equally poisonous, and cattle will no longer be able to browse on it with impunity. As the poison of the Yew is rapid in its effects, it is hardly possible to save any animal that may, unfortunately, have partaken of it, and the only thing that remains in prevention by excluding the Yew from the list of trees on the farm, and by fencing carefully against it when it grows on land adjoining, if it is necessary to do so.

VEGETABLES.

Road sweepings as manure (H.).—Road sweepings are excellent for all kinds of vegetables. For Celery have the sweepings laid in a heap for a few weeks, and empty the house-slopes over it, turning it over once or twice. The best way to apply it is to dig it in; it also does well for mulching over the tops of all crops that require such assistance. It is not so rich as the manure from stall-fed cattle, as it is altogether minus the urine, which is the most valuable constituent. Use plenty of it, and the result will be satisfactory.

Woodlice in Cucumber-pits (J.).—In order to clear the pits from woodlice, remove the heating materials as soon as the crop is cleared out, then fill up all the crevices in the walls with mortar, and thoroughly drench with boiling water any portions of the pit where any of the woodlice may have found shelter. The best trap for woodlice are ordinary flower-pots, half filled with dry hay and baited with slices of Potatoes. They will congregate in these, and if emptied out every day into a pot of scalding water their numbers may soon be reduced to reasonable limits.

FRUIT.

Unfruitful wall-tree (W.).—We should expect in this case that the roots of the trees have penetrated too deeply into the earth, as we cannot believe that when the roots are near the surface healthy fruit-trees of good kinds

will, year after year, fail to produce blossoms. The remedy we should suggest would be to lift the roots, doing the work at the end of next October. Keep the trees clean and free from insects, and the shoots should be trained in thinly, and be well exposed to the sun.

Fig-tree not fruiting (B.).—Probably the Fig-tree requires more exposure to sun and air to mature its wood than can be had under the Peaches. The Brown Turkey Fig would be the most likely kind to bear well in such a position. Keep the young shoots very thin.

Watering a Vine border (A.).—The water given to an outside Vine-border, the Vines in which are just colouring their fruit, must entirely depend upon the weather. If it is hot and dry the soil should receive enough water at all times to keep it quite moist, but after the Grapes are coloured as they are wanted to hang for some time less water will be needed, but it would be unwise to let it become quite dry. As the Vines are heavily cropped they will take a good deal of moisture with advantage, and it would be a good plan, if the weather is dry and hot, to give a thorough soaking of water now, and this should carry them on for two or three weeks when more may be given. Air should certainly be left on the house at night as well as by day.

SHORT REPLIES.

Oakley.—If the autumn is favourable the Grass may require cutting, which should be done at first with the scythe, but if not it is better to leave it until the spring till you find it requires mowing. If the ground is well done, no artificial manure will be required. Roll after sowing, and beat it down to make a good bottom. Percy S. White.—Yes, the Logan Berry may be increased in the same way as the Blackberry—viz, by layering.—John Penhall, M.D.—I should say "Villa Gardening" from this office, privo 68, post free, should answer your purpose.—S. D. Broten.—Caused, no doubt, by the cold, unseasonable weather that you say you have had in your district. The same thing has happened in many Southern gardens.—Lawrence C. Higgins.—The only reason we can give is that in all probability the plants are too thick, and are thus starved.—Richard.—You had better get "Hobday's Villa Gardening" from this office, price 6s. 6d., post free.—Marion Fowler.—See reply to "W. T. G. H." in "Asters" talking, in our issue of Aug. 2, p. 328.—W. Harrison.—The only thing we can suggest is an oil-lamp for such a small house.—P. M. G.—It not too large, the best thing you can do is to lift it and replant, adding some good loamy soil about the roots. The soil in which it is growing is evidently very poor and thin.—Muscat.—See article on "Air-roots on Vines," in our issue of July 5, this year, p. 244.—A Nuisance.—See reply to your own query under initials "A. N. T.," in our issue of August 9, p. 317, under the heading "Short Replies."—Gardener, N. B.—Many such have been raised from seed.—R. S.—See reply to "Kustic" in this week's issue, p. 329. Evidently your Pear-tree roots have gone down into a bad soil, and must be lifted and brought nearer the surface. Try this, adding some good loamy soil round the roots.—S. Ribbans.—See reply to "Fowler Ward," re "Flgs failing," in our issue of Aug. 9, p. 335. Other query next week.—Constant Reader. The number you inquire about can be had of the publisher, price 1/6d., post free.—R. W. Z.—We suppose you refer to Gunnera scabra, which was figured in our issue of Feb. 10, 1900, p. 651. This can be had of the publisher, post free, for 1/6d.—F. J. B.—It is quite impossible to assign any reason for the death of your plants. Are you quite sure that you followed the directions issued with the insecticide?—E. W. L.—No, grow on the Cucinerias freely without any special, taking care to grow them cool and keep clean. Yours must have been very fine plants.—2. You get no idea as to what size of pots your Vines are in.—Christus.—We do not know to what weed you refer. The best thing you can do is to employ someone to look after the churchyard, mowing the Grass when necessary and keeping the paths, etc., tidy.

NAMES OF PLANTS AND FRUITS.

* Any communications respecting plants or fruits sent to name should always accompany the parcel, which should be addressed to the Editor of GARDENING ILLUSTRATED, 17, Furnival-street, Holborn, London, E.C. A number should also be firmly affixed to each specimen of flowers or fruit sent for naming. No more than four kinds of fruits or flowers for naming should be sent at one time.

Names of plants.—Matthias Craven.—We cannot name Horista flowers. Any hardy plant nurseryman should be able to supply Pink Napoleon III.—Aberny.—Botanogonon Butans.—J. C. Harrop.—The Japanese Bell (Humulus japonicus) is an annual.—V. D.—Periplora green.—Helen H. Menck.—Helesterium autumnale.—David Turner.—Hedychium Gardnerianum.—E. R. Hammerley.—We cannot undertake to name floriate flowers, such as Roses, Pelargoniums, Carnations, etc.—Torynay.—Sedum trifidum.—Miss Mainwaring.—1, Specimen insufficient, should like to see leaves as well; 2, Mueveralia rosea.—T. W. Quarmby.—Asparagus plumosus. Easily increased by division in the spring, or it can also be increased by seed.—Judy Audrey Ryder.—1 and 2, Not recognised; 3, Probably Sedum album, should like to see lower part of plant.—H. V. M.—Specimen insufficient.—Husko.—1, Lantana nuda var.; 2, Diplazium esplentenii; 3, Cape Adiantum (Flemingia papilion); 4, Begonia acaulis.—C. A. H.—Campanula pusilla alba.—Clare Grindley.—The Smoke-tree (Rhus Cotinus). Easily increased by root cuttings, layer, and seed.—David Jones.—1, tierculium arantianum; 2, Campanula Rapunculata; 4, Campanula persicifolia; 6, Alyssum sp.—Oakley, Preston.—Lavender Cotton (Santolina incana).—Mrs. Gee.—Should like to see complete flower and leaf sent in small box.—Alice M. Beseford.—Quite impossible to say from such a dried-up specimen and with no particulars.—Watson.—Achillea ptarmica The Pearl.

Catalogues received.—James Veitch and Sons, Chelsea, S. W.—Hardy Trees and Shrubs; Bulb Catalogue for 1902; New Fruits, Noctules, etc.—J. Van Reizen and Son, Voorhout (Holland).—Wholesale Price List of Dutch Fruits and Plants.

GARDEN & PLANT PHOTOGRAPHS, 1902.

THE EDITOR OF GARDENING ILLUSTRATED announces Photographic Competition for the season of 1902.

Class 1.—SMALL GARDENS.—A prize of FIVE GUINEAS and a SECOND PRIZE OF THREE GUINEAS for the best ten photographs or sketches of picturesque small gardens, including town and villa gardens, rectory, farmhouse, or cottage gardens.

Class 2.—FLOWERS AND SHRUBS OF THE OPEN AIR.—A prize of FIVE GUINEAS and a SECOND PRIZE OF THREE GUINEAS to the sender of the best series of not less than twelve photographs of the above. These may include wild plants or bushes, or any plant, flower, or shrub grown in the open air, including also half hardy plants put out for the summer, and either single specimens or groups, or the effects resulting therefrom, in beds or borders. Shoots also of rare or beautiful plants photographed in the house may be included in this class.

Class 3.—INDOOR FLOWERS AND PLANTS.—A prize of FIVE GUINEAS and a SECOND PRIZE OF THREE GUINEAS for the best series of indoor plants—greenhouse, stove plants, Orchids, or any other plant not of the open air—either single shoots, plants, or specimens, or the effects resulting from good grouping or other arrangements of such plants separately or in association with others. Ferns or groups of Ferns in houses may be included in this class.

Class 4.—BEST GARDEN FRUITS AND VEGETABLES.—A prize of FIVE GUINEAS and a SECOND PRIZE OF TWO GUINEAS for not less than twelve photographs of the best kinds of garden fruits and vegetables, Grapes, Peaches, Apples, Pears, Plums, Cherries, or any other fruit grown in Britain, to be shown singly or on the branches. Overcrowding, as in dishes at shows, should be avoided. The aim should be to show well the form of each kind, and as far as may be life-size. The object of this is to get good representations of the best garden fruits and vegetables under the old names, though we do not want to exclude real novelties when they are such.

Class 5.—GENERAL SUBJECTS.—A prize of FIVE GUINEAS will be awarded for the best twelve photographs of any garden subject not included in the previous classes, such as water gardens, waterside effects, rock gardens, picturesque effects in gardens, vases, cut flowers, table decorations, and pretty garden structures.

All competitors not winning a prize will for each photograph chosen receive the sum of half a guinea. In order to give ample time to prepare good photographs the competition will be kept open until November 29th, 1902.

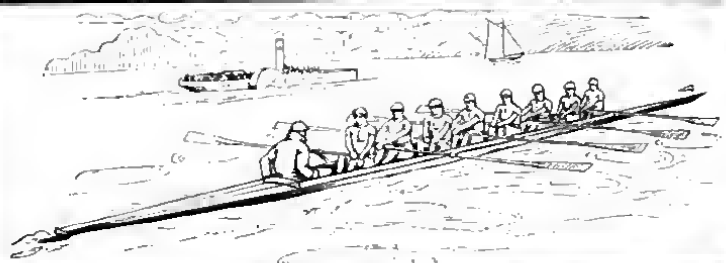
WHAT TO AVOID.—Cut flowers or plants should not be arranged in vases with patterns on them. Backgrounds should be plain, so as not to come into competition with flowers. Figures of men or women, barrows, watering pots, rakes, hoes, rollers, and other implements, iron railings, wire, or iron supports of any kind, labels, and all like objects should be omitted from these photographs. Dwarf flowers are ineffective when taken directly from above. The camera should be brought low down for such. All photographs should be mounted singly, and not several on a card. They should not be mounted on cards with black backs, and the photographs should not be less in size than 5 inches by 4 inches. The subjects should not be overcrowded. The following are the rules to be observed by all competitors:—

FIRST.—The photographs may be of objects in the possession of either the sender or others; but the source whence they are obtained must be stated, and none the copyright of which is open to question must be sent. There is no limit as to number, and no fee to pay. The Editor is to have the right of engraving and publishing any of the chosen photographs. The photographs may be printed on any good paper that shows the subjects clearly. Platinotypes and bromides should not be sent, but those on albumenized and printing out papers are preferred for engraving. All photographs should be properly toned.

SECOND.—The name and address of the sender, together with the name and description of the objects shown, should be plainly written in ink on the back of each photograph. Care should be taken to avoid the ink being seen on the face of the photograph. This is very important.

THIRD.—All communications relating to the competition must be addressed to the Editor, 17, Farnival-street, Holborn, London, E.C., and the class for which the photographs are intended should be marked on the parcel, which must also be labelled "Photographic Competition." Unsuccessful competitors who wish their photographs returned must enclose sufficient postage stamps for that purpose.

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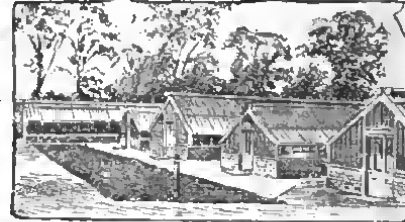
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GARDENING ILLUSTRATED.

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Founded by W. Robinson, Author of "The English Flower Garden."

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PLANTS AND FLOWERS.

INDOOR PLANTS.

GROWING FIBROUS-ROOTED BEGONIAS.

It will be much obliged if you will give me some hints as to the culture of the very useful perpetual-flowering Begonia? I have Haageana, President Carnot, Gloire de Beauv, Gloire de Lorraine, A. Malet, metallic, corallina, and others. The principal points on which I ask for information are: 1. Should they be cut back, and if so, when? 2. What amount of heat do they require? 3. Do moderate stove-houses, an intermediate-house, and a cold-house. 4. Do they require nutriment, and if so, of what nature? They are not much grown hereabouts, and gardeners are ignorant as to them.—R. N.

The different Begonias included in this section have within the last few years made a considerable advance in popular favour. Generally speaking they are of easy culture, and cuttings are not at all difficult to strike, and a soil consisting of two parts loam to one part each of leaf-mould, and well decayed manure, with a little sand, will suit them well. Most of them are valued more for the sake of their flowers in the winter than at any other season, hence the cuttings are usually struck in an early spring and the plants grown on throughout the season, so that by the winter they will be well furnished specimens ready to commence flowering.

Cutting back will depend upon various circumstances, as many of them may be grown in large and handsome specimens—that is, if you have room for their full development. To carry this out they will need to be shifted annually into larger pots. If, however, you prefer smaller plants, the most satisfactory way is to allow them to bloom as long as they are effective, and when this stage is over to fill their place with young ones grown from cuttings for the purpose. Where there are no young plants in reserve this cannot, of course, be done, in which case the old plants should be cut down about April, and as soon as they start into growth be again repotted. For this potting a considerable portion of the old soil may be removed, but, of course, not sufficient to distress the plants. When the old plants are cut down they must be kept somewhat drier at the roots till the young shoots make their appearance. Most of these Begonias are what may be regarded as intermediate house plants—that is to say, they will do with a greenhouse temperature in the summer, and to flower in the winter they want more heat—indeed, if flowers are required at any particular time they may, if necessary, be taken into the stove to their advantage. Generally speaking, however, an intermediate house temperature is the most suitable for them. As the pots get full of roots and the flowers develop, a stimulant in the shape of liquid-manure is very necessary. The best manure is made from sheep or cow-dung with a bag of soot dissolved in it. Failing this, any of the concentrated manures, of which numbers are now sold by horticultural sundriesmen, may be used, but though very swift and certain in their action, and cleanly to use, they have not the lasting properties of natural manure.

CULTURE.—A few words as to the culture of these Begonias, apart from the items above enumerated, may be of service. In taking the cuttings in the spring the clean-growing shoots should be chosen, not those that have flowered until they are almost, if not completely, exhausted. A length of 3 inches to 4 inches is a very suitable size for the cuttings, which should be taken off at a joint, the bottom leaf or leaves removed, and dibbled into well-drained pots of sandy soil, such as equal parts of loam, leaf-mould, or peat, and sand, the whole passed through a sieve with half-an-inch mesh. Then, if placed in a close propagating case in an intermediate or stove temperature they will soon root. Directly this takes place more air must be given, and as soon as possible pot the cuttings into 3-inch pots. When the roots take hold of the new soil pinch out the tops of the young plants in order to induce a bushy habit of growth, and as soon as they are sufficiently advanced they may be potted into 5-inch or 6-inch pots, according to their vigour. During the summer, when growing, a cold-frame is a very suitable place for them. These remarks, however, must be taken as general, for with the varied selection now obtainable no hard-and-fast line can be laid down—for instance, Gloire de Lorraine and its variety Turnford Hall (the best of the light-coloured forms), need different treatment. They usually decline in blooming by February, when the plants may be partially cut back and kept somewhat drier for a month or so. After this, if taken into a little more heat, they will push up shoots from the base, and when these are from 1½ inches to 2 inches long they form the best of cuttings, if taken off with the thickened base from whence they spring from the old plant. Beside the varieties enumerated in your letter, which are, however, among the very best, there are numerous others, all of which are well worth cultivation—viz., Carrière, a free-flowering white kind particularly valuable for winter; Dregei, white, very free, and of interest as being one of the parents of Gloire de Lorraine; fuchsioides, bright red; hybrida floribunda, coral-red; insignis, pink; Knowlesiana, bluish; maui-cate, flowers small but borne in large branching spikes about February, when it is very attractive; Paul Braunt, pink; semperflorens gigantea rosea, one of the most useful and most robust in constitution of all. Of semperflorens, too, there are several double-flowered varieties of comparatively recent introduction which are very pretty, and attract by reason of their distinct appearance. Of those that have come under my notice the best are: Bijou des Jardins, carmine; Boule de Neige, white; and Stuttgartia, pink. A delightful species of Begonia for a hanging-basket is B. undulata, known also as B. glaucophylla and B. Comte de Limminge, which was recently figured in GARDENING ILLUSTRATED.—T.]

Gloxinias.—The needs of Gloxinias just now are shade from hot sun in the day, and, if the weather proves cold, a fire in the stove at night and the cold water. Dryness at the roots must also be guarded against, and in

staging in the house on which fine ashes are spread and can easily be kept damp suits them. Under no conditions are they better grown than when in the warm, humid atmosphere, such as that of a Cucumber-house, and the partial shade under the Vines is calculated to bring out their lovely colours and retain them for the longest possible time.—LEAHURST.

FLOWERS AND VEGETABLES FOR MARKET SALE.

(REPLY TO "BROWN EYES.")

It is well at the outset to say that oven with two greenhouses heated you must not expect to obtain from them any great deal of stuff to sell during the winter. You would probably find the cost of heating the houses, and growth would be slow unless well heated, would equal if not exceed the profit derived from the produce. Market work seldom pays, except when it is conducted on a fairly large scale and by experienced growers. Of vegetables with a heat ranging from 65 degs. to 75 degs. you may grow Cucumbers, and with a warmth 10 degs. less you may grow Dwarf French Beans, such as Ne Plus Ultra, in pots, keeping up successional sowings all the winter at least once a fortnight. So much would then depend on the sort of market you found. Winter Tomatoes will not pay. If you had raised every year from root cuttings several hundreds of strong roots and crowns of Seakale to force in a dark place, that might prove the most profitable. Asparagus and Rhubarb would need so much room and long culture to make forcing roots. Of fruit, if you had put out each year early strong runners of Royal Sovereign Strawberry, from which to obtain strong early runners to lay into pots in the summer, not allowing the plants to carry flowers, and later got these rooted runners shifted into 6-inch pots, and put them in warmth on shelves near the glass in betches from January onwards, you might get from them good fruit to sell. As to flowers, your best would be Roman Hyacinths, clumps of Lilies of the Valley, various Daffodils, all grown in pots, white Azaleas, some late white and yellow Chrysanthemums, scarlet Van Thol Tulips, white-flowered Cyclamen, The Bride, Niphetos, and Catherine Mermet Roses in large pots, scarlet Salvias and some strong white and yellow Paris Daisies. But, of course, of these things you need a constant succession to keep up a supply of flowers for several months.

NOTES AND REPLIES.

Dielytra spectabilis in pots.—For blooming early in the year in the greenhouse this Dielytra is charming, its rosy-pink blossoms bearing a marked contrast to others then in season. It is one of our hardiest herbaceous perennials and forces easily, so that those who desire variety amongst their bulbs, etc., cannot do better than pot up a few clumps this autumn, placing them in a cold frame or shed until they have become established. Dielytras really need little heat to bring them into bloom, but like Spiraea and Clematis they are very thirsty.

subjects; on this account some take the precaution to place the pots in saucers to avoid their becoming dried up.—LEAHDURST.

Greenhouse sundries.—During the summer months it is a good plan to overhaul one's stock of flower-pots, washing them, if at all dirty, so that they may be at hand clean and ready for use in the autumn. Seed-boxes, also, often need a little attention before they can be brought into use, either for growing cuttings or seed sowing later, and if seen to in time such boxes often last for years. Opportunity should also be taken to get together a supply of potting material, turf stacked together, a heap of rotted stable-manure, leaf-soil, sand. There is no time like the present to procure these, so that the work of potting plants and cuttings may proceed without interruption when the time arrives.—W. F. D.

Striking Coleuses.—If it is desired to increase the stock of Coleuses at this time of the year, then no opportunity must be lost to get in the cuttings at once, as they will strike freely. How few there are after all who grow more than a few in their houses, and, really, the trouble of keeping them in the warmest part of the house the winter through does not always guarantee their surviving, for in March they sometimes damp off. Far better, I think, raise plants from seed, or purchase the few wanted in spring.—WOODCASTWICK.

The Maiden's Wreath (*Francoa ramosa*).—A couple of plants of the Maiden's Wreath that are kept in the window of a house I pass daily have been in bloom for many weeks in succession. One of the reasons why these particular plants have done so well, and they are always in the window the year round, is because the inmates believe in fresh air, and above anything else Francoas need it. Although they last for years in the same pot, young plants bloom more freely, and bearing this in mind, one should be prepared with seedlings, and to this end seed should be sown in March or April. Good loam, with manure added, is what they do best in. The blooms of Francoas can not retain their freshness some time.—WOODCASTWICK.

Lilies in pots after flowering.—Can you give me the proper treatment of pot Lilies, such as auratum and longiflorum, after they have done blooming?—E. A. R. W.

[Your Lilies may be placed out-of-doors and watered as before till the leaves turn yellow, when the supply must be diminished, but at no time must they be parched up. Then when the flower-stems are quite dead re-pot them. If the roots are in good condition pots 1 inch or even 2 inches wider may be used. They should be stood out-of-doors for a time in a sheltered spot, under which treatment the roots will soon take possession of the new soil. Then when frost sets in remove them to an ordinary garden frame or to the greenhouse. As soon as they commence to grow see that they have as much light and air as possible. You will find that as a rule those kept over from the preceding year flower somewhat earlier than freshly imported bulbs.]

Making up Violet-beds (*N. W. L.*).—When and how to prepare beds for Violets, for blooming during the winter, will soon be engaging attention. The middle of September will be found early enough to remove them from the beds where, as runners, they were planted early in the season, and in digging them up care must be exercised, in order that the roots may not be disturbed any more than is absolutely necessary. Very often promising crowns have been ruined, so far as winter flowering is concerned, by a rough and ready method employed in shifting them to a frame. The best of all composts is good fibrous loam, leaf-mould, and sand, with a fair proportion of rotted stable manure, but there, again, one must be satisfied that the manure has stood and become "mellow," as new manure, still fermenting, is another cause of failure on the part of the new grower. I once saw a frame full of promising plants sicken and go yellow in a few days, simply the result of over-kindness by making up the bed with new stable manure. Manure that has stood in the open six or nine months is what is required, and if it can be got composed partly of cow-dung so much the better, but rather than run the risk of new I would stick to turf-pit and leaf-mould.—TOWNEMAN.

ROSES.

QUICK-GROWING ROSES FOR WALLS, ETC.

I HAVE just taken a house with an old garden of great possibilities. I wish to go in specially for quick-climbing roses, as the house and garden lend themselves, I think, to the same. You are so kind in giving full particulars to your readers, that perhaps you will not mind affording me the benefit of your advice. At present the garden, which faces S.S.W. and S.E. respectively, contains a good many Rose-trees in the beds, and, as climbers, a couple of fine *Gloire de Dijon*, and an old-fashioned white cluster Rose. The ground is high (40 feet above sea level), soil rich and loamy, plenty of air and space. Would you mind giving colour as well as names?—E. D. ROSEK.

[Although you say your soil is rich and loamy, we would advise you to have the borders well prepared, especially as regards drainage. As you desire the walls covered quickly, it is not merely essential to select fast growing kinds, but they must be encouraged to grow quickly by affording them a good root-run. We should advise you to prepare the borders quite 3 feet deep, adding some good lasting fertiliser in the form of $\frac{1}{2}$ -inch bones. Such a manure as this is safe and most supporting. Moreover, it can be supplemented by annual surface dressings of farmyard manure. We append a list, with colours, as requested, placing the varieties in order of merit.

FOR WALLS.—Reve d'Or, apricot and daisy yellow; Climbing Niphetos, pure white; Climbing Kaiserin Auguste Victoria, creamy-white, a splendid Rose; Reine Marie Henriette, light crimson, a well known Rose, sometimes badly attacked with mildew; and Climbing Perle des Jardins, golden-yellow, the next best to Maréchal Niel, which should succeed well if given a sheltered corner and not overcropped. If you would prefer Maréchal Niel, plant a half-standard of it against the wall, and prune back hard the first spring. Climbing Devonensis, a grand old kind with flesh-white, fragrant blossoms of great size, should be allowed to ramble at will for a year or two, and then all the hard wood carefully laid in, pruning back the laterals only, save cutting out any worn-out wood. Waltham Climber No. 1, bright red, lovely in bud, is as regular in petal as a Camellia. Souvenir de Mme. Joseph Meitral is a splendid flower of exhibition size and of a cerise colour. Lamarque, one of the favourites of hygone years, is even to-day unsurpassed, although very tender; the sulphur-white buds and blossoms are very beautiful. Jaune Desprez is a free-growing and hardy kind, of mixed colours—red, buff, and sulphur. Fanny Stolwerck has coppery-carmine buds, open flowers yellow and rose. Noella Nabonnand bears huge semi-double flowers of velvety crimson colour and exquisite buds.

FOR ARCHES.—As you ask for Roses of better quality than the Crimson Rambler, we name the following, the first seven being large-flowered kinds: Mme. Berard, apricot and salmon; Mme. Alfred Carriere, blush-white, distinct and beautiful; Celine Forestier, pale yellow flowers, flat, a well-proved variety of sterling worth; William Allen Richardson, unique in colour, which is orange-yellow; Reine Olga de Wurtemberg, a semi-double crimson, almost evergreen Rose of wonderful vigour; Marie Lavallee, a lovely semi-double flower of delicate beauty, rose and white in colour; and Chasunt Hybrid, which is not admired exactly when fully out, but the buds are pretty, colour magenta. Any of the above would also be good on the walls. The following are grand Roses for arches, and although small in blossom, they make amends for this by their profusion: Electra, yellowish-white; Claire Jacquier, nankan-yellow; Flora, pink and white; Euphrosyne, pink; Thalia, white. We have not named Felicite-Perpetue, as from your letter we believe you already possess the variety. There is one Rose, not so very fast in growth, but indispensable on wall or arch, and that is Deschamps or Longworth Rambler; colour bright carmine, splendid in autumn.

Whilst the climbers are making their growth you could very well plant between each pair some of the less vigorous Teas, such as Marie Van Houtte, Catherine Mermet, Souvenir d'un Ami, etc. They would afford you a quantity of blossom. Such varieties will frequently attain a height of 8 feet to 10 feet on a wall.]

PRUNING VARIOUS CLASSES OF ROSES.

IN an early issue would you kindly tell me how and when to prune the following or other classes of Roses—viz., Hybrid Perpetuals, Teas, Noisettes, Scotch, and other climbers, and the reasons for same?—G. B. BASKETT.

[The Hybrid Perpetuals, Hybrid Teas, Teas, and, in fact, all Roses not climbing, are pruned in spring, generally early in March, and we would refer you to our back numbers for full information on this important subject. But there is such a thing as summer pruning of Roses. With the Teas, Hybrid Teas, Hybrid Perpetuals, and all classes that flower again in autumn, it is a good plan to go over the plants and slightly prune the growths that have flowered. This consists in removing an inch or two from the shoot, cutting them down to the first plump bud. The work needs to be done very carefully, for we must not remove more foliage than is necessary, neither is it advisable to prune too low, as by so doing the bottom eyes are induced to start, and this would be a misfortune, as they will be required for next season. Scotch Roses, Rugosa, Austrian Briers, etc., are best left alone beyond thinning out the growths when they become too dense. Climbing Roses that flower again in autumn, such as the Teas and Noisettes, benefit considerably by a good thinning out of the weakly and old wood as soon as the first flowering is over, carefully preserving all sound, well-ripened growths, and spreading them out to admit light and air. Do not on any account shorten the long growths formed this season—at least, not at present. Next month they might have their points pinched out, which would tend to ripen the growth better. Rambler and other rampant growers of summer blooming habit are best thinned in September, and very little, if any, pruning is required in spring. Where such Roses have grown luxuriantly they should be carefully taken down from their supports and overhauled, cutting out the old and dead wood and any that looks debilitated, afterwards carefully tying out the best young wood. It is quite true that one meets with old specimens that have, perhaps, received no pruning whatever, and they are a sheet of bloom. This is quite true, but if the plants had been well thinned from the commencement, the trusses of bloom would have been finer, and the flowers of a better colour.]

TWO CHARMING POLYANTHA ROSES

THE very interesting group of dwarf Polyantha Roses is of comparatively modern introduction, one of the first varieties, Paquette, having been introduced by Guillot some twenty-seven years ago. Their origin is supposed to be the result of crossing *Rosa multiflora simplex* with a Tea Rose. Now we have quite a charming group, two of the best recent novelties being Eugenie Lamesch and Leonie Lamesch. The former has tiny Ranunculus-shaped blossoms, orange-yellow in bud, prettily tipped with crimson, changing to pale yellow as they expand. It rarely exceeds 18 inches in height, and is therefore useful as an edging or for small pots. It was raised by crossing Aglaia with William Allen Richardson, and is a very remarkable hybrid, seeing that the two parents are very vigorous-growing kinds. The great merit of this Rose is its diminutive blossoms. One does not care to see the group developed into a large-flowering one after the style of the Tea Rose. Already we have some varieties that nearly approach the Tea, for instance, Mosella, which has flowers almost as large as Hon. Edith Gifford. This is a departure in the wrong direction. What is wanted is very tiny flowers in huge clusters of all the lovely colours seen in the Teas. Leonie Lamesch is vivid coppery-red, if the word coppery conveys any meaning. It is really an intense orange shading, which merges into a red, with terracotta edges to petals. There is no more remarkable Rose in colour than this one. The one fault of the variety appears to be its inability to expand well, the petals seeming to be marred at the edges. Leonie Lamesch resulted from a cross between two seedlings. Both kinds named above were raised by Herr Lambert of Trier, Germany. Especially lovely are the snowy-white Anne Marie de

Montravel and Schneewitohen, recently noticed in these pages, also another charming white, Kathenna Zeimet. ROSA.

ROSE WHITE MAMAN COCHET.

The popularity of this splendid Rose increases every year. This season I think it has been the loveliest variety in our large collection. In White Maman Cochet we have a variety of vigorous growth and an abundant blossoming habit—good points in a garden Rose. As a white Rose the variety under notice is superior for outdoor culture to The Bride, although that lovely variety is good in a sheltered garden. To obtain the greatest perfection of blossom in White Maman Cochet and, indeed, all large Tea Roses, they should be upon half-standard Briers. There is something about the hedge Brier that gives character to these lovely Teas. The only disadvantage of having many of them is that they are not readily protected against severe frosts. I am much in favour of lifting the trees in November and heeling them in under a north wall or fence. Should the winter be severe it is an easy matter to cover with thatched hurdles or lean boards against the wall, previously covering the branches with dry Fern or straw. I would advise all who can

to be seen. A better way of showing how little we get out of the Rose as a standard could hardly have been devised. Here and there, it is true, a variety is so like the stock in character that it succeeds in making a handsome old bush, particularly the red Roses, but generally the standard Rose-tree is a delusion.

Rose Rainbow (H.T.).—This pretty striped sport from Papa Gontler is very interesting. Generally speaking, striped Roses are not much admired, but in this case the pretty markings of bright carmine upon a fresh pink ground seem to harmonise so well that all objection is dispelled at once. It is a useful long-budded variety, flowering freely.—Rosa.

Rose Ormeon Rambler.—According to my experience, no real success can be had in the culture of this Rose without high feeding. It is of a very vigorous habit, making when established, growths some 20 feet long, but it will not bloom freely unless the roots get abundance of food from the time the plants start into growth. In planting the soil should be well stirred to a depth of 3 feet, adding a good dressing of rotten manure, which will carry the young plants along very well for the first year without further aid. In following years a top-dressing of manure should be applied in the beginning of the winter, so that the plants get the benefit of it by the time they start

parations next month. It is better to devote a bed or border to the plants rather than dot them about here and there. Do not have the beds too large. Five feet across is ample. Trench the soil two spits deep, working in a liberal amount of well-rotted manure. Allow the soil to lie as roughly as possible until November, which is the best month to plant Roses. Be careful how you plant, for upon the work being well or badly done success or failure will depend. After unpacking the Roses great care is necessary, so that the roots are not unduly exposed to sun or wind. It is best to moisten them and roll them in a mat, taking out one at a time to plant. Mark out positions of plants in bed, then dig a hole about 1 foot square. An assistant should hold the plant in the hole, having previously trimmed off any jagged ends of roots, and then carefully spread out the latter; the planter then shovels in the soil, keeping the junction where the plant is huddled just beneath the soil, and treading the latter firmly round about the roots. If the variety is a tall grower, either shorten the shoots to 2 feet or so or give them a Bamboo-cane. After planting, lightly fork over the soil. To make them all safe, moulh up the base of each plant to a depth of 3 inches or 6 inches with soil, and you may rest assured that very little harm will befall them.]

Red Roses for a trellis.—I have a trellis 9 feet high running on the south side of a croquet lawn on the side of a chalk hill. I am taking the soil out to a width of about 3 feet, and filling it up with clay (ought this to be burnt first), road-scrapings, and short London manure. Will you kindly give me the names of some continuous blooming Roses, or Roses that have a double season of flowering? I want them bright red. I thought of Bardou Job, Gruss an Teplitz among them, or do you advise that new Rose, Noella Nabonnaod, or the whole length planted with a deep red China Rose, or would the whole trellis planted with Mme. E. Resal be best? Does this Rose flower twice in the year? I want a broad effect, and to last for some time. In front I thought of planting a thick row of Lilium candidum and lancifolium—they both do well with me. The length of my trellis is about 30 yards. How many Roses should I need to cover the trellis quickly—what distance apart?—T. C. SKERRATT.

[If you are able to procure locally some top-spirit of meadow loam we should advise you to mix this with the clay, road-scrapings, and short manure. Quite one half of the compost should be loam, if procurable, otherwise, if you are compelled to use mainly the clay, then it must be disintegrated in some way, either by the action of wind and frost or by burning. The varieties you name—Bardou Job and Gruss an Teplitz—are both excellent, especially the latter. It blossoms almost continually, is really a very good flower of pretty form, brilliant colour, and delicious fragrance. This Rose would not cover the 9-feet of space very rapidly, but you could plant some standards of Gruss an Teplitz in order to have blossom on the top of trellis fairly quick. An alternative plan would be to plant Noella Nabonnaod and Climbing Cremoise - Superieure alternately with Gruss an Teplitz and Bardou Job, the two former growing, as they do, more vigorously could have their growths trained horizontally when top of trellis is reached. Two other charming kinds to mingle with the four already named are Longworth Rambler and Gloire des Rosomanes. As you desire a quick effect plant 2 feet 6 inches apart. Whilst the stronger growers are filling out the space allotted to them a few plants of the brilliant Chim Fabvier could be planted in any vacant space on the trellis, to be afterwards removed if required. Mme. Eugene Resal is not strong enough in growth to cover a fence of this description even if it were red. It is a splendid continuous blooming Rose, the colour being rich rosy-pink. We think until the trellis is covered the Lilies should not be planted, as they would hinder the Roses from making growth as is desirable.]



Rose White Maman Cochet.

spare the time and have the means of access to country meadows to obtain some of the hedge Briers for themselves this coming October. They would find the work interesting, and one is sure of the Briers taking well if they are carefully planted the same day. A friend of mine obtained as many as seventy of these half-standard Briers in one day last autumn, and when I saw them recently they had made splendid growths, upon which he had budded the above Rose and many others. The only fault in White Maman Cochet is a tendency to become divided in the centre, but this is not nearly so frequent in the white as in the pink form. I believe that both Roses should be grown in rather a light soil. They seem to grow too rank in that of a clayey nature. It has been suggested that the Rose does not require manure, but I differ. I am of opinion that some phosphatic manure is of much assistance to the large blossoms, although this should not be overdone. ROSA.

NOTES AND REPLIES.

Standard Roses in Battersea Park.

Anybody who wishes to enjoy the beauties of standard Rose culture will see a farcical exhibition of them by one of the gates at Battersea Park, near the station. There are many trees with a few leaves and little branches on top, some of them dead, but not a flower anywhere

into growth. In the case of good-sized specimens a heavy coat of manure will be necessary or any good concentrated stimulant will serve the purpose, not waiting, however, until spring, but applying it in winter, so that it may be dissolved and carried down a couple of feet into the soil. As regards pruning, very little will be needed for the first two or three years; in fact, it is better to let the growths remain intact for a couple of seasons. When they become very crowded, some of the oldest growths should be cut out, which will promote the formation of strong shoots from the base.—C., Ryfield.

Roses for planting.—Can you give me a list of fifty Rose-trees suitable for a medium soil? I am not in want of fifty different kinds. I should not object to two or three of some varieties. I want them to be either H.P. or H.T. What preparation should I make for planting? I want some good Roses, but not for the show-board. Any information respecting varieties and planting will be thankfully received.—NOVICE IN ROSES.

[You will do well to put yourself in the hands of a good reliable Rose grower, and tell him what you prefer, and also describe the soil. It is far better to have a dozen good kinds—four or five plants of a kind—rather than a big collection. Roses of the type of Caroline Testout, Mrs. W. J. Grant, Gloire Lyonnaise, Fisher Holmes, Clio, etc., are what you require, and, when ordering, it would be best to mention these Roses as being the style you prefer. You should commence your pre-

Photographs of Gardens, Plants, of Tree.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

The Prize Winners this week are: 1, Miss Wakefield, Nutwood, Grange-over-Sands, for Iris under Laurels; 2, Mr. Geo. E. Low, for Platycodon Stommaria.

CHRYSANTHEMUMS.

CHRYSANTHEMUMS FOR DECORATION AND CUTTING.

THE craze for large blooms is responsible for the decline of those sorts which produce their blossoms in abundance, the feeling uppermost in the mind of most Chrysanthemum enthusiasts being to produce blooms as large as possible. The small to medium-sized blooms have little to interest the ordinary Chrysanthemum exhibitor, as very rarely indeed are these useful blossoms seen, excepting perhaps in the exhibit of a decorative character, and then only to a very limited extent. One of the greatest mistakes a grower can make is to confine himself to what are usually termed exhibition varieties. After all, the period covered by the November exhibitions is very restricted, and during this time most of the best blooms have been cut, and often but little in the way of flowers remains to keep the greenhouse or conservatory bright in the dull season. It is the comprehensive character of the free-flowering kinds which enhances their value; they begin to blossom as early sorts in September or earlier, and continue through succeeding months until late December or early January, and by a special system of culture they will continue their display well into March. In the case of the large exhibition varieties, when their two or three blooms have been gathered, the plants are useless, except for stock, and then for months the old stools are not particularly interesting. The decorative Chrysanthemums, as a rule, produce such a wealth of blossoms that the grower may cut and come again.

To be successful with the decorative kinds, a great deal depends upon the selection of varieties. Plants for decoration, either as cut-blooms or for the embellishment of the greenhouse, should be free-flowering, and should also possess a good habit of growth. They should be branching and sturdy, and not over tall, and each bloom should be developed on a good length of footstalk, which should be sufficiently strong to keep the bloom erect. Pleasing form, and this also varied, has much to do with the popularity of each variety. Colour, too, is important. Good and distinct colours are always in demand. This does not mean that only one shade of each colour is necessary; as a matter of fact, there is room for many improvements on existing varieties, as, for example, in the case of flowers of a yellow colour, just imagine what effects could be produced were blossoms of the following shades of yellow available: Buttercup-yellow, rich yellow, bright yellow, rich primrose, soft or pale primrose, etc. Flowers of these distinct tones of colour would always be welcomed, and if each succeeding season gave us something new and dainty in form, we should then be making the progress that all true florists desire. I well remember a magnificent display of freely-grown Chrysanthemums arranged in the large conservatory at Glasnevin Botanic Gardens, Dublin, a few years ago. All types of the flower were represented: Japanese, incurved, large Anemones, Japanese Anemones, reflexed, Pompons, and Anemone-Pompons; all charmingly grouped together, and the plants were blossoming freely. In visiting the shows in different parts of the country, too, one occasionally meets with an exhibit of these plants. It is difficult to come to a satisfactory judgment when a group of decorative plants is put into competition with other groups of Chrysanthemums grown in the orthodox exhibition system of culture. The storotyped and formal system of grouping these plants which generally obtains will not compare for decorative effect with a group of freely-flowered plants; but the verdict has often to be given in favour of the formal group of large blooms, because the schedule says "quality" has to be one of the leading features. Quality is, unfortunately, usually regarded from the point of view of size only.

If the Chrysanthemum is to retain its popularity a greater share of attention will have to be given to the free-flowering sorts. Growers are more than ever coming to regard the flowers from a practical point of view—their use.

fulness for home displays both as plants and as cut-flowers. At the present time most of the interest centres around the large Japanese blooms to the exclusion of several other more pleasing and interesting types of the flower.

E. G.

CHRYSANTHEMUMS—BUD RETAINING.

THE present should be a busy period with all growers of large exhibition blooms. There is a time in the month of August when the buds of the different sorts should be retained, if each variety is to be represented at its best. Generally speaking, the third week of August is regarded as an ideal period for the buds of the bulk of the best Japanese sorts to be retained. A limited number of Japanese varieties succeeds better if the buds are retained during the earlier half of the month, and there are others which give far better blooms if the buds are retained during the last few days of this month. The method of cultivating the Chrysanthemum—at least, in so far as the development of large blooms is concerned—is to so manipulate the growth of the plants that they may produce their buds at a period best suited to their peculiarities. As a rule, when a bud is retained at too early a date the resulting bloom will be large and devoid of good form, and its colour will leave much to be desired. On the other hand, a bud retained at a later date than is desirable will develop a bloom of good form and bright and lasting colour, but in so far as substance and size are concerned it will be found wanting. The essential qualities of a good exhibition bloom comprise size, breadth, depth, form, colour, and substance. Many growers, when the time has arrived for a bud to be retained, rub out the whole of the side shoots at once. Such treatment is wrong. The small shoots which surround the bud at the apex of the growth are usually very brittle and full of sap. To detach the whole of these shoots at one time must of necessity check the plant—for a time, at least. The better method of retaining a bud is to rub out the side shoots one at a time, allowing an interval of one day at least between each succeeding removal of a shoot. In this way the plant suffers but little inconvenience, and within a week or so the bud is left at the apex of the shoot. The shoots on the lower portion of the stem will in some cases be somewhat tough, and to break these out from the axils of the leaves would be very injurious. In such cases they should be cut out, or rather cut back, close to their base.

In some cases plants of certain varieties may be developing their buds earlier than the grower thinks is best suited to their needs. The development of such buds may be retarded to some extent by permitting some of the stronger growing side shoots to remain on the plants. All that the grower need concern himself about is to see the buds are just moving, no matter how slowly. When this cannot be seen, one of the stronger-growing shoots should be detached. This relief will cause the plant and bud to again move forward, and the operation may be repeated from time to time with other shoots, until the proper period for retaining the bud has arrived. Should the weather be very warm and dry, it would be better to syringe the plants and buds lightly with clear water. It is important, too, to keep the shoots and buds in an upright position. Until the buds are nicely set it would be better not to feed. A few days will suffice for this, after which begin with weak doses and gradually increase the strength of the manure-water. Leave the incurved sorts till early September.

E. G.

EARLY-FLOWERING CHRYSANTHEMUMS AND WHY I GROW THEM.

MY earliest recollections of Chrysanthemums grown out-of-doors are of a few plants that I saw in a garden within a stone's throw of a road in a busy town. As far as my memory serves me now—it is thirty years since—there were only three varieties—a yellow, dark red, and purple, all being Pompons, and blooming about October. How we have progressed in the matter of open-air varieties, one has but to take stock of some of the present sorts. It was not until the advent of

Mme. Dea-grange, however, that very much attention was paid to the Chrysanthemum as a plant for blooming outside, but anyone who has watched the development of the early-flowering varieties must remember how the sort in question quickly became popular. It is not to be wondered at, for there are no plants in my estimation in early autumn that have such freedom of blooming, last so long when cut, and are so suited to town gardens as these. Who, at one time, would have anticipated being able to use Chrysanthemums for the flower garden? But now there are few gardens of any size that do not make provision for a bed of them for autumn blooming. To-day I have been stoking a number of plants that were put out in May; some of the earliest sorts are full of buds, and presently I shall commence to cut bloom, and will be able to do so until late in October, for they are planted under a wall, where they get some slight protection. Then one has also to bear in mind that early-flowering Chrysanthemums, when grown in the open-air, give very little trouble; in fact, beyond watering them once or twice during the very hot weather and stoking them, they have, I might say, given no trouble at all. I took the precaution a few weeks ago to mulch the surface of the bed with old manure, and the result has more than justified my doing so, for a more promising lot of plants I could not wish to have. This is why I grow early-flowering Chrysanthemums outdoors, and why in every garden they are worthy of culture. Mine are left out all winter, and all the protection they get is a little stable-manure drawn over the rows, and in spring a division is made of those that have become too large; in other respects they receive the same treatment as my herbaceous plants. Then, too, if one thinks well to put a few plants, they may be lifted from the borders and placed in pots with but little care, or, perhaps, for the loss of a few of the lower leaves. There are many varieties of merit that will bloom in the open from August to October without the aid of glass, and I give here with a short list of the sorts that I have proved as useful in a town as in a country garden.

LARGE-FLOWERING. — Albert Chanson, orange-red, tipped yellow; Edith Synn, pinkish-purple; Ivy Sterk, orange-yellow; Harvest Home, bronzy-red; Incomparable, pure white; A. Thomas, chestnut-red, golden reverse; Louis Lemaire, rosy-bronze; Mme. Carneaux, white, tinted bluish; Mme. Dea-grange, creamy-white; Mrs. Hawkins, golden-yellow; Mme. Marie Masse, lilac-maroon; de Precoces, dark crimson; Ryecroft, golden-yellow; Ryecroft Scarlet, reddish-pink; cotte: Queen of Earlies, white; Thos. Bull, deep orange; Vesuvius, red; Notaire Grand pink.

EARLY POMPONS.—Little Bob, small crimson; Mrs. Cullingford, white; Piercy's Scodling, orange-yellow; L'Ami Conderchet, primrose; Crimson Precocite, crimson; Lacintha, lilac-pink; Lyon, rosy-purple; Rose Wells, deep pink; Toreador, roddish-bronze; St. Croix, lilac; Mme. E. Lefort, orange and white; Martinmas, light pink. W. F. Bull.

An old Chrysanthemum—Julie Lagravère.—The reflexed Chrysanthemums are few in number when compared with the Japanese varieties, but one of the oldest and brightest sorts has outlived many in the latter class—viz., Julie Lagravère. It is a good dark crimson, not a large flower by any means, but rich in colour; height about 4 feet, and retains its foliage well to the base. As a rather late variety it is still to be commended, and with those who grow for home decoration only, it still finds favour.—TOWNSMAN.

Chrysanthemum Mychett Pink.—This early-flowering variety has surprised many growers with the beauty of its display. If I remember rightly, a few plants were placed before the floral committee of the National Chrysanthemum Society late in September last, and so much were they admired that a first-class certificate was readily granted. I have several excellent plants, and each one is now freely studded with chaste blossoms of a silvery-pink colour. The plant has a dwarf and sturdy habit of growth, and, what is of importance, each blossom is developed on a

plendid length of footstalk. Some of the flowers were well developed in the latter half of July, and at the time of writing (August 13) there is a fine display.—E. G.

OUTDOOR PLANTS.

IRIS GATESI IN A DEVONSHIRE GARDEN.

I do not wonder at the enthusiasm of the late Rev. H. Ewbank in regard to "Cushion" Irises, but I fear, even for them, I could not take the trouble that seems necessary with most growers. Fortunately, I am not put to the test, as here only treat them like ordinary Irises. No protection is given against autumn rain or winter cold. I flowered *I. Susinna* two years in succession before I even knew that this family of

Bud, when it broke from the sheath, 6½ inches from tip to base of standards; the open flower 18 inches from top of one standard to the other. Each standard was 6 inches across. These standards were not held erect, as in *I. Susinna*, but spread out, as shown in the illustration. The colour is silvery-fawn, with pale purple reticulations, the base of standards and falls being pale purple, the "lip" on the falls being fawn, and the great cushion of hairs by it, dark fawn. I am going to try a good many varieties this autumn in a special bed, but cultivated on the same lines.

A. BAYLTON, *Dawlish, S. Devon.*

HARDY AUTUMN-FLOWERING PLANTS.

ARTICLES have already appeared treating of the best hardy plants for the open border during the

which condition they flower most abundantly—the force exerted by the expanding buds generally breaks the pots if these are not bound round with copper wire. At the advent of frost, the plants should be removed under shelter, and very sparingly watered until they commence to make growth in the spring. There are a white form of *Acrapantus umbellatus*, and also a distinct white-flowered species, although this is not recognised in horticultural dictionaries. The latter is deciduous, whereas the type is not, and bears taller flower-umbels. Both the white-flowered African Lilies are perfectly hardy in the south-west.

ANEMONE JAPONICA.—The well-known Japanese Anemone is met with in three colours—namely, white, flesh-pink, and magenta, the last being a tint that should never be admitted into the garden. *Honorine Jobert* is a beautiful white variety, and, when at its best, reaches a height of 5 feet and flowers profusely. Newer forms are *Lady Ardlinun*, *Lord Ardlinun*, and *Whirlwind*, the two last being semi double.

PERENNIAL ASTERS OR MICHAELMAS DAISIES.—These charming plants are the mainstay of the autumn garden, the different species blooming for a period of considerably over three months. The earliest to flower is *A. Amellus*, of which species *A. Amellus bos-sarabicus* is an excellent large-flowered form bearing violet-blue blossoms. It often commences to flower at the end of July, and remains in bloom for many weeks. It is comparatively dwarf, and has not the spreading habit that renders so many of this genus unsuited for a small garden. The last to flower is the handsome *A. grandiflorus*, which is rarely in bloom before the end of October or beginning of November, a date which makes its culture inexpedient in cold districts. It bears very large flowers of a deep purple hue with golden centres, and is extremely decorative when in full bloom. It may be lifted carefully and potted when the buds are formed, and will then expand its blossoms under glass. Other good varieties are *A. neriis*, lilac-purple, forming a sheaf of flower; *Esme*, a dense bush with white flowers of the size of a florin; *A. brivigatus*, rosy; *A. patons*, sky-blue; *A. cricoides*, bearing a profusion of tiny white Daisy-like flowers; and *A. (Chrysocoma) linosyris*, a British plant commonly known as Goldlocks, but valuable for its dense corymbs of bright yellow flowers. All the foregoing are dwarf varieties, rarely exceeding 2 feet in height. *A. cordifolius* is a most graceful plant. Photograph, with small lavender flowers, is, perhaps, the best variety. *A. Shortii*, bearing sprays of bright lilac flowers, is also particularly good. These two generally reach a height of between 3 feet and 4 feet. *Perry's Pink*, producing large bright pink flowers is very distinct and ornamental, and grows to the same height. Of the Novio-Belgii section, *Archer Hind*, soft blue, *Harpur-Crewe* and *Purity*, white, and *Robert Parker*, lavender, are well worth growing. They are mostly tall growers, the last named sometimes reaching a height of 7 feet. *A. laevis Areturus* is a handsome plant with black stems and lilac flowers, with a suspicion of rose, and *A. puniceus pulcherrimus* is a noble species and a very vigorous grower, attaining a height of over 6 feet. Every spray of the plant is thickly covered with flesh-tinted flowers, which become white with age. Of the Novio-Anglic section, *Melpemone*, purple, and *Robert Parker*, rose coloured, are the best. *Boltonia asteroides* and *Edelweiss* are two Aster-like plants, natives of North America. The former bears flesh-coloured flowers, and the latter lavender.



Iris Gatesi in a Devonshire garden. From a photograph sent by Mrs. A. L. Baylton, Dawlish.

is was difficult to flower, but after reading the article in the spring journal of the Horticultural Society, I gave my Cushion Irises a little attention. They were planted in a border facing S.W., but getting all the S. sun. After a week's rain one hot day will parch the soil, which is new red sandstone, and is further dried by the roots of a huge Laurel hedge that makes the N.E. protection. I scraped away some soil (I should say the rhizomes are not on the surface but planted like an ordinary plant), and gave each of them about a pint of crushed mortar, about a tablespoonful of bone-meal, and about a teaspoonful of alum. I had no guide to quantities, but the illustration shows that I was not far wrong. When *I. Susinna* flowered in the beginning of June the bloom was far larger than before, but this one, *I. Gatesi*, is a giant. I do not know the ordinary size of the flower of this Iris, and should like to know. The measurements were

spring and summer months. The following notes will be confined to plants flowering from the commencement of August until the close of the year. Some of these, though hardy in the south-west, even when left unprotected during the hardest winters, need tub-culture or lifting before the advent of severe frost in colder localities; but, as many of them are indispensable for autumnal effect in the border, they are included in this article. **ACRAPANTHUS UMBELLATUS.**—This handsome plant, a native of the Cape of Good Hope, is one of the most decorative of autumn-flowering subjects. In favoured spots in the south-west it succeeds admirably planted permanently in the open, producing its tall blue flower-umbels in quantity year after year. In colder districts it creates a telling effect if grown in large pots or tubs and placed in the open during the winter months. Tub-culture is preferable to pots, as when the plants become pot-bound, they

two generally reach a height of between 3 feet and 4 feet. *Perry's Pink*, producing large bright pink flowers is very distinct and ornamental, and grows to the same height. Of the Novio-Belgii section, *Archer Hind*, soft blue, *Harpur-Crewe* and *Purity*, white, and *Robert Parker*, lavender, are well worth growing. They are mostly tall growers, the last named sometimes reaching a height of 7 feet. *A. laevis Areturus* is a handsome plant with black stems and lilac flowers, with a suspicion of rose, and *A. puniceus pulcherrimus* is a noble species and a very vigorous grower, attaining a height of over 6 feet. Every spray of the plant is thickly covered with flesh-tinted flowers, which become white with age. Of the Novio-Anglic section, *Melpemone*, purple, and *Robert Parker*, rose coloured, are the best. *Boltonia asteroides* and *Edelweiss* are two Aster-like plants, natives of North America. The former bears flesh-coloured flowers, and the latter lavender.

CANNAS.—Since the raising of the new large-flowered Cannas, these plants have become most admirable subjects for the autumn garden. In the south-west they may be allowed to remain undisturbed in the beds through the winter, but in more northern districts they must be lifted and housed like Dahlias, and started in heat in the spring. Of the Crozy Cannas, which are comparatively dwarf, the following are good varieties: Beauté Poitevine, scarlet; President McKinley, vivid vermilion; Duke of Marlborough, deep crimson; Aug. Chantin, orange-pink; Annie J. Chretien, flesh-pink; Secretary Chabanne, orange; Lighthouse, yellow; Queen Charlotte, scarlet with broad yellow margin; Paul Meylan, buff with narrow yellow border; Fol. Bertius Brunner, very large yellow with small red spots; Comte de Bouchard, yellow heavily mottled with crimson; and Mme. Pichon, yellow with centre of petals splashed red. Of the Italian Cannas, which grow to a great height and bear flowers from 4 inches to 6 inches in diameter, good varieties are Allemanina, America, Italia, and Pluto. The far older Canna, Ehemanni iridiflora, with its great, Musa-like leaves and slightly drooping scape of rose-crises flowers, is also very beautiful, and should not be omitted.

CHRYSANTHEMUM MAXIMUM, with its large, Daisy-like flowers, is a well-known autumn bloomer. Of late, dwarf varieties, more free flowering in habit and bearing larger blooms, have been raised, which are superior to the type.

COREOPSIS GRANDIFLORA, though commencing to flower early in the summer, often continues its display through the entire month of August.

CRINUMS.—These noble Cape bulbs are perfectly hardy in the south-west, and if planted at sufficient depth and mulched during the winter would doubtless prove so further north. At any rate, they are worth a trial. *C. cupense*, or *longifolium*, is the best known, but cannot compare with *C. Powellii* and its variety *C. Powellii alium*, *C. Moorei*, and *C. Moorei alium*, the latter known on the Continent as *C. Schmidtii* or *C. Yemensis*. When in flower these Crinums, with their tall bloom-scapes bearing several giant blossoms, make a splendid display in a well-backed border.

DAHLIAS are too well known to be dealt with at length, but it may be said that no autumn garden is complete without them. For decorative effect the Cactus varieties take the precedence, but care should be bestowed on the selection, and only those which throw the flowers well above the foliage should be ordered. A selection made at a flower show, where the individual blooms are displayed on stands, is certain to be unsatisfactory, as many of the varieties that produce the most perfect blossoms bear them hidden by the foliage, and are, therefore, utterly useless for the embellishment of the border. Dahlia tubers must be lifted after the first frost and kept in a dry cellar or other frost-proof structure until the spring, when they should be started in heat.

GALGEEA.—The type which bears rose-lilac Pea-shaped flowers and its white form are excellent border plants, forming dense bushes 4 feet or so in height, smothered in bloom-racemes.

GLADIOLUS.—The common scarlet *G. Breuchleyensis* is amongst the most effective of border plants, while the newer *G. Childsi*, *G. nanceianus*, and *Lemoine's* hybrids bear wonderfully large and handsome flowers. The foregoing and the *O. gandavensis* section may be left undisturbed in the ground through the winter in favoured localities, but, generally speaking, it is safer to lift them when the foliage withers and to replant in March.

HELIANTHUS.—The perennial Sunflowers make a brave show in the autumn with their bright yellow blossoms. *H. multiflorus* and its double variety *Soleil d'Or* are the most generally cultivated forms, but there are other species and varieties that are of greater merit. Amongst these may be named *H. rigidus* Miss Mellish, *H. latiflorus*, and the new *H. G. Moon*. Other good species are *H. giganteus* and *H. orgyalis*, both of which attain a height of 10 feet.

LOBELIA CARDINALIS.—This and *L. fulgens*, with their glowing crimson flower-spikes, are without peers for brilliancy of effect. In damp

holding soil they take no harm during the winter in the open bed, even if exposed to 20 degs. of frost. In light soil they often fail, the crowns rotting in the winter. Where this is found to be the case, the clumps should be lifted when the flower-stems wither, packed closely together in boxes, with a little dry earth or Cocoa-nut-fibre shaken in between them, and kept in frames until the spring, when they may be divided, started into growth, and replanted. These Lobelias are easily raised from seed, and, where they are found to be liable to winter failure, seedlings should be raised annually from home-saved seed.

KNIPHOFIA OR TRITOMA.—The popular Red-hot Poker or Torch Lily, with its glowing spires of bloom, is an especially effective autumn subject. Of late years numerous new species have been introduced to supplement the old *K. Uvaria*, many of which are desirable. Kniphofias require a warm situation and porous soil which does not retain moisture in the winter.

PHYSA LIS (Winter Cherry).—*P. Alkekengi* is a very old garden plant, having been introduced over 300 years ago. Its orange-scarlet bladder-like enclosure the fruit are very decorative in the garden, and still more so for winter indoor decoration. It is entirely surpassed, however, by *P. Franchetti*, whose great balloons are sometimes 8 inches in circumference. Both are perfectly hardy and increase rapidly.

PYRTHRUM ELIGINOSUM.—Many who have but slight knowledge of flowers class this with the Michaelmas Daisies, which it somewhat resembles in manner of growth. Its large,



The Red Flax (*Linum grandiflorum*).

white, sterry flowers, with their narrow rays, are very graceful, and a fine plant in full bloom presents a charming picture.

SENECIO PULCHER.—This plant grows to a height of 3 feet, and bears large flowers of a deep magenta tint. Those who dislike that colour should eliminate it from their list of desirable autumn flowers. The three following plants may be termed winter flowerers:

SCHIZOSTYLIS COCCINEA is a small bulbous plant, growing 18 inches in height, and bearing scapes of bright crimson flowers. It blooms from October to December if the weather be mild, and is most useful for indoor decoration.

IRIS STILOSA.—This lovely Iris and its white variety bear their blossoms from the end of October until April. Large plants produce a continuous supply of flowers, which should be picked in the bud stage and expended indoors, where they are always welcome, being deliciously fragrant as well as very beautiful. The plant does best on a dry bank of light soil, and in cold districts should be planted against a wall in porous compost with rapid drainage, and should be sheltered from cutting winds.

CHRISTMAS ROSES.—These chaste flowers, coming, as they do, in mid-winter, are of inestimable value. The first to flower is the giant *Helleborus altifolius* or *maximus*, which commences to bloom in November. Other grand varieties are *H. juvernisi* (St. Brigid's Christmas Rose), *H. major*, Bath variety, the Riverston variety, the Brockhurst variety, Mme. Fourcade, and the Manchester and

Scotch varieties of *H. angustifolius*. Christmas Roses require deep, shaded, well-manured soil and a partially sheltered position, where they are not burnt up by the summer sun. In dry weather they should receive copious supplies of water. S. W. F.

NOTES AND REPLIES.

Raising Zinnias.—I have seen in public gardens in France some exceedingly large Zinnia-bushes quite 3 feet or 3 feet through, and many blossoms. I was told the plants were raised in the previous autumn and kept potted on. Can any reader tell me if this is the case? I have every convenience—warm-house, cool-house, frames, and cold.—T. H. H.

Solidago Shortii.—"W. F." on page 310, condemns *Solidago*. Has he ever grown *Solidago Shortii*? This is one of the loveliest of all autumn-flowering plants, and quite distinct from every other variety. Where twelve autumn-flowering plants are wanted this should be one.—A. J. P., *Winchmore Hill*, N.

Tufted Pansy Cottage Maid.—Another season has again shown the high quality of this. The variety under notice is of the same character, in so far as the flower is concerned, as Countess of Kintore. As regards its habit, it is superior to others of the same type, and it also flowers freely. It is one of the earliest in the spring to bloom, and the autumn is well advanced before its display ceases. Its colour may be described as alternately marked purplish-violet and pale lavender, sometimes almost white.—E. G.

Primroses.—Most charming of spring flowers are the Primroses, and it is questionable if any are more beautiful than the wild blossoms of our fields and woodlands. In moving some clumps a few months ago I took up a quantity of self-sown young plants, and these were planted out by themselves and have now (the beginning of August) attained a good size, and I purpose planting them under a hedgerow in the garden. Few grow the common field sorts, perhaps because they are common, but in spring they flower freely in the garden with finer blooms, and on banks and hedgerows have a pretty effect. Now is the time to plant.—WOODBASTWICK.

Common Musk in open border.—During this season I have been much pleased with a large patch of Musk growing in a shady border here in kitchen garden. Some two years ago this was thrown out with some soil from the potting bench. On the wall above Wallflowers are growing; the seeds drop and sow themselves amongst the Musk roots. During this summer the Musk has found the Wallflower stems a good support, and has climbed up a foot or more, spreading all over the Wallflowers. For many weeks this was a sheet of yellow, several feet across, and nothing could be more lovely. The Musk roots get no protection in winter or assistance in any way. Musk may be used as a carpet to many things with the best results.—J. C.

Hardy white flowers.—I shall be much obliged if you will give me a list in GARDENING of the best hardy white flowers for the various months? I want kinds in which the blossoms last well when cut. The soil is light and sandy. Will you also tell me which of them can be raised from seed, and the proper time to sow it?—S. E. F.

[The number of pure white hardy flowers is not great, but the following are among the most useful: In April and May *Narcissus poeticus* and its varieties, and in the latter month *Anemone sylvestris** and *A. s. fl.-pl.* *Arabis albidia fl.-pl.*, a new and valuable plant for cutting; in early June *Achillea monogolica*, and in the latter part of the same month single white *Pyrethrums*, also *Achillea ptarmica fl.-pl.* and the variety known as the Pearl. In the same period, too, are the several varieties of *Campanula persicifolia*, all good and distinct. Then *Galega officinalis alba* for June and July, and *Galtonia candicans* in the latter, though perhaps the most valuable plant at this time is the white perennial *Pes* (*Lathyrus latifolius albus**), and with the new kind now being distributed—viz., *L. latifolius albus grandiflorus*—make a fine pair. At this time also flower the many kinds of white perennial *Marguerites* or *Lencanthemums*, of which there are quite a dozen that vary but little in size and form and in other ways. In autumn white flowered subjects are not plentiful, but the best plant undoubtedly is *Anemone japonica alba*, and there are white forms of some of the Michaelmas Daisies. Those marked with an asterisk may be obtained from seeds, but it is often quite a slow method and not always satisfactory.]

THE DWARF FLAXES.

One character which the *Linums* present is a lightness and elegance of contour, to which the usually narrow leaves, slender stems, and delicate peduncles which support the individual flowers, all tend to contribute. This speciality is equally patent to those who are familiar with our commercial Flax (*Linum usitatissimum*), whose cultivation extends over large fields in some parts of the country, and where, when in full blossom, such fields can be compared to nothing more appropriate than an azure sea, varied only in its lights and shades as it is gently rippled by the summer's breeze, or in the condition with which most people are familiar, as cultivated in its perennial form (*L. perenne*) as a border plant, possessing with neatness of habit a long continued blooming season.

ALPINE FLAX (*L. alpinum*).—This Flax, growing only from 3 inches to 8 inches high,

grown as a frame and greenhouse plant, but should be tried everywhere in warm spots on dry borders, banks, or rockwork. It begins to bloom in early summer.

YELLOW HERBACEOUS FLAX (*L. campanulatum*).—An herbaceous plant, with golden-yellow flowers in corymbs on stems from 12 inches to 18 inches high, distinct from anything else in cultivation, and well worthy of a place in collections of alpine and herbaceous plants. A native of the South of Europe, flowering in summer and flourishing freely in dry soil on the warm sides of banks or rockwork, and propagated by seeds. This is a very distinct plant from that usually grown as *L. flavum*, the leaves much narrower, more stoutly set, the plant altogether dwarfer and neater in habit, and seedling more freely. It also flowers more freely on much shorter stems.

THE TAURIAN YELLOW FLAX (*Linum flavum*).—For many years *L. campanulatum* was known by this name, and so generally had the mis-

blossoms. By successive sowings it may be had in bloom from May till October. Seed sown in autumn will give plants for spring blooming, and sowings made from March to June will yield a display through the summer and autumn. By sowing seeds in pots in good rich soil in summer, and plunging in a sunny border with plenty of water, plants may be obtained for the greenhouse or window during October and November.

NEW ZEALAND FLAX (*L. monogynum*).—A beautiful kind with large pure white blossoms opening in summer. It grows about 1½ feet high in good light soil, and its neat and slender habit renders it particularly pleasing for the borders of the rock-garden or for pot culture. It may be readily increased by seed or division; it is hardy in the more temperate parts of England, but in the colder districts is said to require some protection. *L. candidissimum* is a finer and hardier variety. Both are natives of New Zealand.



The Narbonne Flax (*Linum narbonneuse*). From a photograph sent by Mr. G. Weir-Cosens, Aberystwyth.

bears very large dark-blue flowers in summer. It is easily distinguished by its external sepals being acuminately pointed, and the internal ones obtusely pointed. A charming rock-plant, native of the Alps, Pyrenees, and many hilly parts of Europe, thriving well in warm well-drained spots on rockwork, in a mixture of sandy loam and peat. There are several varieties; *L. austriacum* is intimately related to it, and scarcely sufficiently distinct from a garden point of view.

EVERGREEN FLAX (*L. arboreum*).—This is a neat, glaucous-leaved, dwarf, spreading shrub, with a profusion of clear handsome large yellow flowers, an inch and a-half across. Although said to be rather tender in the colder parts of the country, it thrives well in others in the open air, even as a border-plant, and in all is well worthy of a position on rockwork. A native of hilly parts of South-Eastern Europe, Asia Minor, and North Africa; usually propagated by cuttings. It is sometimes

nomer become established, that even at the present day the mistake is frequently perpetrated; nevertheless the two plants are amply distinct. This species is an herbaceous plant in the strictest sense of the word, dying down annually to a short, woody subterranean root-stock, from which year by year arise several erect flowering stems, sharply angled and clothed with dark, olive-green foliage, ovate, slightly cordate at the base and gradually narrowing upwards; the flowers, which are produced in August, being of a rich golden-yellow. It is perfectly hardy, and forms a handsome and long-lived herbaceous plant, and should certainly receive a larger meed of attention than it has hitherto done. By some authors it is named *L. tauricum*, being abundant in the Taurian Mountains, and, in fact, is generally met with in the upland meadows in Eastern Europe.

RED FLAX (*L. grandiflorum*) is a showy hardy annual from Algeria, with deep red

THE NARBONNE FLAX (*Linum narbonneuse*).—A beautiful and distinct sort, bearing during the summer months a profusion of large, light sky-blue flowers, with violet-blue veins. A fine ornament for borders, the flower-garden, or the lower flanks of rockwork, as may be seen by our illustration, on rich, light soil, forming lovely masses of blue from 15 inches to 20 inches high. A native of Southern Europe, distinguished from its relatives by its sepals tapering to a long point, its anthers being three times as long as broad, its long thread-like stigmas, and its large flowers.

PERENNIAL FLAX (*Linum perenne*).—A plant found in some parts of Britain, particularly in the Eastern counties, but very rare. Usually grows in dense tufts from 12 inches to 18 inches high, with bright cobalt-blue flowers more than an inch in diameter, the stamens in some being longer than the styles, in others shorter, the petals overlapping each other at the edges. *L. perenne album* is also an ornamental plant,

and there is also a variety with blue flowers variegated with white, known in gardens as *L. Lewisii variegatum*, but this marking is not very conspicuous or constant. *L. sibiricum* and *L. provinciale* are also included under perenne. Of very easy culture in common garden soil, it is a useful border plant, and may also be used in rough rocky places.

WHITE ROCK FLAX (*L. subuloides*) is a dwarf half-shrubby species, essentially a rock garden plant; its flowers, white with a purplish eye, reminding one of some of our creeping white Phloxes. In the rock garden, in a well-exposed sunny nook, the plant is hardy, and trails over stones, flowering abundantly. It produces seeds rarely, so that it must be increased by cuttings of the short shoots taken off about midsummer; these will strike freely, and make vigorous plants when potted in the following spring. *L. viscosum*, with pink flowers, is a closely allied plant. Mountains of Europe.

VEGETABLES.

POTATOES.

In this part of Surrey Potatoes vary wonderfully in appearance. Here and there one comes across breadths of Early Puritan and Up-to-Date, the two varieties most favoured about here, in the finest possible condition; but in a general way the growth is not uniform, and in many places the tubers made about a foot of growth and have since remained absolutely stationary. I have a breadth of Puritan, the hauls of which is now (August 2nd) no higher than it was a month ago, and the leaves look as if they had been scorched by a fire. The sets were put in in good time, the ground was deeply dug, laid up rough, and thoroughly sweetened. The sets looked firm and good when planted, but as they came from plants that were much checked in growth by the fierce heat and drought of last summer, they probably did not properly mature. Growing close to them is a breadth of another kind which leaves nothing to be desired in the matter of health and vigour. In this instance the sets came from plants that made good healthy growth last year. I would advise Potato-growers generally to save no seed from plants that exhibit lack of vigour this season, or the results may be equally bad next year. It is better to have a complete change of seed every now and then, taking care that it comes from land which is quite different in character from that which the grower himself has to deal with. Where the soil is sandy the seed should come from heavy loam, and *vice versa*. It is said that change of seed is as good as a coat of manure, and, to a certain extent, I believe this to be correct.

That old favourite, Magnum Bonum, seems to have gone out of favour in this part of Surrey. Potato-growers found that Up-to-Date did remarkably well in the very hot, dry seasons experienced of late—in fact, better than any other main-crop kind that had been grown for profit on the light, loamy, and sandy Surrey soils. Nothing, however, seems to be known with respect to the disease-resisting properties of this Potato. Surely it came into favour the seasons have been dry and hot, so that there has been no opportunity of seeing how this Potato can stand against a period of the warm, wet weather that brings on disease. There are, moreover, signs that Up-to-Date, in spite of its robust habit, has an element of weakness in its constitution. A neighbour of mine, who grows for market, could not sell a sixth part of his crop last season. The tubers were large, and, to all appearance, sound, but when cut through, black specks were to be seen in the flesh. Naturally, when boiled they had not a very attractive appearance, and it is doubtful if they were good for food. A few years ago the same disease appeared in Magnum Bonum, and now this Potato is so unreliable that in many localities it has dropped out of cultivation. The same thing has occurred with Supreme, Beauty of Hebron, Early Rose, White Elephant, etc. They were good in their time, but they have had their day, and it will probably be the same with Puritan, Up-to-Date, and some others that we have been

relying on of late. Fortunately new varieties are constantly being raised, and Potatoes being grown to such a large extent now-a-days, their merits are more quickly recognised than would have been the case twenty years ago.

Growers for market are aware that they must cultivate the best and most reliable kinds only, so that any new variety is sure of a fair trial. I am this season trying a new kind called The Crofter, which is highly recommended by a well-known Scotch firm, as a main-crop variety. It has been favourably reported on by growers throughout the country, and is said by the introducers to be disease-proof. I am growing it along with Magna Bonum, which it much resembles in leaf, habit of growth, and colour of bloom; but the difference in strength is remarkable. The tubers are more round and the quality is good. I should say that Magna Bonum is one of the parents, so that one may easily credit it with possessing the disease-resisting properties claimed for it. Another variety that will probably be much grown, is Sutton's Seedling. It is of free, vigorous growth, and crops heavily. I recently saw a field partly planted with it and partly with Up-to-Date, and the difference in favour of Sutton's Seedling will, judging from appearance, probably be from four to six tons per acre.

Disease, I am sorry to say, has appeared, and since writing the above some of the most promising breadths have been badly attacked. Frequent thunderstorms, with drizzling rains that keep the leaves wet all through the night, will, if the temperature is sufficiently high, cause sad havoc in the course of a couple of weeks. In the case of varieties that do not possess disease-resisting powers, it is best to cut off the hauls as soon as the scourge makes its appearance. From the time the leaves are affected the tubers cease to swell, so that they may just as well be cut off, and save whatever crop there may be. J. C., *Byfleet*.

GRASS FROM THE LAWN MOWER.

OFTEN this is regarded as material of but little value; perhaps where the lawn is of small extent it may be so, but it must be a poor garden that could not find a use for lawn Grass fresh from the week's mowing. A purpose for which we invariably employ a good deal of short Grass is as a mulch to something it is deemed necessary to protect from the direct rays of the sun. Celery trenches afford an illustration for its use. When small plants of this are freshly put out, and the weather sets in bright and warm, the soil needs frequent watering to keep the surface moist, and, as Celery plants are soon injured by drought, and there is not so much time for watering, a light covering of lawn Grass saves labour, while it preserves a greater equality of moisture about the roots. We have known instances where Celery, after being planted, has gone through the season without any help from watering save that given to settle the soil down in the first instance. We are not so fortunate as this, the nature of the soil demanding more effort. Celery when neglected in the matter of root moisture is much inclined to bolting. Some objection may be raised against the use of Grass because it is not lasting. True, the action of sun and air quickly reduces its bulk; but as the mowing has to be done often, so can additions be given to surfaces already treated. Tomatoes against hot, sunny walls are benefited by a surface mulching, for, if water cannot be applied often, the soil gets hot and very dry, and consequently plants languish instead of progress. Unless afforded sufficient moisture at the roots, these set their fruits indifferently. During hot summer weather Grass and Clover seeds mature sufficiently to vegetate from one mowing day to another. This may be regarded as a nuisance, which, should wet weather ensue, may be the case; but in hot weather this growth is easily destroyed by mowing it on a sunny day. In the Celery trench we have not found Grass and Clover seeds give rise to any such troubles. If no use can be put to Grass in a green state, it can be collected in a heap week by week, and when decayed employed either alone or in conjunction with manure for digging or trenching into the garden in winter. To this again objection may be raised, for, if used too freely, it has been found to render soil

heavy or rather close in texture, but this only when employed alone. Unless other material can be jointly used, it is not advisable to dig rotten Grass into heavy land. W. S.

AUTUMN-SOWN CAULIFLOWER.

MUCH has been written from time to time as to the best time to sow Cauliflowers. Some growers say it is unnecessary to sow in autumn. This may do where there is plenty of glass, such as pits or handlights to grow the plants in. I have seen Cauliflowers sown under glass at the beginning of the year brought forward by planting on raised beds under frames, these being ready to cut as soon as autumn-grown plants. During the past thirty years I have tried many methods, and consider that it depends more on the accommodation than anything else as to the time the seed should be sown. To have early heads so that no break comes between the late Broccoli and these, and if they have to be brought on principally in the open, then no method equals sowing in autumn, according to the district the grower resides in. Speaking generally, from the 20th of August till the first week in September is a suitable time. I want from 800 to 1,000 plants, and not having glass to grow them under I have tried various ways. I sowed about the time mentioned, in an open position, and when the autumn advances the largest are planted at the foot of a wall, where they remain unprotected through the winter. I seldom lose any, and in this position I cut the first heads. This year good heads are ready by the 20th of May. Another batch is potted into sixty pots. These are planted out early in the year under handlights, having been wintered in a frame, and should those under the wall have suffered, these take their place. By planting these out before they get pot-bound, and giving shelter for a time, they are only a few days later than those at the foot of the wall.

The major portion of this autumn-sowing is pricked out into boxes and wintered with these in pots in frames. These are planted out as soon as the weather permits, in lightly-manured and deeply worked soil. Care is taken to lift them out of the boxes with a ball of soil, and although these stand still for a time they grow rapidly when warm weather comes, and follow the others in close succession. I have often had many of my plants destroyed by rats and mice eating out the centres when covered up in frames. This has made me cautious, and to provide against this I sow a box of seed at the end of October or in the first week in November, keeping it on a shelf in a cold Peach-house. These seedlings are pricked out into other boxes early in January, and brought on in the same position. As soon as the days lengthen they make rapid growth, and are hardened off with those wintered in frames. When planted out there is no difference in the time they come into use. I much prefer this way to sowing in boxes or on a hot-bed in spring, seeing the plants do not go black-legged and are more hardy. Another way I have adopted is to sow a pinch of seed with Lettuces and Radishes on the soil I cover the Asparagus roots with when put in to force in cold house at the end of January. These I allow to remain till large enough to plant out in open ground. The forcing types, as they are termed, are not suitable for autumn-sowing, as frequently a large percentage buttons in spring. I prefer a good selection of Erfurt or a dwarf selection of Early London. Some twenty-five years ago it was possible to obtain a good dwarf strain of Walcheren, which was hard to beat. J. Crook.

NOTES AND REPLIES.

Cucumbers failing.—My Cucumbers these last few summers have been a failure, having a kind of disease upon them. It takes the form of dots of crystal or jelly, drying away and leaving black spots. If you could give me any information I should be much obliged. The vines appear quite healthy and strong. I have a nice house of Cucumbers going off now; one house I have had to destroy.—S. PINK.

[It is very difficult to assign any reason for the failure, seeing you give us no particulars as to culture to help guide us. From the specimens you send we should imagine that they are kept too cold, and in this way have received a check. Cucumbers want a good steady

bottom-heat of 80 degrees with a top-heat of 70 degrees at night, rising during the day so as to permit of free ventilation to ensure hardy strong leafage. The soil should be good loam with plenty of fibre in it, in order to cause a hard and firm growth.]

Improper schedule terms.—In connection with the drafting of country show prize schedules how much tendency is there seen to use terms that are both improper and useless, and which necessitate so much additional expense in printing! Why will committees continue to call Celery as "sticks?" No term can be more absurd. The term "stick" is also commonly applied to Rhubarb, which should be called "stem." Cauliflowers and Cabbages are termed "heads"—needless appellations. Beets are called Beetroots; yet Carrots are not called Carrot-roots. The term "French," as applied to Dwarf Kidney Beans, is improper, as they are not French at all. They should be classed as Dwarf Kidney. It is common practice to have classes for "round" and "Kidney" Potatoes. These distinctions are now almost obliterated, one running into the other. The best plan is to have "white" and "coloured" classes only. Kinds and varieties get terribly

of this fact to obtain many crops off the same area of land every year, and their vegetables and salads are appreciated at their true value. Large size is not with them or their patrons so essential as are succulence and good flavour.—*Field.*

FRUIT.

CORDON-TRAINED FRUIT-TREES.

The cordon form of training fruit-trees is peculiarly well adapted for certain purposes, particularly Pears on walls. In this case its advantages are manifest; the trees not only coming into bearing more quickly than when fan-trained, but one is able to grow a tolerably large collection of varieties in a limited space. The old adage, "Those who plant Pears, plant for their heirs," is no longer applicable to this improved form of fruit culture. In saying this, I do not mean that cordon-trained trees are more certain bearers than others, because they are not. Our climate is such that no form of trained tree escapes its influence. Therefore, as regards securing regular crops, one form of training is about as good as

the branches; but when judiciously handled, the Pear-stock can be made to produce a fruitful tree nearly as soon as the Quince. The direction in which the branches are to be trained is a point on which there is some difference of opinion, some preferring the oblique, and others vertical training. The oblique form has, however, a better appearance than the vertical when the trees are trained against walls.

PRUNING.—In regard to pruning this form of tree, I do not agree with persistent pruning. I am satisfied that that system does not increase fruitfulness. I go over the trees twice during the summer with pruning nippers. Early in July the leading shoots are nailed in, and all the others are shortened back, so as to leave about 1 foot in length of the young wood. In the case of vigorous trees they soon rush into growth again, and send out two or three young shoots from the points of the young wood that was headed back. By doing this we preserve the buds close home, so to speak, intact, and at the same time make the appearance of the trees presentable. About the end of August I again go over them. This time I cut the shoots that before were topped back to a spur. If after



A wall of cordon-trained fruit trees. From a photograph sent by Mrs. Readman, Mynde Park, Hereford.

mixed. They mean such diverse things. A "kind" means Potatoes, Cabbages, Peas, Carrots, Onions, and so on. A variety is any one of these named, or of any other kind of fruit, flower, or vegetable.—A. D.

Vegetables at their best.—Those who appreciate good vegetables should be careful to have them gathered when young and tender, instead of leaving them, as many do, until they are tough and staid. Most gardeners prefer size or more bulk to quality and flavour, and are inclined to leave vegetables ungathered until past their best. This is especially true of Peas, Beans, Vegetable Marrows, and even with the various phases of the Cabbage family, none of which are so delicate and tender as when fresh and young. Vegetable Marrows and Peas are really marrowlike when young, but the former might as well be Turnips when full-sized or when old. With nearly all the root crops it is the same, and to appreciate such vegetables as Shorthorn Carrots, Turnips, or salad vegetables like Lettuce, Endive, Radishes, and Cucumbers, they must be quickly grown and gathered young. The same is true of Asparagus, Seakale, Rhubarb, and many other things never so good as when forced quickly and eaten when quite young. The French market gardeners take advantage

of another; but the fact that the trees come into bearing the third and fourth year after planting, and that the cordon plan admits of a wider choice of sorts, is sufficient to stamp its merits. Even away from walls cordon-trained trees are much better than pyramids, and why they should be so is not difficult to explain. One word, in fact, clears the matter up—viz., shelter. A cordon-trained tree whose branches are not more than 18 inches from the ground gets a great deal more shelter from surrounding walls and other objects than a pyramid from 6 feet to 10 feet high; and this difference as regards shelter explains why cordon Pear-trees bear more regularly than pyramids, and the same remark is equally applicable to Apple-trees trained in the same way.

Stocks.—In the matter of stocks for cordon Pears, the character of the soil must influence the decision. In a strong soil, fairly retentive of moisture, the Quince is no doubt the best stock, as it promotes early fruit-bearing; but in other kinds of soils the Pear-stock is more reliable where a judicious system of root-pruning or lifting is practised. Many prefer the Quince as a stock where the soil suits it, and when they understand how to treat it in particular cases, on account of its reducing the vigour of

this there is any disposition in the tree to form any flower-buds on the spur, there is time enough for it to do so; but I do not pruned with the idea that I can always place a fruit-bud where it is wanted. If a tree is managed in a rational manner, that is to say, if the roots are fairly well nourished and any excess of vigour checked by judicious root-pruning, it will always produce more fruit-buds than it can mature fruit. With respect to the management of the roots of cordon trees, if they are Pear-trees on the Quince and form a single cordon, we may be sure that the soil will soon get full of roots, and that what goodness it contains will soon be exhausted. It will, therefore, be necessary to keep up fertility by rich dressings of rotten manure spread on the surface. This is best laid on now, so that the rain may wash what nutriment it contains down to the roots, and unless the soil is naturally holding in its character, trees growing on the Quince-stock will want assistance in dry weather in the way of watering. Espalier and cordon Apple and Pear-trees should be planted near the edges of walks. Plant them the same as other trees, and they will require some stakes or other supports to train the branches on. This type of tree produces very fine fruit, and is especially

useful for small gardens. On no account overcrowd the growth. Pinch off the growth with, if possible, the finger and thumb, which is better than a knife. Stopping promotes fruit-buds at the base of the spurs. There is then less need for pruning in winter. J.

NOTES AND REPLIES.

Tying up shoulders of Grapes.—There cannot be any question that the practice of shouldering up bunches of Grapes is often carried too far. Often upon entering vinerias at this season of the year after the bunches have been thinned a perfect network of string meets the eye at every turn. True, by spreading out the bunches to their fullest extent they look much larger than they otherwise would do, but after the Grapes are ripe and cut the bunches are anything but pleasing when on the dish. I do not go so far as to say that no bunches should be shouldered, as in such varieties as Barbarossa, Trebbiano, and others of that ilk, shouldering must be practised if handsome bunches are to be produced. Occasionally a few bunches of other kinds, such as Muscat of Alexandria, or even Mrs. Pince, or extra large bunches of Black Hamburgh, may be improved by a little judicious shouldering. What I like to see are nice, tapering pyramidal bunches, all ugly shoulders having been previously removed. It often takes a lot of courage to remove portions of clusters of bunches, but those growers who practise it never have any fear on this point, knowing that those portions which are removed do not add either to the symmetry of the bunches or to the look of the crop when finished. All the ugly shoulders should, of course, be removed just as the bunches are forming, thereby throwing all the strength into the main bunch. The practice I pursue with all Grapes, except in the case of extra large bunches, is not to shoulder up at all, but to merely go over the bunches just as the berries are stoning and gently raise the shoulders so as to prevent any undue binding. As the berries take on the second swelling they gradually push the shoulders upwards until these have quite a rounded appearance.—A.

Strawberries failing.—I write to ask if you can tell me the reason for failure of my Strawberries under following conditions? They were planted in 1900, and consist of three kinds: (1) St. Joseph, (2) Royal Sovereign, (3) Another red kind, name not known, and which this year gave promise of an abundant crop. In each year, however, the same thing has occurred. They have been seized with a kind of blight, which rots them very rapidly, and soon reduces them to dust. The rot is distributed over all the beds, but seems particularly rampant with the St. Joseph. I am at a loss to account for it, as the same thing has occurred in two widely differing summers—last year, hot and dry; this year, cold, and, of late, rather wet. They have had every care, and are carefully bedded with straw. The soil is stiffish clay, manured slightly each winter with a mulching of peat-Moss-litter and a little fine cinders to lighten the soil. Aspect south. If you can give me some idea as to the cause and the best remedy I shall be very much obliged.—FRANK R. DUNCKLEY.

[We cannot suggest to you any other kind of Strawberry that would be unaffected by the mildew which infests your plants each year, because they differ so materially in their constitution that it is only by actual experiment that success or failure is determined. The fact of the disease occurring in two widely differing seasons points to extremes which are known to produce the same evil—excess of soil and air humidity and drought. There is nothing that so well repays fresh ground and fresh stock as Strawberries, and we strongly advise you in the present season to procure some plants from a new source, and in the meantime provide a fresh site for them. Though Strawberries are surface rooting plants, they nevertheless require land well filled, and this, too, as deep as circumstances allow. Peat-Moss-manure is not good for all soil or crops, and the probability is it does not suit in your case. This we would advise to be discontinued, and instead use strawy manure, both for digging into the soil and for surface manuring. Probably, too, some lime and soot, applied in autumn or winter, so that the rain washes them into the soil, would benefit the plants. When well cultivated Strawberries do well on heavy ground, but the usual course of mulching with strawy manure in winter would not be the best suited in such cases. Short manure shaken out from the straw, or that which has been prepared for and produced a crop of Mushrooms, would be admirable for lightly pointing into the surface

in late autumn or winter, deferring the strowing of the bed until after the flowering period. For St. Joseph substitute St. Antoine de Padua, if you desire a perpetual variety, and procure good runners of, say, Leader, Fillbasket, and Aberdeen Favourite as a change of stock. Another suggestion we would make is to give more space between your plants. If the growth become vigorous, a distance of not less than 30 inches should be allowed between the rows, and about half the distance between the plants. If the leafage is so dense that air cannot play through it, and especially in damp weather, the fruits quickly decay in the manner



Zenobia speciosa (syn. Andromeda speciosa).

you complain of. Strawberries ought not to be allowed to stand longer than three years.]

United Horticultural Benefit and Provident Society.—The monthly committee meeting of this society was held at the Caledonian Hotel, Adelphi-terrace, Strand, on Monday evening, August 11th. Mr. Thos. Winter presided. After the minutes of the last meeting had been read and signed, four new members were elected and one nominated. Five members were reported on the Sick Fund, and two others had been on and off the Fund since the last meeting. The Secretary was instructed to make the preliminary arrangements for the annual dinner, to be held early in October next.

TREES AND SHRUBS.

ZENOBIA SPECIOSA.

THIS is one of the most beautiful shrubs in the Heath family, about a yard high, with small roundish leaves of a pale green. In the variety pulverulenta the leaves are almost white, covered with a mealy glaucousness. The flowers, white and wax-like in form, resembling those of Lily of the Valley, come in summer in beautiful loose drooping clusters. A well-flowered specimen is most charming, and lasts for some weeks in beauty. The shrub thrives in a peaty soil or a sandy loam. It comes from the Southern United States, and is therefore not absolutely hardy. In nurseries it is known as *Andromeda cassineifolia* and *A. speciosa*, and the variety *Z. pulverulenta* as *A. dealbata* and *A. pulverulenta*.

The purple Venetian Sumach.—Many of our readers know the old Venetian Sumach, which, well grown in the open, is such a striking plant, and as hardy and long lived as striking. I had no idea when purchasing and planting this new kind of Sumach that it was so very different from the old one as I find it is. Its curious blooms are now very handsome, and I find it very distinct from the old bush. I take no trouble with it, planted on a bare, dry bank, where it certainly has no comfort beyond a full exposure to such sun as we get, and has to struggle with the weeds of the place.—W. R.

GARDEN PESTS AND FRIENDS.

Fungus on Rose-trees.—I would be much obliged if you could tell me the cause of and remedy for the disease which has attacked the leaves of the Rose, some specimens of which I enclose? Every leaf is attacked. Is it a fungus, or does it come from green-fly?—ARDREIGH.

[Your Rose leaves are attacked by a fungus, the Rose rust (*Pragmidium subcorticum*), at times a very common pest. Spraying with dilute Bordeaux mixture will check it. When the leaves fall they should be collected and burnt. Next spring, before the buds open, spray thoroughly with 2 oz. of sulphate of copper dissolved in 3 gallons of water.—G. S. S.]

Campanula failing (*Miss Wilson*).—Your Campanulas have been attacked by a fungus, very probably *Sclerotinia sclerotium*, but I cannot say for certain if this be the case. Some fungi, that which has killed your plants among the number, at a certain period of their existence become hardened, rounded, generally black masses, known as sclerotia. When in this condition it is impossible to be certain to what species they belong. You may find these sclerotia within the dead stems. Pull up and burn all the dead and infected plants.—G. S. S.

Red-spider on Violets.—I am sending you a few specimen leaves of my Violet plants, and shall be very much obliged if you can kindly tell me what is wrong with them, and what had I better do to my plants? The disease has appeared on all my two-year-old plants, and has attacked some of my other young plants in the beds near. I shall be very much obliged if you can give me any help upon this subject.—(MISS) MARY C. FRANCE.

[The Violet leaves you send are eaten up with red-spider. The only thing you can do is to syringe them with Quassia extract and soft-soap, so as to get them clean. You have allowed the plants to get very dry during the summer, hence the pest from which they are now suffering. Violets when growing in the open air must be kept well watered and mulched with rotten dung, and also syringed freely in the evening, if the weather is hot and dry.]

Thriffs.—Thriffs appeal to all who still retain an affection for old-fashioned garden flowers, and if we do not grow them to any extent ourselves, we have recollections of seeing their thick cushions covered with blossoms in not a few country gardens, so they do not call for much attention when once they have become established, and Thriffs will thrive in the poorest soil. They sometimes die off in the centre of the crowns, and to avoid this they should be pulled to pieces occasionally and divided. The young plants also bloom the best. They are nice for the rock garden, doing well in any cool niche or crevice.—TOWNSMAN.

GARDEN WORK.

Conservatory.—It will soon be time to begin reducing the growth of the climbers where they have been allowed to grow freely. They are lovely in the hot weather, but when the days are shorter they darken the house too much, and should be gradually reduced. Hard-wooded plants outside will require to be watched carefully, especially those having dense foliage, such as Hothos and Azaleas, where neglect, as regards watering, might be fatal. Passing showers do not water sufficiently plants in pots which are full of roots. Cyclamens, Primulas, and Cinerarias are growing freely now, and should not be too much shaded. It will be as well in mild, warm weather, to take the lights off when the afternoon sprinkling is given, and leave them off all night. This keeps the growth dwarf and sturdy. Chrysanthemums are growing freely now, and bud selection will, in some instances, have taken place. As a rule, the second crown-buds give the best flowers. The hunt for earwigs must be continuous. These insects are partial to certain kinds, and, if permitted, they soon destroy all prospects of good blooms on the plant they fancy. Stimulents may be given to plants which require it, but judgment is necessary, as some kinds require more nourishment than others. Roses intended for forcing should be repotted or top-dressed. The new Rose Liberty is a grand force, and is now cheap enough for all to purchase who desire a bright button-hole flower. Arum Lilies should be broken up and repotted now, if not already done, but they should be kept in the open-air as long as it is safe to do so. The lancifolium section of Lilies where brought on quite cool, will be useful in the conservatory now. We generally stand some outside in a sheltered spot on coal-ashes for late blooming. This section is a most useful one, as the bulbs will increase and flower freely from year to year, and are hardy and free from disease. A few good specimens in pots of *Bongainvillea glabra* and *Plumbago capensis* will show well in the conservatory now. The white variety of *Plumbago*, though not so popular as the blue, is still useful. The old *Pasiflora kermesina* makes a good specimen in a pot. It is a bright-flowered kind, and is easily grown. As *Fuchsias* go out of flower place them outside to ripen, and have younger plants coming on in pits, or even outside, to fill up for the autumn. Plants struck early in spring, if well grown, will be coming into bloom now. To bloom *Fuchsias* well late, they must never be allowed to get pot-bound till the plants have pretty well attained their intended size.

Ferns under glass.—We often have hot, bright days in August and September, and then a little shade will be necessary and grateful to the plants, but too much shade weakens the growth and makes the fronds too tender for floral decorations. To remedy this, shade less and ventilate more freely. Spores can be gathered from old plants which have been grown in a well ventilated house. Scarcely any plant will produce fertile seeds under unnatural conditions, and though Ferns like a subdued light they will not produce fertile spores in a hoovily shaded spot. If any repotting is required to be done—and there is always something to repot in a large collection of Ferns—it will be best to get it done before the short days come. Seedlings should be pricked off into shallow boxes as soon as they are large enough to handle, and kept in a close, shady pit for a time till growth becomes active. The best soil for Ferns is one half yellow loam and the remainder made up of peat, leaf-mould, and a dash of soot, with a free admixture of coarse, sharp sand. Very delicate species may have more fibrous peat and sand and less loam. It is not necessary to pot Ferns so firmly as one would do a Heath or Azalea, still the soil should be made reasonably firm, especially when one wants to keep the plants in as small pots as possible.

Work among Pines.—Plants which are opening fruit must be kept on the dry side at the root, but liquid manure can be given to those swelling. In the past we obtained our stimulants from the manure tank. Now various artificials are used, but even now those who

have a farmyard tank need not use artificials. A thin shade will be necessary on bright days, and a dewing over with the syringe will be beneficial twice a day to all except plants in blossom or ripening fruit. Suckers may be taken at any time when ready, and the crowns of the ripe fruit may be saved and potted if required, though suckers are generally used for increasing stock. Night temperature of fruiting-house, 70 degs.; successions, 65 degs. A little ventilation should be given when the thermometer has advanced 10 degs. in each case. In all cases bottom-heat should be maintained.

Late Melons.—Melons are always useful for dessert, and it is desirable to have them as late as possible; but it is too late to plant in frames or pits now, unless heat can be obtained from hot-water pipes in addition to that obtained from hot-beds and sun-heat. To obtain good late Melons the plants must be set out in low, well-heated houses, the same as are generally used for Cucumbers at this season. There should be a steady bottom-heat of 80 degs. or so, and a top-heat of 70 degs. at night, with a suitable rise during the day to permit of a free ventilation to ensure hardy, robust foliage. The soil should be chiefly good sound loam containing plenty of body and fibre. It is not so much rampant growth which is required as that which is hard and firm, and this can only be obtained where the soil is of proper character.

Tomatoes under glass.—Do not overfeed with strong liquors, or the fruit may crack and be useless. Where top-dressings can be given containing a little manure matter there will be less need for chemical manures. Most plants under glass are doing well this season, and so far as I have seen there is very little disease, but the fruits ripen slowly in cool-houses, owing to the absence of sunshine and the low temperature at night. Tomatoes outside are healthy but very late, and the crop will be light. Better stop outside plants as soon as four bunches of fruit are set, as late-set fruits will not ripen, and late growths are useless.

Window gardening.—The brightest window plants just now are the Campanulas, which are so effective when suspended in baskets or on brackets, hanging down by the sides of the windows. Outside, the boxes of flowering plants are in many places very bright and effective, and a little weak liquid-manure will be useful now. Of course, all dead flowers and leaves should be regularly removed. At many of the local shows we have noticed very effective pots of annuals, which would be charming in the windows.

Outdoor garden.—The *Verbena* is evidently coming back again in a more robust form than when it disappeared, or nearly so, some twenty or thirty years ago. The *Verbena* is, as nearly as possible, a hardy plant, and its failure in the past may in a great measure be ascribed to over-propagation in strong heat. Let us hope *Verbenas* now will be treated more rationally, and that they may do useful work in the garden of the future. Cuttings of the young shoots will strike now in a close, cool, shady frame. Cuttings of other plants may be taken now. The *Geraniums* have not made much growth, and cuttings will be scarce. We shall take care of the best of the old plants, and strike the young shoots in early spring. Now is the time to sow hardy annuals to fill beds and borders in spring. Most of the Californian annuals will pass through our winters with safety. To obtain an early bloom the seeds must be sown this month, and planted out when the summer bedders are cleared off in October. This is the best season to move the *Madonna Lilies*, if they are to be moved, but it is generally a mistake to move them if they are doing well. Keep an eye upon the early budded standard Briars, and relieve the pressure of the ties in good time, and clear away all shoots from the stems.

Fruit garden.—Irish Peach Apples may be gathered and stored for a short time. This is one of the best of the early dessert Apples, though hardly so profitable as the *Devonshire Quince*, which is now putting on its brilliant colour. This is a popular variety in

shops and with the hawkers. Three of the best Apples to plant for profit where storage room can be had are *Bismarck*, *Lane's Prince Albert*, and *Newtown Wonder*. Where the fruits must be sold from the trees *Lord Grosvenor* and *Manks' Codlin* are sure bearers. In most places the *Jargonelle Pear* bears well as a standard, as do also *Williams' Bon Chrétien* and *Pitmaston Duchess*. One of the best dessert Pears is undoubtedly *Doyenné du Comice*. There is often more profit in such early kinds as *Hessle*, which can be marketed from the tree, than in the better dessert kinds which ripen later and require storing, and on good soils the *Hessle* grows to a large size and bears bushels of fruit each year. Where lots of kinds of Apples and Pears are grown a good fruit store is a necessity. One of the best fruit-keeping stores I have had anything to do with was a simple span-roofed structure built with hollow walls and a thatched roof, the windows being provided with shutters to use when necessary. There is still work to do among the forcing Strawberries. Runners are none too plentiful this season, and I prefer runners from young plants to old plants saved from last autumn's clearing up.

Vegetable garden.—Tomatoes in the open air will be late, especially when trained to stakes in the open. It will be better to stop the leaders when three or four trusses are shown and setting, and keep the side-shoots closely pinched in, but do not be in a hurry to remove foliage. This may be done in a tentative manner later when the fruit at the bottom begins to colour. The plants trained to walls or fences may be top-dressed or mulched with manure, but when grown in the open on a large scale in field culture, it will hardly be possible to mulch with manure, and the next best course is to use the hoe freely and keep the surface loose to encourage growth. There has been a good deal of rain lately, and winter greens are now growing rapidly, and some earth may be drawn up to the stems. Turnips just up should be freely thinned, and there is yet time to sow the *Red Globe* and *Chick Castle Blackstone*, which are the hardiest Turnips to stand the winter. Scarcely anybody sows enough *Winter Spinach*. It will follow the early Potatoes without much preparation beyond a sprinkling of soot and a deep hoeing. Most people sow *Tripoli Onions* for standing the winter, but other kinds, such as the *Globe* and *Spanish*, may be sown now and transplanted in spring. The best crops of Onions I have seen this season, except those autumn-sown, were sown in boxes in January and transplanted early in April. The Onion requires a longer season of growth than can be had from a late spring sowing outside. E. HOBOAY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

August 23th.—Made up Mushroom-bed in house. Manure will be collected for other beds and the house pretty well filled during the autumn. The outdoor beds are giving a supply now, and this will be increased during the autumn. The beds which have been bearing some time receive liquid-manure, and a little salt in the water from time to time. We are still busy putting in cuttings of various kinds for next season's work. Sowed various annuals for spring.

August 25th.—There is a good deal of work among Tomatoes just now in cool-houses and outside, and we make a point of keeping the growth in check. The outside plants have been stopped, as the later blossoms are of no use and only exhaust the plants. Cucumbers in pits and frames have been lightly top-dressed. The necessary thinning and stopping are done weakly. A house has been prepared and will be planted with *Improved Telegraph* at once for autumn bearing.

August 26th.—Sowed several kinds of Cauliflowers on south border. Shall sow a few seeds later in a frame, as Cauliflowers are an important crop. Strawberries are now being potted for forcing. A good many plants are required, but those for early work will soon be in their fruiting pots. Later sorts, such as *British Queen* and *St. Charles Napier*, will

follow as soon as possible. A good deal of time is given to the renovation of flower-beds, such as pinching, pegging, tying, etc., and the constant removal of dead flowers.

August 27th.—The stove and several other houses have been repainted, both inside and out. This is the only way to keep out drip and preserve the wood. All potted fruit-trees, except a few Figs, are now outside ripening up wood. Peaches and Plums in pots which require a shift will have attention very shortly, and those trees which are now in large pots will be top-dressed, first removing as much of the old soil as possible. Celery for the most part is being blanched with paper collars, but will be earthed up to finish.

August 28th.—Arum Lilies in pots have been overhauled. Some have been broken up and repotted into smaller pots, as plants in 6-inch and even in 5-inch pots are useful for certain purposes, but the bulk of the plants will have 7-inch and 8-inch pots, and a few even larger. Ne Plus Ultra Pea is largely grown for late use, and where the pods were closely picked in the earlier rows a new set of blossom is showing. This often occurs with this Pea, and adds to its value as a late kind. A pit where a little warmth can be given when required has been planted with French Beans.

August 29th.—Herbs of various kinds have been cut for drying. Sowed Chervil. French Breakfast Radishes are still sown in a cool border, but we shall shortly go back to a sunny position again. Lettuces and Endives are being planted for winter on south borders. Looked over late Vinery to stop laterals which were inclined to ramble a bit. Less growth is made now, and a little more freedom is permitted in certain cases, but no foliage is allowed to remain in contact with the glass.

LAW AND CUSTOM.

Landlord's right to paint premises let to tenant.—Three years ago I took a house, just finished, of the ordinary bow-windowed, stucco-fronted type. My first care was to plant Ampelopsis against it, which has made splendid growth and reached to the second storey. Now, however, the landlord wants to cut it down in order to paint the house, which is semi-detached. The man is perfectly civil, but represents that the painting is necessary for the preservation of the stucco, and that it will be a serious injury to his property if it cracks or falls off. I have an idea that a close covering of creepers will be as good a preservative as the paint, and should be much obliged if you will tell me in GARDENING if I am right. Has the landlord the right to cut it down against my will? There is no covenant in the lease, except that he is bound to keep the outside of the premises in repair.—PORTALEX.

[I quite disagree with your contention that a close covering of creepers will be as good as painting; I should think it highly probable that in the course of time the creepers will cause actual injury. As the lease contains a covenant by the landlord to keep the outside of the premises in repair, a right of entry for the purpose of repairs is implied. I think the landlord has the right to cut down so much of the Ampelopsis as may be necessary to secure the proper painting of the stucco, etc.—K. C. T.]

Determination of tenancy.—I let a garden plot upon a verbal agreement for the term of five years. The term expires on Sept. 29th next, but my tenant says he shall not quit until a year's notice shall have been given and shall have expired. He has paid his rent half-yearly, and nine half-yearly payments have been entered in the rent book. What can I do?—A. E. J.

[A verbal letting for more than three years is void as a lease for the term stated, but after the tenant has entered and paid rent, he becomes a tenant from year to year during the continuance of the term. While the term continues, his tenancy can only be determined by a proper notice to quit, but his tenancy expires without notice when the term expires, just as though the letting had been valid. The five years for which you let the place will expire on September 29th, and so the tenancy expires on that date without notice from either party. If your tenant does not quit on September 29th you may take proceedings to recover possession, and your best procedure will be before the justices. But I must tell you that you will have to prove that you let the place for the term of five years, and you must consider for yourself how you can give proof if your tenant denies your statement and swears that the place was taken on a yearly tenancy. His word will be as good as yours, and he will prevail.

ment will appear the more probable on the face of it. If the rent-book shows that the place was let for five years, you should have no difficulty. In any case, you should get a solicitor to act for you in the matter.—K. C. T.]

Assessment to poor rate.—I am the owner of six cottages let at 6s. per week, and assessed at £9 12s. (net). This being a new neighbourhood there have been a number of cottages built since mine, some of them worth £40 more than mine, some let at 8s. per week and assessed the same as mine, others let at 6s. per week and assessed at only £5 (net). I have appealed to the Assessment Committee to get mine lowered. They tell me their rules are, for 6s. per week rent £9 12s. Am I bound to pay on that amount, whilst others only pay on £5? If not, what is my best course to take in the matter?—A. B.

[Property is required by law to be assessed at the sum at which it would let to a tenant who paid the rates, and although you probably pay the rates, it seems that you cannot complain that you are over-assessed. On the other hand, it is clear that the other property to which you refer is valued too low, and when you were before the committee you ought to have pointed out the instances in question, and you should have contended that the assessment of these properties was incorrect and unfair. Your proper course is to again give notice of objection to the committee and to the overseers and to the persons rated for the property to which you refer, and to appear before the committee in support of your objection. The result will be that the committee will not reduce your assessment, but that they will increase the assessment on those other properties which are now under-valued.—K. C. T.]

BIRDS.

Treatment of Green Parrakeet

(A. L. Richmond).—Feed your bird on Maize, boiled till soft, then strained and wiped dry, adding to this staple diet a little Hemp-seed, Millet, or Canary-seed. The Maize should be prepared daily, as it is injurious if allowed to become sour. Fresh water for drinking should be given daily, and a supply of coarse grit-sand provided to assist the bird in the digestion of its food. The grit may be given in a tin, and the floor of the cage strewn with fine sand, and scraped and cleaned daily. A little salt mixed with the grit, or a piece of cuttle-fish bone for the bird to nibble at, will help to keep it in health. Meat should never be given, and sopped bread very seldom—a crust of bread may, however, be allowed now and then, or a piece of hard biscuit. All the Parrot-tribe like to have something on which to exercise their powerful beaks, and a small log of non-splintering wood affords them much healthful amusement.—S. S. G.

Treatment of birds during their moult

(L. H. B.).—The moulting season being doubtless the most critical period of a bird's life, it is the time to afford it a little extra care and attention, and, although outdoor aviary birds do, as a rule, shed their feathers quickly and have no difficulty in renewing their plumage, it is well to afford them some help in supplying them with food of a more nourishing character than they usually receive. A supply of Linseed is beneficial, as is a small allowance of Hemp and Maw-seed, while some fanciers give a little hard-boiled egg, finely chopped and mixed with the same quantity of crushed plain biscuit. Drafts must be carefully guarded against, particularly at night, as a chill causes a check in the moult, and may lead to illness, or, at least, prolong the moulting and render a bird a ragged object for weeks. A tonic, provided by placing a rusty nail or a little piece of sulphate of iron in the drinking water, will prove very beneficial at this period. Yes, a little of the mixture known as "Purish's Chemical Food" is to be recommended, as it contains all the elements necessary for the elaboration of new feathers. Ten drops may be added to each ounce of the drinking water during the continuation of the moult. Give a liberal allowance of green food.—S. S. G.

As many of the most interesting notes and articles in "GARDENING" from the very beginning have come from its readers, we offer each week a copy of the latest edition of either "STOVE and GREENHOUSE PLANTS" or "THE ENGLISH FLOWER GARDEN," to the sender of the most useful or interesting letter or short article published in the current week's issue, which will be marked with a star.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in GARDENING free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of GARDENING, 17, Finsbury Street, Finsbury, London, E.C. Letters on business should be sent to the Publisher. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind really assist in its determination. We have received from several correspondents single specimens of fruit for naming, these in many cases being scraps and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Camellia-leaves blotched (F. G.).—The man has probably been permitted to shine on them strongly when the house wanted more ventilation, and perhaps they may have been dry at his roots at some time when the leaves were young and tender. How have the Camellias been treated generally?

Keeping Cannas in winter (J. N. S.).—Send your Cannas underneath the stage in the greenhouse, taking care that too much water does not fall on them when you are watering the plants overhead. Break them up and repot about the end of February or early March, using light, rich soil. After this the water supply must be gradually increased until you want to plant out again in summer. Harden them off well before you plant out.

Pruning Banksian Rose (R. N. S.).—The Banksian Rose requires a warm wall and a dry border with two or three years' growth to bloom in perfection. Merely cut out a few of the old shoots that have bloomed and are growing, sappy wood now. Admit all the air possible so as to well ripen the wood. You may also remove any growth that has been injured by frost during the winter, but, beyond this, little pruning in spring is necessary.

Frosts and Chrysanthemums-falling (Constant Reader).—We should say that the frost has been the cause of your Frosts falling. The other day we had some Frosts the foliage of which was quite spoiled by the effects of frost in early July. Your Chrysanthemums have been attacked by earwigs, while there are also symptoms of mildew on the leaves. For the former, place some hollow stems of Broad Beans among the leaves. Use these the earwigs will go for abelter. They may be caught in the morning, when they should be shaken into a pail of hot water. For the mildew, dust with sulphur.

Planting Carnations (M. A. C.).—Your best plan will be to thoroughly dig up the soil where you intend making the bed, adding at the same time some good loam, well-decayed manure, and some soot and wood-ashes. Thoroughly incorporate all these ingredients. When planting, put a mixture of sand and fresh soil with soot, wood-ashes, or any ashes from burnt refuse, over the roots and round the stems. Before filling up, carefully water the plants. Plant early, and make the plants firm in the ground, so as to get a good root-hold able to resist the upheaving tendency of frost.

Tritomas (Cranehead).—You should mulch your Tritomas with leaves, bracken, or good coal-ashes, and if the plants are large, to keep them up to a pyramid of straw stakes to keep the snow out of the crowns. Do not in any case cut away the foliage, and, if insufficient to do up, first work 3 inches of ashes into the crowns while holding the leaves erect, and finally twist the foliage into a pleat, so to speak, over the top of the crowns. Let these so remain until March. They are best divided in the spring when this is necessary. Perhaps your soil is too heavy for the Scabious, as it always does best on a light warm soil, in which it is a true perennial, but perishes on cool soil.

Insects on a flower border (S. M.).—Insects infest your flower border largely, no doubt, because the soil is so sandy and porous. It may also be poor. If you could give the border occasional heavy soakings of liquid manure, and especially soot-water, great good would result. So also would a heavy coating of top-manure, laid on now and forked in in the autumn. To trap ants, get slates and coat them with treacle, on which is also sprinkled a very little powdered arsenic, as that will kill them wholesale. To trap woodlice, place here and there pieces of slate or tile hard pressed into the soil, then, on to those, other pieces, kept a quarter of an inch apart by tiny strips of wood. The insects will creep in between these during the day, and may be found and caught.

Diseased Ten-week Stocks (G. E. H.).—The few plants of Stocks sent are, for the time of the year, very small. They look as if sown very thickly, as the plants have been badly infested with aphid, which have sucked the sap from the leafage and caused the plants to wither. No doubt, your Astens have suffered from the same cause. You want for these plants well-manured soil. The seed should be sown thinly in shallow pans or boxes in April, and be raised in a frame or greenhouse quite near the glass to make the plants sturdy. After being well hardened by exposure in May, they should be dibbled out moderately thin at the end of that month, and, if it be dry, occasionally watered, especially overhead at night. If the plants get a check in the young stage they never later become strong. You seem to have a very poor strain.

Climbing Roses bare at base (M. O. E.).—It would not be advisable to prune the two plants now; so long as you cannot well prune them unless you sacrifice the blossom for one season. If there are two or three canes growing from the base, cut out one of them quite down

to the ground later on, say, about the end of October. If you were to repeat this each year you would soon have well furnished plants. Another plan is to take down the growth and re-bait them to the wall in a zigzag fashion, and at every bend new shoots will emerge, not immediately, but certainly later on. To avoid such a thing happening in the future, when climbing Roses are again planted, cut them back rather hard the first season, then you will obtain new shoots right from the base, and this can be maintained by cutting down one or more of the oldest growths each spring or autumn.

Pruning Rose Climbing Devoniensis (J. O. Chambers).—It is not pruning this plant requires. There is something wrong at the root, or it would be more vigorous than it is. This Rose, when it is doing well, will send out strong new wood thicker than the main stem of your plant. In November examine the roots by removing a portion of the soil. Should they be in a healthy condition, you have not laid hold of the soil, it will be the greatest economy to plant a good specimen on the Brier, or, better still, a half-standard. It is just possible your plant originally was pot grown. If so it would account for the want of vigour, as such plants rarely succeed as well as those grown in the open. When examining the roots have a little good compost at hand to replace such as you remove from the roots. This Rose should not be pruned until there is abundance of growth, and then only shorten the laterals, and remove soft, pithy wood.

Ants in a Rose-bed (Mary Dogne).—Ants are very difficult to destroy in a flower bed. There are only two ways of doing so—by taking up the plants whose roots the ants are infesting and destroying the nests, or by trapping them. The former is the far more efficacious way. You will probably find that the plant at whose roots the nest is attacked by aphides, and that the ants have made their nest to obtain the sweet material secreted by the aphidae. As soon as the plant is removed the nest can be destroyed by pouring boiling water into it, taking care to thoroughly cleanse the roots of the plant, so that none of the aphides remain on it when it is replanted. To trap the ants, set a good-sized pot, close at the bottom, half full with dry leaves, and then turn it bottom upwards on the ground close to the nest. Keep the soil moist, particularly that over the nest, wet, so that the ants may be driven to take shelter in the pot. Leave the pot unmoved for a fortnight, when you will probably find the entire nest in it. Empty it into a pail of boiling water. Watering the border with anything that will kill the ants would injure the Roses.

Hardy plants for bed (St. Leonard).—You do not give the size of the bed, which is always of some assistance in making a selection. As an edging, any of the Aubrietias, such as Phloxes as Nelsoni, Vivid, The Bride, atropurpurea, and amaran, or Achilles umbellata, silvery foliage and white flowers, may be used. The above are all dwarf, and 6 inches high. Phlox divaricata, Arnebia echioides, Dianthus superbiens, L. superba, L. Little Gem, Muscaris autumnalis, Leucojum vernum, Triteleia uniflora, Narcissus minor, N. Queen of Spain, N. Grande, Iris reticulata, Asclepias palmata, A. p. alba, Arabis alpina plena, Dianthus elegans, Achillea monensis, Triteleia pyrenaica, Statice latifolia, Saxifraga Wallacei, Meibomia cordata, atropurpurea, Polemonium richardsoni, Lychnis Haagei, L. Vaccaria fl. pl., Heuchera sanguinea, H. hrizoides, H. Bekedrechi, G. coccineum pl., Hybrid Columbine, Campanula medium Endressi, Coreopsis lanceolata, Campanula medium, Campanula alba, Anemone sylvestris, Anemone angustifolia, etc., include plants from 15 inches to 21 inches high. Those marked * are bulbous plants.

TREES AND SHRUBS.

Pruning Wistaria (J. Izard).—If your Wistaria is well furnished with flowering spurs, which form at the end of last season's growth, the young shoots may be cut back in November to within a couple of eyes of the flower buds. In this way they will develop much quicker when the sap begins to rise than if the long shoots were allowed to remain, and consequently flower earlier. To keep this sap back after year the young shoots should, soon after the summer, be pinched back to within a foot or so of the main stem. These shoots will again break into growth from the buds just behind where the shoot was stopped, and, after growing a few inches, they should be again pinched. This will tend towards the formation of flower buds at the base of the shoot just shortened, and, as the sap of the plant in the direction of growth has been checked, the buds will develop quicker than if this had not been done.

Striking cuttings of Himalayan Rhododendrons (S. Kiburn).—Though most of the Himalayan Rhododendrons can be struck from cuttings, they are difficult of increase in this way, and, to ensure success, special appliances are needed. The best cuttings are those of the shoots of medium vigour, not the very strong ones, which should be taken when they are in a half-ripened state, that is, as a rule, from midsummer to a month afterwards. The cuttings should be about 4 inches long, and if the shoots are only of that length, take care that the thickened portion at the base (that is, just where the springs from the previous year's growth) is allowed to remain, as roots are produced from that part more readily than from any other. When the cuttings are taken, remove one or two leaves from the bottom as may be necessary for insertion, and they are then complete. For their reception take some clean pots (those from 4 inches to 6 inches are the best), well drain them with broken rocks, and then fill with a mixture of equal parts of fine sand and silver sand pressed down very firmly. Into this insert the cuttings around the edge of the pot, taking care that the soil is closed tightly around each cutting. Then give a good watering through a fine rose in order to settle every thing in its place, and put the pots when filled in a close propagating case in an intermediate temperature. When then they will take three months to root, and in four months are sure to occur. If suitable cuttings can be obtained early in June, a few may be struck in a cold-frame if kept close, carefully shaded, and well attended to.

FRUIT

Keeping Apples (M. E. H.).—If the fruit is sound and carefully gathered, there is no better way of storing Apples than packing them carefully, with nothing between the layers, in boxes or barrels, leaving the lids open for several weeks, then shutting them tightly, and

placing in a dry, dark cellar or any room from which the frost is just kept out. Of course, you will understand that this only refers to late-keeping Apples, such as Wellington, Lane's Prince Albert, etc.

SHORT REPLIES.

See.—See article with illustration of Cactus Jenkinsoni in our issue of Aug. 9, p. 307.—**Han.**—Any hardy plant nurseryman can supply a collection of Phloxes.—**Mrs. Randall.**—Kindly say what you mean by St. Helen's Violets.—**Edward C. Deane.**—See article with illustrations on "Wall Gardens," in our issue of Dec. 23, 1901, which can be had of the publisher, price 14d.—**Clervous.**—The only thing you can do is to thoroughly trench the border, and, while doing this, to pick out every piece of root you can find.—**R. V. S.**—A Judas-tree would answer very well, but we should prefer the Mountain Ash.—**T. Fisher, Kellog.**—Allamanda Hendersoni, Ixora any, Clerodendron Thomsoni or C. splendens.—**E. A. R. W.**—1, Your Rose Bouquet d'Or will flower well next season on the growths you refer to. Keep these thin, and allow sun and air to reach them to ripen the wood. 3, See article and illustration of Iris Kempteri in our issue of Oct. 26, 1901, p. 455, which can be had of the publisher, post free, for 14d.—**J. Mayhead.**—Only a treak and of no value.—**M. L. Woods.**—Your Roses seem to have been suffering from the cold, unseasonable weather we have had, while we could also trace Orange-fungus, which you will find described in our issue of Aug. 2, p. 303. Kindly send specimens of the insect in a small box or bottle, as those you sent had been knocked about in the post.—**O. V. E.**—See reply to "J. Langley," re "Plum-tree gunning," in our issue of Aug. 2, p. 300.—**Wm. Thompson.**—It is quite impossible for us to say what is the cause of the Strawberries failing without further particulars as to age of plants, etc.—**J. Harding.**—Why not try Coleus Verschaaffelti, Iresine Herboldi, or I. Lindeni, cutting out the centre of the plant and encouraging them in this way to branch out and cover the ground? Your district is too cold for Alternanthera.—**A. R. St. C. Radcliffe.**—Yes, the Monkey Puzzle (Araucaria imbricata) frequently produces cones. There are instances of its fruiting in Scotland.—**M. W.**—The manure you speak of will answer perfectly well if it is fairly well decayed. If you use the cow-manure do not use stable-manure, more especially in your light, sandy loam.—**A Lover of Carnations.**—Try Paragon, a fine clear yellow, or Mrs. Prinsep, also a good yellow. Alma is a good pink.—**Luz.**—Apply to Messrs. Boulton and Paul, Norwich.—**Ajax.**—You will find an article dealing with "Madresfield Court Grape cracking," in our issue of Jan. 18 of this year. This can be had of the publisher, post free, for 14d.—**Julie E. Walsh.**—Wireworm is evidently the cause of the mischief, and was no doubt in the soil in which the Carnations were potted.

NAMES OF PLANTS AND FRUITS.

* Any communications respecting plants or fruits sent to name should always accompany the parcels, which should be addressed to the EDITOR OF GARDENING ILLUSTRATED, 17, FURNIVAL STREET, HOLBORN, LONDON, E.C. A number should also be firmly affixed to each specimen of flowers or fruit sent for naming. No more than four kinds of fruits or flowers for naming should be sent at one time.

Names of plants.—**Ashed.**—1, Potentilla hybrid var.; 2, Evidently a Mesembryanthemum. Kindly send leaves.—**M. W.**—We cannot undertake to name florists' flowers.—**Young Amateur.**—1, Hoya bella; 2, Lilium speciosum rubrum. There are many varieties of Lilium speciosum. Thanks for careful way of sending for name.—**M. E. G.**—Flower quite shrivelled up.—**F. Chute.**—We cannot name florists' flowers.—**Umbel.**—Cow Parsnip (Heraclium Sphondylium).—**T. H.**—1, Sidalcea campestre; 2, Melissa officinalis; 3, Linaria ep; 4, Sparganium Douglasi; 5, Eupatorium veratroides.—**A. R. L.**—Valeriana pyrenaica.—**N. E.**—White Melilot (Melilotus alba).—**Glenariga.**—Scabiosa ochroleuca.—**Templer.**—Spiraea Douglasi.—**A. M. R. Balerno.**—Deutzia crenata fl. pl.—**Jas. Isted.**—Ceanothus azurea.—**W. Hobby.**—Phacelia tanacetifolia; 2 and 3, Next week; 4, Loosestrife (Lysimachia vulgaris).—**C. S. T.**—Lysimachia clethroides.—**T. K. W.**—1, Grindelia glutinosa; 2, Eryngium Olivarianum.—**H. Sambourne.**—We cannot undertake to name florists' flowers.

Names of fruit.—**W. Williams.**—No numbers affixed to fruit. Please affix numbers and give us some idea as to habit of bush, this being of great assistance in naming Gooseberries.—**T. H.**—Pears: 1, Doyenné d'Ete; 2, Summer Bergamot.

Catalogues received.—Samuel Dobie and Son, Chester.—The Amateur's Garden Annual for 1902.—W. Paul and Son, Waltham Cross, Herts.—Catalogue of Bulbs, etc.—Sutton and Sons, Reading.—List of Bulbs for 1902.—Jas. Backhouse and Son, York.—List of Bulbs, etc.—M. M. Vilmorin et Cie, 4, Quai de la Mégisserie, Paris.—List of Bulbs, etc.—H. and A. Trower, Redhill, Surrey.—Bulb Catalogue for Autumn, 1902.—Dickson's, Waterloo-place, Edinburgh.—List of Flower Roots for 1902.—Mr. H. Mathias, Thames Ditton, Surrey.—List of Carnations, Picotees, etc.—John Peed and Son, West Norwood, S.E.—List of Bulbs, etc.

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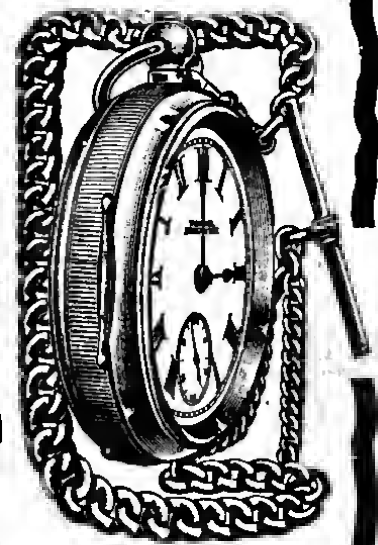
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GARDEN & PLANT PHOTOGRAPHS, 1902.

THE EDITOR of GARDENING ILLUSTRATED announces Photographic Competition for the season of 1902.

Class 1.—SMALL GARDENS.—A prize of FIVE GUINEAS and a SECOND PRIZE OF THREE GUINEAS for the best ten photographs or sketches of picturesque small gardens, including town and villa gardens, rectory, farmhouse, or cottage gardens.

Class 2.—FLOWERS AND SHRUBS OF THE OPEN AIR.—A prize of FIVE GUINEAS and a SECOND PRIZE OF THREE GUINEAS to the sender of the best series of not less than twelve photographs of the above. These may include will plants or bushes, or any plant, flower, or shrub grown in the open air, including also half hardy plants put out for the summer, and either single specimens or groups, or the effects resulting therefrom, in beds or borders. Shoots also of rare or beautiful plants photographed in the house may be included in this class.

Class 3.—INDOOR FLOWERS AND PLANTS.—A prize of FIVE GUINEAS and a SECOND PRIZE OF THREE GUINEAS for the best series of indoor plants—greenhouse, stove plants, Orchids, or any other plant not of the open air—either single shoots, plants, or specimens, or the effects resulting from good grouping or other arrangements of such plants separately or in association with others. Ferns or groups of Ferns in houses may be included in this class.

Class 4.—BEST GARDEN FRUITS AND VEGETABLES.—A prize of FIVE GUINEAS and a SECOND PRIZE OF TWO GUINEAS for not less than twelve photographs of the best kinds of garden fruits and vegetables, Grapes, Peaches, Apples, Pears, Plums, Cherries, or any other fruit grown in Britain, to be shown singly or on the branches. Overcrowding, as in dishes at shows, should be avoided. The aim should be to show well the form of each kind, and as far as may be life-size. The object of this is to get good representations of the best garden fruits and vegetables under the old names, though we do not want to exclude real novelties when they are such.

Class 5.—GENERAL SUBJECTS.—A prize of FIVE GUINEAS will be awarded for the best twelve photographs of any garden subject not included in the previous classes, such as water gardens, waterside effects, rock gardens, picturesque effects in gardens, vases, cut flowers, table decorations, and pretty garden structures.

All competitors not winning a prize will for each photograph chosen receive the sum of half a guinea. In order to give ample time to prepare good photographs the competition will be kept open until November 29th, 1902.

WHAT TO AVOID.—Cut flowers or plants should not be arranged in vases with patterns on them. Backgrounds should be plain, so as not to come into competition with flowers. Figures of men or women, barrows, watering-pots, rakes, hoes, rollers, and other implements, iron railings, wire, or iron supports of any kind, labels, and all like objects should be omitted from these photographs. Dwarf flowers are ineffective when taken directly from above. The camera should be brought low down for such. All photographs should be mounted singly, and not several on a card. They should not be mounted on cards with black backs, and the photographs should not be less in size than 5 inches by 4 inches. The subjects should not be overcrowded. The following are the rules to be observed by all competitors:—

FIRST.—The photographs may be of objects in the possession of either the sender or others; but the source whence they are obtained must be stated, and none the copyright of which is open to question must be sent. There is no limit as to number, and no fee to pay. The Editor is to have the right of engraving and publishing any of the chosen photographs. The photographs may be printed on any good paper that shows the subjects clearly. Platinotypes and bromides should not be sent, but those so albumenized and printing out papers are preferred for engraving. All photographs should be properly toned.

SECOND.—The name and address of the sender, together with the name and description of the objects shown, should be plainly written in ink on the back of each photograph. Care should be taken to avoid the ink being seen on the face of the photograph. This is very important.

THIRD.—All communications relating to the competition must be addressed to the Editor, 17, Finsbury-street, Holborn, London, E.C., and the class for which the photographs are intended should be marked on the parcel, which must also be labelled "Photographic Competition." Unsuccessful competitors who wish their photographs returned must enclose sufficient postage stamps for this purpose.

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GARDENING ILLUSTRATED.

No. 1,225.—VOL. XXIV.

Founded by W. Robinson, Author of "The English Flower Garden."

AUGUST 30, 1902.

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PLANTS AND FLOWERS.

OUTDOOR PLANTS.

A YORKSHIRE WATER GARDEN.

ANYONE who has the advantage of water in or near the garden should try water and water-side gardening; the latter especially is full of interest. I began in a small way with a few early-grown plants at the edge of a gravel path bordering a small lake. The slow water-spearwort is a satisfactory thing, and soon spreads into a large clump. It might in time prove tiresome by overcrowding smaller and rarer aquatic plants. The American Pontederia nodata, though not showy, is well worth growing, with its blue spikes in August and September, and its handsome arrow-shaped leaves; it is also a free grower. Flowering rather later is the double-flowered Sagittaria, with a stock-like bloom; this is best planted right in the water. For spring nothing makes such a bright cheery spot of colour as the double dash Marigold (*Caltha palustris plona*) when sowed together on the water brink, the flowers lasting much longer than in the single variety. The dwarf Reed Mace (*Typha minima*), the variegated Sweet Flag (*Acorus*), *Arcus pseudo-cyperus*, a most graceful Grass, the pink-flowering Rush, the purple Loosestrife, with Water Forget-me-not creeping where it will, and rewarding you for its freedom by unlimited blooming, all grew and flourished on the water's edge of the path. *Himelus lutens* and *M. cupreus* grew riotously in the damp gravel, perfectly at home. Arum lilies were put in two summers ago, and even so far north as this have lived through two severe winters. One clump was planted in May close to the water. It flowered that autumn, and was a fine many-leaved plant when frost cut it down. It was then protected with damp leaves—the top layer of such only freezes—over them straw was built in a sheaf, and this remained till the following April. When once uncovered, it soon began to grow and flowered well, with stronger, larger blooms than any forced ones. Last spring some more were planted in a foot of water, being wedged down by Grass-sods and stones; these also were protected by straw, and now promise plenty of flower for this summer. Where the path widened on the water side, a long, narrow bed was hollowed out to 1½ foot depth, and filled in with peat, leaf-mould, and sandy loam. Here Japanese Irises were planted, *Primula japonica* grew and seeded itself, the summer Snowflake put up stems of 20 inches and flowered well, whilst Funkias and Saxifraga peltata, with their large leaves, kept it green all through the summer. In the shade of a Weeping Willow, *Osmunda regalis* (the Royal Fern) grew with its feet in the water, delighting in this cool, damp spot, and throwing out fronds 4 feet or 5 feet long, many of them hanging right into the water. The sweet-smelling Cape Pondweed (*Aponogeton distachyon*), which soon spreads by seeds, self-sown, and various Water Lilies helped to fill

up a small bay, whilst, for distant effect against a bank of Rhododendrons, were planted *Nymphaea Gladstoniana*, the beautiful white flowers of which stand well above the leaves, and *N. tuberosa* rosea, a strong-growing N. American variety with soft pink flowers.

My next attempt was the planting of a wild, Grassy margin, about a foot above the water, composed of sandy loam mixed with vegetable matter, always damp, but exposed to the north wind though open to the south. Here some moisture-loving trees were planted, such as *Cornus* (Dogwood), yellow and silver, red and yellow Maples, a couple of Quince-trees, *Viburnum Opulus* sterile (the common Snowball-tree), the Swamp Rose Carolina, and some of the shrubby Spiraeas, *Lindloynum* (better cut back each spring), *ariafolia*, and *japonica*. A Waterer, not forgetting one or two Silver Birches to give height and grace to the whole. To see perennial Phloxes in their beauty plant them in such a place, and it thinned out in June you will be well rewarded by the size and colour of their bloom. *Michnelmas* Daisies, Golden Rod, the red *Lycchnis chalcodonia*, all do well in this damp spot. Pampas Grass, with great clumps of Day Lilies, Iris Monspar and *Rodgersia podophylla* group well together. Think how well white Willow Herb, purple Loosestrife, with the long leaves of the common yellow Flag, the flowers of which would be over before the former bloomed, would look together. Nature's own arrangement! Ducks and swans have a great liking for water plants, especially when such are young and struggling for existence. With me they ate down some Cape Pondweed early in June; it was the autumn before it reappeared. If both ducks and flowers are wanted, wire netting is the only safeguard for your water garden.

MISS EVELYN WHITEHEAD.
Dreighton grove, York.

HERBACEOUS BORDER.

RELATING TO YOUR answer to my question on "Herbaceous Border," in your issue of July 25, p. 283. I want to have my long herbaceous border in flower for as long a time as possible, but especially from May and June to the end of the flowering year. I do not care so much for the early part—April. When I said progressive colours, I meant all the yellows, all the reds, all the blues should be together, and that there should be a progression of colours from, say, blues and mauves, through yellow and orange to red. By this means the blue part is always blue, and the red always red, and it may be easier to prevent the clashing of colours. I should certainly like to fill in with annuals and tender plants, like *Canna*, *Dahlia*, etc., but I want the foundation to be hardy herbaceous plants, and my lists of plants and advice you can give me I shall be most grateful for. I suppose *Sedums*, *Saxifraga*, etc., would be good for edging? The soil is sandy and very good for general plants, and I can have any quantity of manure. I should like to plant *Yuccas* at the end of the border. I suppose *Y. filamentosa* would be best? How close together should I put them, and would I fill in with other plants till they grow big? Which plants could I put in front of those which would be over in June, such as Irises, so that as much as possible the dying leaves may be hidden?—Stow Coach.

[We fear the massing of the colours as you suggest will render the whole arrangement patchy for a longer period than you would care for. Take, for example, the blue shades having a representative in Delphiniums. To these I would leave the Irises would be allied, and the red groups, each handsome alone, are

not suited to go together by their great disparity of growth. The pale yellow and golden shades also of the Iris would also find *Heleniums* and other things as companions, and so on. We give below, however, some of the families best suited to massing with their more decisive self colours, where such occur. Although we instance Delphiniums as an example of "blue," they yet include, perhaps, as many violet, bronzy-purple, metallic blue, and other shades as of real blue, such, for example, as *Belladonna*, *Cantab*, *Celestial*, *Lavender*, *Souvenir de Jubilee*, *conspicua*, and others. Those named are of shades near akin to the first, but these hardly agree with the other mixed tones named above. In such cases some modification is obviously needed in the selection of kinds. Most of the Delphiniums flower in June and July. *D. Belladonna* is a more perpetual bloomer, but not so vigorous, and only 2½ feet high. In the Iris family you will find pale blue and delicate mauve shades in the following kinds: *pallida*, *p. dalmatica*, *Imogene*, all rather tall growers. Of white Irises the best are *L'Innocence*, *Mrs. Chas. Darwin*, and *Mrs. Thorbeck*, the second being the most free-flowering of any we know. Yellow kinds are *Hortense*, *aurea*, *Darius*. In dark shades *Dr. Bornee* and *Arnolds* are very fine representatives; darker blue shades are seen in *Walmoriana*, *Ezra*, *Innocence*, *Sultan*, etc. These are May and June flowering. The herbaceous Phloxes are a fine group for effective massing, though requiring special treatment in respect to summer moisture. Some fine kinds are in white: *Jeanne d'Arc*, *Avalanche*, *Panama*, *Mrs. E. H. Jenkins*, *Independence*, *Sylphide*, etc. Red kinds are *Lothair*, *Coquelicot*, *A. F. Barron*, *L'Havant*, *Coccinea*, *Embrassement*, etc. The Pyrethrums, in single and double kinds, provide quite a host of reddish shades, more particularly in carmine, and rose-carmine, with velvet-crimson and other tones of high colour. Of the more showy of these we name *Captain Nares*, *James Kolway*, *J. N. Twerly*; for the double kinds, with *Coccinea*, *Sherlock*, *Duchess de Brabant*, and *Mrs. Bateman Brown* in the single reds. *Hanlet* and *Monarch* are the finest single pink sorts, and *Snow-drift* a good single white. Where your idea appears to be beaten offhand is in such things as *Gaillardias*, where, often enough, crimson and golden and orange combine in a single blossom. Still, these are so good as not to be ignored altogether. Of other things to be highly recommended, we may mention *Tritoma Uvaria*, red, *Echinops*, *Erigeron speciosus*, *Eryngium caelestinum*, *Scabiosa caucasica*, *Galega officinalis*, *Campanula grandis*, *Veronica longifolia sub-sessilis*, *Polemonium Richardsonii*, *Lupinus polyphyllus*, are all of blue or allied tone. In yellow there are *Crocus*, *Centaurea* several kinds, *Heleniums*, *Homeroicallis*, *Sunflowers*, *Rutbeckia Newmanii*, yellow and black centre, *Enothera macrocarpa*, *E. Youngi*, *Chrysocoma linostris*, *Doronicum*, *Arnica echioides*, and many more. White flowers are found in the perennial *Marguerites*, *Chrysanthemum maximum* and its varieties, *Galega officinalis alba*, the *Iberis*, *Galtonia candicans*, *Spiraea Aruncus*,

S. astilloides, *S. filipendula* fl.-pl., *Saxifraga* Wallacei, *Campanula carpatia* alba, *C. persicifolia* in its white forms, White Lupins, *Anemone sylvestris*, *A. japonica* alba, etc. *Lychnis chalcidonica*, *L. viscaria* fl.-pl., *L. fulgens*, *Lobelia fulgens*, etc., *Geum coccineum* pl., Oriental Poppies, *Lythrum*, *Chelone barbata*, *Hebechea sanguinea*, *Sedum spectabile*. *Saxifraga ligulata*, *Rudbeckia purpurea*, are all



Annual Candytuft (*Iberis umbellata*).

possessed of red, rose, or pink in some shades. Finally, the *Miclaemas* Daisies provide a great mass of material usually fully described in catalogues, together with height and other particulars that should be helpful in first setting out your borders on paper, which we strongly recommend you to do. In this way it will be possible to arrive at some idea of the flowering season of each block when the plants have become established.]

IBERIS (CANDYTUFT).

VALUABLE hardy perennials and annuals, the perennials somewhat shrubby and evergreen, and precious as rock-garden, border, and edging plants:—

I. CORREFOUJA (Correa-leaved Candytuft) is known by its large leaves and its compact heads



The Evergreen Candytuft (*I. sempervirens*) to show habit.

of white flowers. It also blooms later than other common white kinds, and both the flowers and corymb are larger and denser than in the other species. It is an invaluable hardy plant,

coming into beauty about the end of May when the other kinds are fading. It is excellent for the rock-garden, the mixed border, and the spring-garden, and is well suited for the margins of choice shrubberies, and may be used as an edging to beds. Said to be a hybrid. Increased by cuttings, not coming true from seed.

I. CORREFOUJA (Coris-leaved Candytuft).—A dwarf kind 3 inches or 4 inches high, and covered with small white blooms early in May. Few alpine plants are more worthy of general culture either in the rock-garden or the mixed border—for the front of which it is well suited. It is probably a small variety of *I. sempervirens*, but is distinct and true to its character. Easily propagated by seeds or cuttings, and thrives in any soil. Sicily.

I. GIBRALTARICA (Gibraltar Candytuft).—A beautiful plant, larger in all its parts than the other kinds, with flowers of delicate lilac in low dense heads in spring and early summer. It is a pretty species, but does not rival the best white border kinds. Its hardiness is doubtful, and it should, therefore, be planted on sunny spots in the rock-garden or on banks in light soil, and wintered in frames. Increased by cuttings, as it rarely produces seed in our climate. Spain.

I. JUCCUNDA (syn. *Ethionema juvenum*).—Distinct, growing about 2½ inches high, the leaves small, the flowers in small clusters, of a pleasing flesh colour and prettily veined with rose in early summer. It does not possess the vigour of the common evergreen *Iberis*, but it is valuable as a rock-plant; and is fitted for association with dwarf alpine flowers on warm and sunny parts of the rock-garden in well-drained sandy loam.

I. PETREA, a pretty alpine species, 3 inches high, with a flat cluster of pure white flowers, relieved in the centre by a tinge of red, thriving among the rock-plants. Many cultivators cannot succeed with it, but it thrives in a well-drained position with plenty of moisture.

I. SEMPERVIRENS.—A shrubby plant with large dense corymbs of white flowers, and not suited for border culture, but hardy enough to stand our winters when grown at the foot of a south wall or in a very sunny corner of the rock-garden. Under these favourable conditions it forms a pretty evergreen bush in bloom nearly all the year. Sicily and other Mediterranean islands.

I. SEMPERVIRENS (Evergreen Candytuft)—The common rock or perennial Candytuft, and as often seen as the yellow *Alyssum* and the white *Arabis*. Half-shrubby, dwarf, spreading, evergreen, and perfectly hardy, it escapes where many plants are destroyed by cold; and in April and May its neat tufts of dark-green foliage change into masses of snowy white.

worthy of cultivation: in fact, it and several other *Iberis* prove, when grown side by side, to be very slight varieties of *I. sempervirens*; it, however, seeds more abundantly, and is less spreading. *I. superba*, another variety, is of good bushy habit, and bears many large dense heads of pure white flowers.

I. TENOREANA (Tenore's Candytuft) is a dwarf species, with white flowers changing to



The glaucous Candytuft (*I. jucunda*).

purple. As the commonly-cultivated kinds are pure white, *I. Tenoreana* will be more valuable from its purplish tone as well as its neat habit. It has not, however, the perfect hardiness of the white kinds, being very apt to perish on heavy soils in winter; but on light, sandy soils and in well-drained positions on the rock-garden it is pretty. Where no rock-garden exists it should be placed on raised beds or banks, and is easily raised from seed; it should be treated as a biennial. S. Italy.

ANNUALS.

I. CORONARIA (The Rocket Candytuft) in good soil grows 12 inches to 16 inches high, with pure white flowers in long dense heads, and there is a dwarf variety of it (pumila), 4 inches to 6 inches high, forming spreading tufts 1 foot or more across. The Giant Snowflake is also an excellent variety.

I. UMBELLATA (Annual Candytuft) is varied in colour, and among the most beautiful of annual flowers. Seed may be sown at all seasons, but, as in the case of most other hardy annuals, the finest flowers are from autumn-sown plants which bloom from May to July. The plants like a rich soil and plenty of room



A mass of the Evergreen Candytuft by a carriage drive. From a photograph sent by Mr. G. Weir-Cosens, Aberystwyth.

Where a very dwarf evergreen edging is required for a shrubbery, or for beds of shrubs, it is one of the best plants known, as on any soil it quickly forms a spreading mass, as may be seen by our illustration. Like all its relatives it should be exposed to the full sun rather than shaded, and is readily increased by seeds or cuttings. Its common garden name is *I. sempervirens*. *I. Garrexianna* is not sufficiently distinct to be

to flower freely. There is a great number of varieties, differing both in growth and colour. What is known as the dwarf or nana strain is neat and dwarf in growth, an abundant bloomer and showy. *I. umbellata* nana roses and alba are two of the most distinct, being about 9 inches high; the dark crimson, carmine, lilac, and purple sorts, about 1 foot high, are also fine.

FLOWERS IN SCOTLAND.

The flower season, as far as the outside is concerned, is almost a failure here. The cold east winds which we are experiencing just now (August 11th) are making sad inroads on everything of a tender nature. Begonias, which have been planted in somewhat exposed

manure in autumn and spring, and division of the clumps every two years—this division being carefully carried out in November—there are now over two hundred healthy bulbs in the garden, and in the possession of other friends and neighbours. Some spikes this year (really the principal spike in each clump) were 5 feet 8 inches high, bearing from twelve to

clear water needful, cow-manure or sheep-droppings will all be found useful, and, if applied in time, will be the means often of plants blooming for weeks longer. When stimulants are not given during the season, and flowers are left on and not gathered when they ought to be, then danger arises of failures occurring. Sweet Pea growers can avoid this now, and have a continuous supply of beautiful flowers for many weeks yet by a little daily attention.—W. F. D.



Colonies of the Evergreen Candytuft in the rock garden. From a photograph sent by Mrs. R. Phillips, Wulverie, Olton, Warwick.

Lobelia fulgens.—Very familiar are the intense scarlet blossoms of *Lobelia fulgens*, but in some gardens it frequently dies off during winter from want of protection. At the present time its flower spikes are conspicuous in the herbaceous borders, growing to a height of 3 feet or more when planted in a rich deep soil. This *Lobelia* should be lifted from the open towards the middle of October and placed in a cold-frame; if the frame itself is under a wall, then it is best to plant the *Lobelias* as near to the wall as possible, as there it is always the driest in winter, and damp is one of its worst enemies. If one wishes to increase the stock, the spring is the time when new growth commences.—W. F. D.

Carnations from cuttings.—Everyone is more or less conversant with the art of layering Carnations, and much labour is expended on this operation, but in these days of keen competition it behoves all who have anything to do with growing for profit to curtail the labour as far as possible. I find that cuttings of Carnations strike so freely that it is far less trouble to increase one's stock in this way than by layering. Prepare a bed of fine gritty soil under the partial shade of a fruit-tree, and take the cuttings in the usual way. Trim off the lower leaves, and then split the stem of the cutting with a sharp knife, and insert a small stone to keep the cut part open. Insert the cutting and water freely, and at least 90 per cent. will make good plants.—J. Groom, Gosport.

Propagating Pelargoniums.—These very popular flowers may be propagated with the greatest certainty while the days are long and there is plenty of sun-heat, but if left until the cool, damp autumn weather sets in a large percentage of the cuttings decays. Those who need a good supply of healthy young plants should make a start at once by taking off a cutting wherever it can be spared from pot-plants or flower-beds, and, having some nice, fine, sandy soil ready, insert them singly into quite small pots, and set them in a cold frame, when the lights can be pushed over them during heavy rains, leaving open at

positions, are denuded of almost all foliage, and have as yet shown no signs of bloom. On the other hand, those plants in sheltered places have bloomed admirably, considering the backward season, but the foliage is poor and stunted, and lacks the robustness and freshness of former years. Asters have almost utterly failed. Ten-week Stocks have done well, and are extremely showy, the seed, which was of a good strain, coming about 99 per cent. double, the spikes resembling a well-grown Hyacinth. The east winds seem to have no effect on these plants. Gladioli have thrown good foliage, but flower-spikes are slow in making their appearance. Geraniums of the *Vesuvius*, *Jacoby*, and *Flower of Spring* type have made a very poor show in comparison with former years. French and African Marigolds seem to be up to their usual standard when grown in sheltered positions. *Lobelias* are one mass of bloom, the plants having been raised this season from seed. Dahlias (show and fancy) are somewhat stunted in growth, but the blooms are as fine as ever. The single *Cactus* forms have done very well, and the blooms have been in much demand for cutting. Roses have been very fine, although nearly a month later in blooming. *Baroness Rothschild*, *Magna Charta*, *Captain Hayward*, *Duke of Edinburgh*, *General Jacqueminot*, *Paul Neron*, and *John Hopper* as standards have been very fine. Hardy annuals are much the same as usual, although somewhat later. Tufted Pansies have been grand, and are now one mass of bloom. D. G. McIVER.

Bridge of Weir, N.B.

NOTES AND REPLIES.

Lilium testaceum.—This is a lovely kind, although seldom met with. It has done well with me for the last twelve years in a mixed border. One bulb was planted at first, when it only gave one spike; now, the end of July, I have eight, the tallest nearly 7 feet high, with large umbels of bloom. This has never been removed or taken up during the twelve years.—J. Crook.

A border of Madonna Lilies.—In 1893 a bulb of *Lilium candidum* was given me by a friend. Planted in a garden soil that was somewhat rich and heavy (clayey loam), the size of the five offsets produced by the first rather small bulb showed, in 1897, a remarkable improvement. By liberal treatment as to

seventeen fine white blooms. The effect of this long border seen against a background of *Crimson Rambler Rose*, and with scarlet *Carnations* and *Iceland Poppies* in the front of each clump, was unusually fine. The heavy rains of spring and summer greatly helped to increase the size and healthiness of the plants.—EDITH E. REDNALL, *Sitchester Villa, Wokingham.*

Sweet Peas—keeping up a supply of flowers.—After Sweet Peas have been in bloom for a time they are liable to cease flowering if one or two conditions are not observed, the first being that no seed-pods must be permitted to mature and that all old flowers must be cut off, and, secondly, that the plants still have some kind of stimulant, so that new life, as it were, may be infused into



The Gibraltar Candytuft (*L. gibraltaria*)

them. Everyone who has grown Sweet Peas in any quantity is aware that once seed-pods are allowed to form and flowers are not gathered, blooms begin to fail. Mulching about the roots with half-rotted manure, and applying a little guano, after first giving the

all other times. Give one good watering to settle the soil well around the stems, and then only enough to keep them from withering, and they will soon push out roots, and make good plants by the autumn. By following up this plan for several weeks plenty of stock will be

obtained without disfiguring the beds. Pot-plants headed down now will have plenty of time to make a good head of young shoots for winter flowering.—J. G., *Gosport*.

Lychnis Haageana.—On page 324 a correspondent, "B.," says of the above, "it is not perennial, and must be raised every year." My experience of the group which is now known by the name cited is that the plants do not reach their best condition until the third flowering year. It is quite possible, however, that "B." may have lost his plants from an attack of slugs, for these greedily devour the small tuber like roots to which are attached the crown-buds or eyes, and frequently in heavy soils the entire plant is demolished. The plant usually is not happy unless grown on sandy soil, or soils that are well drained and light. Even on these soils I find the plants are the most vigorous in quite the warmest places, such, for example, as near a warm wall or the like. Some years ago I planted several pots of plants rather close to a bay window in a small front garden, and despite the nearly south aspect, the much increased heat by the proximity to the house wall, and a soil both poor and light, the plants grew into bushes and attained in the fourth year nearly 3 feet high, giving a blaze of brilliant flowers far larger than I had ever seen hitherto. Plants of the same age in the open beds in similar soil were so vastly inferior in every way that I have since regarded the plant as one of a number of warmth-loving subjects, and, in truth, there was in the instance cited nothing but the excessive poorness of soil and the much increased warmth of position to account for all the superiority of growth and blossom. The group may not be so hardy as some suppose, and the crowns are never safe from frost unless 3 inches at least below the surface. Certainly, no plants of even biennial growth and flowering could at all compare with the dozen or more stems and the great crown of rich flowers borne on the plants I have referred to.—E. J.

CHRYSANTHEMUMS.

EARLY-FLOWERING CHRYSANTHEMUMS—SEASONABLE HINTS.

With the advent of September, we may fairly consider we have entered the period of flowering of the early-blossoming Chrysanthemums, and for this reason it is important not to neglect the important item of feeding. Any ordinary garden soil which has had a dressing of good manure will grow the plants well, but if in addition to this are given frequent supplies of liquid-manure, the return in the shape of excellent blossoms, and a good crop withal, may confidently be anticipated. The present season has, so far, been an exceptionally dull and moist one, and the wood is not so ripe and hard as it should be. In consequence of this want of ripening, the plants will not do so well as usual, unless special means be taken to help them. In wet weather the plants are much benefited by a dusting around the base of some approved fertiliser. At this stage the roots on the surface readily assimilate the constituents of plant-food available in each manure. It is a good plan to keep the surface-soil between the plants well stirred. If this be done in dry weather with copious supplies of manure-water, and the surface sprinkled in wet weather with artificial manure, the effect on the plants and the blossoms also will be most marked. Without the use of manures many of the promising buds now freely developing will produce blossoms of poor or semi-double character. Keep the shoots tied out, or lopped in such a way that air may circulate freely between the growths and thus help the wood to ripen. Strong winds may safely be predicted at this season, and see that each plant is securely staked. It is just possible that the first stakes to be inserted may not be long enough or strong enough to support the heavy branching growths of some of the more robust plants. If left too long, the grower may have to mourn the loss of promising plants.

Disbudding.—Already persons are asking questions about disbudding the early sorts. Plants grown to make a display in the beds and borders should not be disbudded except

perhaps, in a comparatively few instances, representatives of which I will name later. If, however, some of the early sorts are growing in pots, and are intended for the embellishment of the conservatory, these may be partially disbudded, in which case their usefulness for decoration is enhanced. But in the garden the plants never look better than when they are grown quite naturally and without disbudding. There are several varieties which develop their blooms on fairly long stems without any disbudding whatever, and these are the kinds which should be looked after. Any individual bloom may be detached from the spray without spoiling the others, and this is a point of much importance, and should not be overlooked. *Mina Marie Musse* and the sports from this grand variety are typical of what hardy outdoor Chrysanthemums should be, and there is now a sufficient number in this one family to satisfy the requirements of most growers. Contrasted with the sorts just mentioned we have other excellent kinds, each of which produces a profuse display of blossoms, but, unfortunately, in dense clusters at the apex of each shoot. The flower-stems are so short that the flowers are all packed closely together, and individual blooms cannot be gathered unless the plant has previously been disbudded. Types of this class of plant are *Mlle. Guindreau* and its sport *Eva Williams*. They are both very pretty, but cannot be regarded with anything like the favour of those sorts first described. E. G.

ROOM AND WINDOW.

LILIUM LONGIFLORUM IN A WINDOW-BOX.

PERHAPS the following may interest your readers. Last year I tried growing *Lilium longiflorum* in a window-box, and was very successful, so this year I tried again, using a rather wider and deeper box, commencing in March by putting about 3 inches of Cocoa-nut refuse at the bottom and half plunging the bulbs in this. The box was then put in a room without a fire, only getting an occasional slight sprinkling of water. Early in May roots were formed, and the bulbs had sprouted about an inch. The box was then placed on the window-sill outside, filled up with ordinary potting soil, and a few plants of *Myosotis* planted on top. Afterwards it had no special care but watering, and after the buds had formed, about half-a-dozen doses of a tea spoonful of ammonia in a gallon of water. A slight attack of green-fly was at once got rid of by sponging with Tobacco-water. The result has been thirty-seven flowering stems with perfect foliage, and an average of three flowers each. One had five, and several four, and only one split bloom; all the flowers exceptionally fine, just over 5 inches from tip to end of flower. The only fault, if any, was that the stems were rather crowded, but the general result was very good. The bulbs were imported Japanese. Many of those used last year have bloomed in the small back-garden this summer, but, of course, not well.

MISS F. ECHEVARRI.

155, Silvermere-road, Catford, S.E.

NOTES AND REPLIES.

Effective arrangement of flowers in vases.—Recently a correspondent in *GARDENING ILLUSTRATED* made a most important statement when writing on cut flowers—namely, that many people destroy the effectiveness of their arrangement by mixing a lot of colours together. Observant people must have noticed this with a large number of cut flowers. The same holds good with plants, shrubs, etc., grown for ornament in the garden, and nothing seems to be more difficult than to convince them that the best results are obtained by placing one or two well chosen colours together or planting large groups of one colour. In my own cottage, in a vase hanging against a wall, is *Crimson Rambler* Rose, cut in large long clusters, with numberless blooms loosely grown. Two of these are used with a long spray of *Ceanothus* *Gloire de Versailles* at the back, and a few sprays of *Rhus Cotinus* covering the sides of the vase, and three or four leaves of *Roccosia cordata*

interspersed. This, backed by a light paper on the wall, gives a glorious picture. Yellow *Marguerites* and *Mignonette*, with *Asparagus greenery*, in low glasses are good. Red Sweet Peas and *Mignonette*, with *Asparagus* as greenery, or their own foliage, are good also.—J. CROOK.

Keeping cut-flowers.—I have read an article on keeping cut blossoms in your paper (August 9th). Few people think of giving the water a good chance of getting to the bloom up the stalk. There is hardly a flower that does not last a day or two longer if its stem is split up an inch or two just as it is put in the water. Roses like a long sloping cut downwards. Hard-wooded shrubs like *Lalac*, *Rhododendrons*, *Syringa*, should have all the bark peeled off as much stalk as goes into the water, and will last a good week instead of drooping in a few hours.—SWEET LAVENDER.

GARDEN PESTS AND FRIENDS.

NOTES AND REPLIES.

The leaf-cutter bee.—Kindly inform me what is the proper name of the enclosed bees, which are most destructive? They bored holes in a 4-inch finial on the roof, and completely destroyed it. They carry in green leaves to the holes. The one enclosed, and also another one, were both caught this morning with a piece of Rose-leaf in their mouths. How can I get rid of them, as if they go on I do not know where the damage will end? The finial has been renewed. The bees in the old one are all destroyed, and these are the first I have seen since, but quite in a different place.—ANNIE PAER.

[The bee that you sent is a specimen of one of the leaf-cutter bees, belonging to the genus *Megachile*, but the specimen was so knocked about by being placed loose in a box that it is impossible to say to what species it belongs. These bees make their nests in holes in wood, in walls, or dry banks. I should doubt if they would select sound wood for their purpose. Probably your finial was somewhat decayed. I have had nests sent me which were made in a coil of paper and in a hollow stick, but have never heard of their being the cause of any damage before, though complaints are often made of the way they spoil the leaves of Roses. If you cannot trace them to their nests, the only way is to catch them on the Rose-bushes as you have done. The mother bee, having found or made a suitable hole, lines it with pieces of Rose-leaves or the petals of some flower, and then fills it with a mixture of honey and pollen as food for the grub, which will be hatched from the egg which she lays in the cell. She then proceeds to form another cell in the same hole, the lower end of which fits partly into the mouth of the first, just as one thimble might fit into another. In this way the hole is filled. It is very pretty, as I dare say you may have noticed, to see the bee cut a piece out of a leaf and fly off with it. I do not think you need fear that the bees will do you any real injury.—G. S. S.]

Pear Saw-fly.—We have received a small green box with two Pear-tree leaves on which are some insects, but no letter or communication of any kind was enclosed. The foliage of the Pear-tree is attacked by the grubs of the "Pear Saw-fly" (*Eriocampa adumbrata*). The grubs are commonly known as "sling worms," though they are neither slugs nor worms, but they very much resemble small slugs. If the tree is bearing a crop of fruit it is difficult to know what to recommend as a remedy. Syringing the tree with paraffin emulsion, properly diluted, or Tobacco-water and soft-soaps, and dusting the leaves with finely powdered lime or gas-lime, are useful. Even the road-dust has been used with advantage, or you might spray the tree with "Paris-green." This last, however, is a very poisonous substance and must not be allowed to touch the fruit. When full grown, the grubs bury themselves in the ground just under the trees, and between 3 inches and 4 inches below the surface. They then each spin a thin papery cocoon round themselves, within which they become chrysalides. During winter, if the surface soil which contains the chrysalides be removed and burnt or buried not less than 1 foot below the surface, or placed so that the poultry can pick it over, the trees should be free from this pest next year. The earth taken away should be replaced with some good soil that is certain to be free from this pest.

INDOOR PLANTS.

ZEPHYRANTHES.

A SMALL group of bulbous plants belonging to the great order Amaryllidaceae, yet small as it is in its entirety, the number of good, hardy kinds is still greatly reduced by comparison. All the species are beautiful and easily cultivated. Some, indeed, as *Z. Atamasco* and *Z. candida*, grow quite freely, and soon become established masses that might be increased to any extent by the numerous offsets produced. In form the flowers of the smaller kinds are not unlike those of the Crocus, and vary from such as those to others of the size of *Colchicum speciosum*, of which *Z. rosea* may be taken as a near approach thereto in point of size and not a little in colour. All the kinds may be successfully grown in sandy loam, and when grown in pots form quite an attraction when in flower in the early part of the year. Those best suited for pot culture and the greenhouse, perhaps, are such as *Z. carinata*, *Z. rosea*, *Z. tubispatha*, etc. Little warmth is required, though it is quite necessary at all times that the bulbs are not subjected to any temperature approaching the freezing point. That of 40 degs. may be regarded as a safe minimum for the less hardy kinds. The perfectly hardy kinds are

the less so should be of service to those amateurs who are inclined to the other extreme—viz., that of too frequently interfering with established pots of rare bulbous plants. In the case of any whose growing season is not of long duration, very little goodness would be extracted from the soil, hence there should be little need for interference. The following are the more valuable kinds:

Z. ATAMASCO, with large pure white flowers nearly 3 inches in length, and with the stem rising to 6 inches or 8 inches high.

Z. CANDIDA, sometimes called "The Flower of the West Wind," is also a pure white flower, more resembling a Crocus-blossom, and quite hardy. This species should receive plenty of moisture in the growing season and as the heat of summer approaches. It is a pretty plant for forming edgings, masses, and the like.

Z. CARINATA, a handsome flowering plant with blossoms of a pleasing delicate rose-shade. A charming pot-plant for cold-house, or may be grown in a sunny frame in the open. Native of South America.

Z. ROSEA, also a handsome kind with large cupped blossoms of deep rose, very striking when well grown.

Z. TREATIE, a beautiful white kind somewhat allied to the first, the blossoms having a deli-

cate, give a little more water and syringe occasionally, which treatment will result in young shoots being pushed out freely all over the plants. When these shoots are about half-an-inch long the plants may be repotted in a mixture of two parts loam to one part each of leaf-mould and well-decayed manure, with a little sand. In potting, the greater part of the old soil may be removed. When this is done, if watering and occasional syringing are carried out properly, and the plants kept in a light, airy greenhouse, they will in due time grow and flower well. As the pots get full of roots, and the plants show signs of becoming exhausted, an occasional dose of artificial manure will then be of service.]

Treatment of Hydrangeas.—I took some cuttings of Hydrangeas in the spring. They are now growing nicely in 4-inch pots. I want them to bloom in the spring, with one large head to each plant. Will you kindly tell me how to treat them now and in the winter?—W. B.

[We presume your Hydrangeas have well filled their 4-inch pots with roots, in which case you may at once put them into pots 5 inches or 5½ inches in diameter. In potting, do not disturb the roots more than is absolutely necessary, and use good soil, say two parts of loam to one part each of leaf-mould and well-decayed manure, and a little sand. Then place them out-of-doors in a spot fully exposed to sun and air, in order that the wood may be thoroughly ripened, and keep well supplied with water. As autumn advances, and the leaves begin to turn yellow, place them in a frame where they are just free from frosts during the winter. With the return of spring they may be taken into the greenhouse, where their heads of flower will develop. As soon as they start in the spring a little weak manure-water occasionally is of great service. As the blossoms develop a good light position should be assigned them, as their colour is improved thereby, while the plants are apt to run up weak if kept close and shaded.]

Bouvardias.—Bouvardias are useful during the winter in a warm-house, but neglect on the part of the grower at this time of the year will often prevent their blooming with that freedom they would otherwise do. They are not difficult to cultivate, and as they are easy of propagation one may soon increase the stock. All plants should now be standing in cold-frames, with room between each one, in order that wood may properly mature. Those in 5-inch pots when full of roots soon become dried up, and care must be taken that they are not lacking moisture. At present liquid-manure may be given them, but in a weak state, and a bag of soot placed in the tub from whence the water is procured will aid in imparting a good colour to the foliage. It is not safe to leave them out-of-doors much beyond the middle of September, and preparations for housing them should accordingly be made about that time.—LEAVIST.

Deutzias for forcing.—These hardy shrubs are amongst the most popular of those that are brought indoors in the autumn for forcing into bloom in the early spring. As a market plant the white blossoms of *Deutzia gracilis* are much in evidence in March and April, and grown in moderately-sized pots (5 inches or 6 inches) are useful for table-decoration. After blooming *Deutzias* should be relieved of old wood, and as much new growth as possible encouraged. The permitting of old wood to remain is one of the reasons why small, puny blossoms follow. Loam, with which leaf-mould has been mixed, makes a suitable compost for them. Cuttings of ripened wood strike freely in sandy soil.—TOWNSMAN.

Photographs of Gardens, Plants, or Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

The Prize Winners this week are: 1, Mrs. Baydon, Dawlish, Devon, for Iris (Gates); 2, A. P. Davison, Broughton Grange, Banbury, for



The white Zephyr-flower (*Zephyranthes candida*) in a pot.

just as hardy as the Crocus, though scarcely so free flowering in the general way. The majority of kinds best known to cultivators increase freely by offsets, and these, if planted six or eight around the inside of pots of about 5 inches diameter in good, rich soil, will quickly make up flowering bulbs. As showing how easily grown are some kinds such as *Z. rosea*, I may instance a gardener who has many pots of bulbs that have probably been in his keeping a score of years, and certainly not potted half-a-dozen times in that period, who produces quite a display each year with the richly coloured flowers. Some of the pots are quite full of bulbs, and without knowledge of the subject in his charge, beyond that of keeping them dry when they go to rest, little or no attention is paid to them. Such crude and indifferent treatment may in some degree suggest that others are over-cultivated or coddled, perhaps, far more than is necessary. In the instance referred to, however, I believe much of the success that is achieved is due to the long protracted term of dryness to which the bulbs are compulsorily subjected year by year. Certainly no season passes without many flowers, and large ones too, and as the flowering approaches I generally receive an intimation to that effect. How far this may be in agreement with the prescribed methods of culture is an open question, and it is as much an open question whether a larger display of flowers would follow if the plants were grown in a more orthodox way. For my part I think

into Lily-like fragrance. The plant attains nearly 1 foot high, and at present is somewhat scarce. E. J.

NOTES AND REPLIES.

Fuchsias failing.—I have a collection of Fuchsias that has much disappointed me, as there has been scarcely any bloom this season. They are of several varieties. Some are old plants of last year, and others were struck in the spring. Some are in small pots, others in large ones; some in a conservatory, others out-of-doors. But while they thus differ in some respects, they are all alike, or nearly so, in having little bloom, or none at all. I gave some of them a dressing of artificial manure a few weeks ago, which set them growing vigorously, but it is all foliage and no flower. I suppose it is too late to expect any bloom worth speaking of this season? What treatment would you advise as most likely to get better results next year? Has the exceptionally cool and unseasonable weather we have had conducted to the failure of bloom?—Q. Q. Q.

[Fuchsias are in many places flowering badly this season owing to the wet and cold weather, of which we have experienced so much this year. It is, however, strange that under whatever conditions your plants are placed they are all nearly flowerless, as in the conservatory they should have bloomed long before this—that is, if they were not kept too close and shaded. It is certainly not yet too late for a fair amount of bloom on some of them, as very fine flowers are often borne towards quite the end of the summer. We should advise you to winter your plants in a greenhouse, keeping them almost dry at that season. Then, about the end of February or early in March, go over the plants and trim them into shape. Under

ROSES

OWN-ROOT ROSES FROM SINGLE EYES.

THE following description of a beautiful Rose in my garden and how it came into my possession will interest some of your readers, especially those who, like myself, are, either from choice or necessity, their own gardeners. I do not know the name of the Rose, but it is one of the Tea section, and delightfully perfumed. The flower is large and full and of the finest form. The colour on the outer edges of the petals is a lovely soft, satiny pink, deepening towards the centre into the richest apricot and gold. The leaves are of the darkest glossy green, and the wood or stems a rich copper brown, and where not exposed to the sun the young wood is coral-red. I first saw the Rose in a friend's garden in July, 1897, and was kindly given some pieces of the wood, which it was thought were likely at that particular season to make good slips or cuttings. Having seen an interesting article in *GARDENING ILLUSTRATED*, "How to Grow Roses from the Bud," I thought my best chance of success was to make the attempt. Unfortunately, I could not find the number of the paper I wished to consult, but as I remembered the directions, at least so far as to how to cut out and prepare the buds for setting, I decided to make the attempt, and trust to my own experience for the after treatment, which was as follows: I prepared three flower-pots, two 5-inch and one 4-inch, which were filled to the brims with carefully prepared compost, the largest portion of which was silver-sand, three closely fitting bell-shaped propagating glasses, and a few medium-sized hairpins.

With these preparations I made my first attempt, cutting out only one bud at a time, and with as little delay as possible, after removing the pith to avoid the drying up of the sap, laid the bud on the surface of the compost, and secured it in its place with hairpins on both sides of the bud. Then, after a light watering with tepid water through a fine syringe, I placed on the glasses, and for some weeks after continued to water the cuttings only outside the glasses, which I found sufficient to keep the surface moist till the rooting had commenced. The three pots were then put into the cool greenhouse, and placed on the shady end of a front shelf. In a few weeks five of the buds filled the pots with roots, and formed beautiful little green bushes. The sixth bud was not so vigorous, and failed to survive the winter. Four of the five plants are to be seen at the present moment in full bloom, delighting everyone who sees them with the beauty of their flowers and the sweetness of their perfume. One of the four plants, I should have said, was lost or perished while changing to my present residence. The only part of the experiment I claim as my own is the introduction of the hairpins, which will be found not only a great help, but an absolute necessity to keep the fragile buds in close connection with the compost. ROSEBUD.

[From your description we believe the Rose to be Mme. Cadeau Ramey, but could you not send us a bloom with wood and leaf? It is quite possible, as you describe, to obtain rooted cuttings from single eyes, and we frequently adopt this plan when a variety is scarce. When it is remembered what a fine plant will spring from a tiny bud inserted into a foster stock, it is not at all remarkable to obtain good plants from a single eye or bud by the process you mention, but you would have obtained equally satisfactory results if you had inserted the single eye into the compost in the same manner as one does when striking Vines. At this time of year it is quite practicable to obtain a leaf with each eye or bud. Let this leaf remain, and instead of removing pith from the wood, cut the growth just below the eye in a wedge shape, and stick this into the sand or compost its entire length, leaving just the leaf protruding. You will obtain a far more sturdy plant in this way than from the process you name. Rose shoots that have just flowered make splendid cuttings and root most freely during the early part of this month. They only require frequent sprinkling for the first fortnight, and to be kept in a close frame. They root as freely in pure sand as they do in a sandy compost; in fact, we prefer sand, but

the cuttings must not remain in it too long when rooted, or they become weak. Pot them off when roots are $\frac{1}{2}$ inch long. Another good plan is to fill a number of thumb pots with sand, stand them as thickly together as they will go in a shallow frame, then work in sand into the interstices. Dibble a cutting into centre of each pot with its leaf attached, then arrange to have them sprinkled every hour from 9 a.m. until 4 p.m. for the first ten or fourteen days. Shade the glass with paint or whitewash, with which some oil or size has been mixed. When the cuttings are rooted, air can be gradually afforded until it is safe to remove the lights entirely. These little plants may then be potted on without any check, or planted out into beds so arranged that lights may be placed over them in severe weather.]

ROSES FOR SPAN ROOF HOUSE.

(REPLY TO "BEGINNER.")

WE presume your house is not shaded from the south by any building, as Roses cannot have too much sunlight at any time, and during the winter and spring it is most important to give them all that we obtain. Instead of making a pit, we should recommend a raised bed about 2 feet in height. The outer wall could be of bricks, and the centre filled with stones or ashes. The Roses could then be placed upon inverted pots, which would bring them nearer to the glass than if you plunged them in ashes. Four or five half-standards would be very suitable for the centre row, and around these we should advise strong growing Teas and Hybrid Teas trained in pillar form. Give the plants one central cane, and loop up the growths to this instead of spreading out in the usual manner of training pot-Roses. Any of the free-growing Teas and Hybrid Teas, such as Marie Van Houtte, Anna Ollivier, Mme. Hoste, Climbing Niphotos, Maman Cochet, Mme. Abel Chatenay, would do for the half-standards, and for pillars, Catherine Mermet, Souvenir d'un Ami, Perle des Jardins, and Roses of that type. These pillar Roses should be purchased in 8-inch pots, ready prepared for forcing, and if you explain to your nurseryman what you require you will obtain the right kind. The staging around the house could most certainly be used for other pot-Roses, and either grown as bushes or trained on to the roof. Varieties of Teas of vigorous growth, such as Sunset, Niphotos, Perle des Jardins, and Bridesmaid, would be the best for either purpose—far better than the ordinary climbers, as they impede the light too much from the other occupants of the structure. In all cases the best plants to procure are those known as extra sized, grown in 8-inch pots. They give a splendid lot of bloom the first season, but of course you can procure smaller plants and pot them on yourself.

CHINA TEA ROSES.

THE so-called China Tea Roses are becoming an important group. The exquisite colouring of the Tea-scented has been incorporated with the freedom of flowering of the true Monthly Roses, and the result is many charming kinds that stand midway between the two groups.

As the true Teas originally sprang from the Chinas, it is safe to assume that there have been many lovely tinted kinds raised in years gone by, which were discarded for the more double varieties that were then so much in request. A love of the single and semi-double kinds having been made manifest, varieties that quickly became favourites soon appeared. M. Guillot may be said to have started this race with Mme. Laurette Messimy, which remains now one of the most popular. When grown under congenial conditions it is as vigorous as the old pink Monthly, but I have not found it so hardy. Mme. Eugene Resal is even more lovely in colouring. Queen Mab soon followed the two last-named. Here, again, in growth and bud it would be difficult to see where the China ends and where the Tea characteristics begin; in fact, I have always looked upon it as a Safrano seedling, so like is it in wood and bud. Aurore is another kind of great beauty, and of even more intense apricot colouring than Queen Mab, with reddish wood. In fact, it seems like a small edition of that unique coloured Tea

Souvenir de Catherine Guillot. Mme. H. de Montefiore I much admire. This, too, is classed with the Chinas, but it greatly differs from Cramoisie-Superieure and that class of Monthly Rose. Its colour is a very charming shade, salmon-yellow, with a mixture of apricot and carmine. The buds are produced on stiff stems for this class of Rose, and they stand up well above the foliage. Cora is a very slender grower and of a delightful colour, clear yellow, tinted salmon-pink, rather small. Jean Bach Sisley is another kind of much value and large for a China. It has the colour of the crimson Monthly, but its blossoms are quite as beautiful in form as those of a Tea Rose. Irene Watts cannot be well known or it would be asked for more frequently. It is reputedly a seedling of Laurette Messimy, and in some respects it resembles that variety; its colour is a clear salmon-white, and the buds are very long and handsome. The above kinds are Chinas according to catalogues, but they well deserve the term China Teas. I should also group with them Mme. Rene de St. Marcou, Margherite di Simone, Souvenir de J. B. Guillot, Mme. Rene Gerard, Mme. Louis Poncelet, and Mme. Clemence Marchix. I do not attempt to describe the colours of these last six. They seem to defy a true description, for they possess so many tints that only a colour artist could succeed. It will be sufficient to recommend them to all who admire lovely tinted Roses, and if they obtain all the kinds named and group them together, I can promise a rich display. Procure them on the seedling Brier, plant in well-prepared beds of gritty loam, and prune hard, taking care to earth up the plants from November to April, and success is assured. Rosa.

NOTES AND REPLIES.

A useful white Rose.—There are many really good Roses that are overlooked owing to the crowd of newcomers, that perhaps are of considerably less value. Mme. Fanny de Forest is one of the former, surpassing even Boule de Neige, being minus the defects of the latter. It is of rather large size considering it is a Noisette Perpetual, the full flowers being pure white, but the blooms, just as they begin to expand, are a lovely creamy-white. It is not so vigorous as Boule de Neige. As a pot-Rose Mme. Fanny de Forest is unequalled among the white varieties, the plant flowering regularly.—Rosa.

Rose Earl of Pembroke.—This is one of the few good Roses that seem to have been to some extent overlooked by Rose growers. It is wonderfully free flowering, every shoot bearing a blossom as freely in autumn as in summer. The colour is a peculiar brownish-crimson, very bright in the bud, and the fragrance is most refreshing. I consider it one of the late Mr. Bennet's good Roses, and he gave us not a few, many of which have laid the foundation for the splendid Hybrid Teas now so popular. Earl of Pembroke is a Rose of good size, with exquisitely shaped flowers and recurved and pointed petals. It is one of the few Hybrid Perpetual Roses that can be confidently recommended for the garden.—E. W. C.

Rose Mrs. Edward Mawley.—This splendid Tea Rose well maintains the high opinion formed of it on its introduction in 1889. A fine strong grower, Mrs. Edward Mawley is an ideal Tea variety for a standard, and as its heavy blooms bend, by reason of their weight, they can be inspected and protected from injury much better grown in this way. So sturdy is the wood that some have thought it should be grouped with the Hybrid Teas, but I consider it as much a Tea as Catherine Mermet. Excepting to exhibitors of Tea Roses, I do not know that the doubt affects anybody. If the Rose grows well and yields splendid flowers in abundance, what does it matter whether it be Tea or Hybrid Tea? The salmon and carmine colour is very fresh and pleasing, and when at times it develops a yellow tint, the bloom then is beautiful.—Rosa.

Rose L'Idéal.—Among the Noisette Roses we have many kinds that are valuable in the garden or for growing under glass, the kind under notice being one of them. It is almost impossible to describe the many shades of

colour seen in blooms on a plant at one time. I have been much pleased with it for several years, more especially this one. Last year it made some long, clean, strong growths, and these, escaping the frost, gave a grand truss of bloom from each eye. These trusses had a large number of blooms on them, in some instances from 18 to 24 in a bunch. My plant is growing at the foot of a 10-foot high wall facing south. The shoots last year reached the top of the wall, blooming the greater portion of their length. In the spring I saw this on the back of a cold glasshouse, the blooms being freely produced and very highly coloured.—J. C.

CLIMBING ROSES AND THEIR GROWTH.

I have been noticing lately how much better these look away from walls, and how much I have been liable to misjudge them from specimens nailed against walls, which are often

away, the object being to insert the bud as low as possible; the stocks also run better below the ground-line. The buds and stock itself derive considerable benefit by the earth being returned again. This may remain so heaped up until next May, but it is a good plan to inspect the buds at the end of August to ascertain if they have taken; then the earth may be returned. It used to be fashionable to bud two well contrasting varieties of Roses upon one standard stock. If similar growers are selected, and also such as blossom freely, I do not see any objection to the practice. If any Rose-grower potted up some Briers last winter, he should now had these with good kinds suitable for winter blooming, as they make quite nice plants when placed into warmth in February. The grand new crimson Rose Liberty and the snow-white Frau Karl Druschki would be two ideal Roses for the purpose. In budding the main stocks, they are wisest who freely propagate varieties such as Mme. Abel Chatenay, G. Nabonnand, Caro-

Rose Mme. Abel Chatenay.—Rose growers of the old school place form before everything else in their estimation of the Rose, even praising a variety that is a wretched grower. It is gratifying to notice that the public do not follow these arbitrary canons. In Mme. Abel Chatenay the lovely blending of deep salmon-pink to a paler flesh tint towards the ends of the petals, combined with a pretty and distinct form, never fails to appeal to the eye, and when we remember it is such a splendid grower little wonder is it that the variety is being largely planted. There will soon be a fine bed of it at Kew when the plants become established, and I notice the longer shoots are tied over, which not only compels the Rose to produce more blossom, but it also induces vigorous growths from the base of the plant. As a standard Mme. Abel Chatenay makes a large head, not too compact, as is sometimes the case with standard Roses, but the long growths start out here and there with most telling effect. It is also a glorious pot-Rose, producing its blossoms upon fine long growths, but the flowers being somewhat thin a cool temperature is best for the variety. Although somewhat addicted to mildew, with care in avoiding a check or overdosing with manure the Rose can be most successfully grown even by a novice.—Rosa.

Rose Souvenir de William Robinson.—This must take a leading place among the charmingly tinted Teas for garden decoration, surpassing all other Roses of a similar colour, if there were any similar, but the fact is the novel shades of colour present in the variety give it a most uncommon appearance. The prevailing colour of the neat flowers is a rich, glowing apricot, the outer row of petals being heavily shaded rose, merging almost to crimson. There are even other tints present, but the description given will afford some idea of the beautiful colouring of the Rose. Then, too, it is such a good grower. Unfortunately one cannot say this of some of the charmingly tinted Teas now so plentiful. Where Roses are massed I would advise that a quantity of Souvenir de Wm. Robinson be planted this autumn. If not quite so vigorous as Marie Van Houtte there is not much difference, and what a delightful contrast it would be to that most useful of all Roses.—E. W.

Rose Gladys Harkness.—In fulness the flower of this leaves nothing to be desired, the grand globular blossoms, each petal prettily reflexed, being extremely showy. The colour is a clear and bright salmon-pink and the blossoms are highly fragrant. It is a fine, vigorous grower, stronger even than Caroline Testout, a Rose it resembles when opening, but more globular and double than that well-known kind when expanded. The flowers withstand rain better than many varieties.—E.

Rose Enchantress.—By all who appreciate garden Roses the above variety must be regarded as a gem. Its exquisite wedding blossoms are seen to much advantage upon standards. It is really in clumps or beds of one kind that these Roses produce the best display. The effect of Enchantress at a distance is white, but on close inspection the blossoms are a pale creamy white, the buds being quite a rich cream. The sturdy growth of the variety is quite equal to that of G. Nabonnand; the drooping blossoms, however, do not add to the beauty from a decorative point of view, but there is still this to be said about such varieties: their flowers are not so readily injured by rain.—R.



Many-flowered Rose (R. Polyantha) on margin of plantation.

hot and unpleasant surfaces for them to exist upon, and on which they cannot show their grace and where there are no coolness or light and shade to help them. The kinds I could not bear on walls I find I enjoy very much when allowed to run up trees and hang about in their own graceful way. Many of these Roses are hardy varieties of northern kinds, and in no need whatever of such walls as we must give to a Fig or a Peach in our country. I find my white Polyanthas are beautiful in cool copes. V. B.

Budding Roses.—By this time budding should be in full swing. The standard Briers are the first to be operated upon, then, following these, the seedling Briers and the Manettis. Where Brier cuttings are used they should be budded early, as they cease to grow sooner than the seedling Briers. A point to remember when budding all dwarf stocks is to draw the soil up to the roots again after the stocks are budded. Both with seedling Briers and Manettis an inch or so of the soil is drawn

line Testout, Mrs. W. J. Grant, etc., as these kinds never fail to give satisfaction, both for garden decoration and for the house.—E.

Rose Conrad F. Meyer.—This fine Hybrid Rugosa should prove of great value. There really seems to be very little relationship to the Rugosa, for in leaf and wood it resembles the Hybrid Chinese of days gone by. In colour something like Blairii No. 2, the fine bunches of flowers that crown each growth are most attractive, and have a powerful and delicious fragrance. The shape of the flower is something in the way of that of Caroline Testout and of about the same fulness. When four of the large blossoms are expanded at one time on the long very prickly growths, they present a picture of great beauty, and one readily imagines what a fine isolated bush or pillar Rose it would make. Then, too, every new shoot shows a bloom-bud which indicates its perpetual character. Altogether this Rose is a splendid acquisition, and dwellers near large towns and cities should not fail to secure

FRUIT.

FEEDING FRUIT AND OTHER TREES IN AUTUMN.

It is doubtful if cultivators give enough attention to feeding during the autumn. There is no period of growth when assistance given to the roots is of so much service. This is not difficult to understand if a little thought is given to the nature of the tree or shrub the grower has to deal with. When the soil becomes warm, with plenty of light, then growth both of branch and root is rapid. Added to this, the fruit has attained to a good size. How can these be sustained in a starved soil? But this is the condition one often sees many trees and shrubs in, and the cultivator is surprised no progress is made. This especially applies to things growing in small, narrow borders; more so if the surface has to be cropped with vegetables, etc. In many instances these have a dressing in winter, and in spring they are cropped with things that quickly take all the food out of the soil. Some may say this cropping should not be adopted, but in many cases it is almost impossible with the space and means at command, if a constant supply in the kitchen has to be kept up. In the spring months a well-known correspondent to *GARDENING ILLUSTRATED* made an important statement when speaking of trees that bore freely every year. He pointed out that it was a fallacy to suppose these would not crop yearly, provided they were well fed in summer and autumn and the crop thinned. This is the teaching we want, and if followed will bring its own reward. Every year I am more convinced of this fact, and could point to some Morello Cherries that have given an enormous crop for the last ten years, and which are still as vigorous as ever, but I do not, however, forget their needs at the roots. The same holds good with a sloping, narrow border facing south in which Apricots are growing, and the surface of which has to be cropped with early and late vegetables. This border is highly fed in winter, and when the early vegetables come off I give a dressing of a quickly soluble manure, washing it in with clear water about the time the stoning of the fruit takes place. It is astonishing the effect this has on both growth and fruit. This has been going on for nearly a dozen years, and the results induce me to continue it. Many apply manure and do not wash it into the soil, with the result that it frequently does not reach the roots till it is too late to benefit them. I prefer feeding things when growth is active to any other time, seeing it is taken up by the roots at once instead of frequently being washed down so low as to be of little service. J. CRONK.

EARLY OUTDOOR PEACHES AND NECTARINES.

BAD as the season has been for many crops, it must in all fairness be claimed a good one for outdoor Peaches, which have cropped exceedingly well and are of fine size and colour where proper thinning of the fruits was carried out. Alexander and Waterloo were ripe on July 20th, which cannot be considered bad for choice fruit in a season so proverbially late. Those in a forcing house often disappoint in a very early stage of their bud-growth, but outdoors bud-dropping is practically unknown—at least, it is so here. My trees set their fruits so thickly that severe thinning had to be adopted to save the crop. A moister and cool atmosphere has been in their favour on light and medium soils, and in some districts the rainfall has not been sufficiently heavy to give trouble in clayey land. In very hot summers Peaches and Nectarines often get scalded with the sun, and this is almost certain to happen if the fruits which have advanced for a time under the shade of foliage are suddenly exposed. For this reason it is necessary to proceed cautiously with summer pruning and training of the young Peach growth. I have seen a crop of promising fruit completely spoilt by nailing or tying the summer shoots during a spell of hot weather. No such failing has occurred this year because the sun has been tempered with cloud and showers have been frequent. Nectarines are not so extensively or, generally, successfully grown outdoors

walls as Peaches, though there are gardens where these remarks do not apply. Last summer in a large garden near Bristol I saw as fine Nectarines on open walls as in Peach-houses in the same garden.

Wasps and blue-bottle flies are troublesome to both Peaches and Nectarines outdoors, but the latter are taken the most freely when within the reach of these summer pests. The cool summer and frequent rains gave hope that wasps would be scarce. Experience, however, proves that they are not so easily controlled, for they are becoming exceedingly numerous. It is a common experience that fruit may escape up to a certain period, but with the advent of the Plum season wasps begin in earnest. It is curious, too, that no matter how many nests may be taken, their numbers do not appear to diminish, judged by the fruit attacked. Quite recently nearly thirty nests have been destroyed within an easy radius of this garden, and though this must mean the destruction of many thousands of wasps, the fruit seems to suffer as much as if nothing had been done. A partial remedy against attack was suggested by the planting of the early sorts of Peaches, which ripened their crops before wasps appeared. An evil of all insect and bird life among fruit is that they sample so many, often only so as to spoil them for every purpose, save jam-making. Only a small puncture on the surface of the fruit will set up speedy decay, whether the weather be



The common Laburnum (*L. vulgare*). (See page 255.)

suany or showery. While the planting of the early kinds of Peaches halles the efforts of the wasp and blue-bottle fly because of their early maturity, the same gain is effected in Nectarines. Cardinal has been said to be too tender to stand the frost and cold of winter and spring and was recommended as an indoor and forcing variety only. I have a young tree that has stood two winters and has shown itself quite as impervious to cold as the Peaches growing close by. This year it bore a light crop of deeply-coloured fruit, the first being gathered on August 14th. This is earlier by some days than Early Rivers', which it much resembles in colour, size, and shape. Hale's Early is a capital Peach for the open wall, giving a succession to Waterloo, Alexander, and Amsien June. The succession may not follow in the case of those having one tree only of the earliest section, but in my case having several trees, Hale's Early was ready before the last fruits of Alexander had been gathered. In writing of Alexander and Waterloo, it might be said how closely they resemble each other grown outdoors—indeed, so very marked is this that it becomes difficult to identify one from the other. Certainly there is no necessity to grow both. A good successional Peach for outdoors is Concor, which, for an early Peach, has a remarkably good flavour. Alexander, if allowed to ripen on the tree outdoors, does not offend the palate as it does forced under glass. W. S.

NOTES AND REPLIES.

Melon William Tillery.—It is several years since this was sent out, and it is very hard to beat, from a flavour point of view. Wherever accommodation can be found for them Melons in houses, this should be grown. This

year I have it growing in pots from seed many years old, and although some consider it shy fruiting, I do not find it so. My plants are carrying three or four fruits each.—J. CROOK.

A good early Plum.—All early kinds of fruit are valuable, either for home use or market, seeing that most people are seeking for change. This being so, every one who has accommodation should grow Rivers' Early Prolific Plum. It is an enormous and regular bearer if the crop is thinned. It is not particular as to position, doing well in the open or against a wall. This year I was able to gather fruit ripe enough for cooking about July 23rd, and ripe for eating August 1st, from a tree growing against a west wall. This Plum commands a good price when early in the market.—J. CROOK.

Raspberries not bearing.—Can you kindly suggest the reason for my failure to grow Raspberries? The canes were divided and planted three years ago, the ground well dug and manured. The stools have done well as regards growth and foliage, sending up a vigorous growth of canes each year. But each year they have gone off in the way shown by the enclosed specimen, blooming freely, but bearing little or no fruit, while the foliage of the old canes seems blighted, while that of the new growth is normal. The cause is not to be found in the cold of this year, for the same thing has happened every year; nor with pruning, for the old canes have been properly cut out, and four or so of the new ones left. The district is cold, the soil clay, and the garden has a slight slope to the north, but the Raspberries are in a somewhat sheltered corner.—A READER.

[We have seen similar instances of the failure of what seemed to be good Raspberry canes to fruit, and dying off, to what you mention with respect to your own, and have always found the cause to be a base of cold, clayey soil that is sour and deficient in lime. The remedy has been found in trenching the ground so as to excavate some 12 inches of the clay sub-soil, replacing it with garden refuse, road-trimmings, ditch-trimmings, turves, or similar materials of a gritty nature. A good dressing of chalk or lime should be added, with some well-decayed manure, and 4 lb. per rod of basic slag mixed with the soil before planting. Only suckers from a good healthy stock should be planted. Superlative, Harnet, or Norwich Wonder are all good ones. Practically yearling canes or suckers on your breadth do not ripen, and the soil being deficient in potash and phosphates, they fail to become fruitful.]

Planting fruit-trees on allotment.—Is it possible to obtain fruit-trees this autumn so that they will flower next season? I am thinking of Apple and Pear (espalier-trained), also Gooseberries. I am taking an allotment at the end of September, and, as one can never tell when he may be turned out, it is not worth while growing from cuttings, and perhaps having no ground for second season. I should like advice as to time and method of transplanting? Also, should I get two-year-old trees, or is it worth while moving old bushes?—J. K. S. K.

[If you plant fruit-trees of any description on another person's ground, whether an allotment or garden, except it be a nursery garden, you cannot remove them without the landowner's consent, and if you plant without his consent you cannot claim compensation for them. It is well you should know so much. If, as you say, you can never tell when you may be turned out from the allotment, it is wise to risk so much? Espalier-trees for planting in October or November, the proper season for so doing, should be three years from the bud and have been flat-trained. But, all the same, they would not be large, and may not produce any fruit the first year, and perhaps not the second. All would depend on whether any fruit spurs were formed when you purchased them, or formed the next year after planting. Gooseberry bushes would have to be hard cut back the first year, and would hardly fruit till the second or third year. Old trees or bushes are seldom worth transplanting. You can propagate Gooseberries and Currants from cuttings put in during October, but they would need two years' growth ere they were strong enough to plant out. It would be best, therefore, to purchase good two-year-old bushes of these fruits in the autumn and plant them. Of course, if you purchased four-year-old trained trees, or equally old bushes, you might reasonably hope if they did well to get some fruit from them the year after planting, but such trees and bushes would be expensive. In planting, prepare holes full large to accommodate the roots, well set out, and be specially careful not to plant too deep. When roots are fairly near the surface they can be fed as needed when carrying crops of fruit.]

TREES AND SHRUBS.

LABURNUM (GOLDEN RAIN).

ALL the Laburnums are beautiful when in bloom and quite hardy and free-growing in our country, producing fine effects if care is taken to afford them suitable positions and surroundings.

L. ALPIMUM (Scotch or alpine L.) is a native of the hill forests of France, Central Europe, reaching a height of nearly 40 feet. Many fine varieties have been raised from lime to time, one of the best being **L. Watereri**, here figured, whose spikes are often 12 inches to 14 inches long, the colour rich yellow. The Scotch Laburnum usually flowers when the others are over, and it, as well as its varieties, may be easily recognised by the broader and deeper green leaves and the rich yellow of the racemes, which are longer than those of the

Mr. J. Rose, Oxford, who sent us the excellent photograph from which the illustration was prepared, writes as follows: "One of the best Laburnums is that known as **L. Watereri**. The racemes of this variety are much longer than those of the type, being often 12 inches to 14 inches in length, and though the tree is neither so free-flowering nor produces such a mass of colour as the common one, yet its more elegant appearance entitles it to a place in any garden where more than one variety is desired."

VEGETABLES.

NOTES ON TOMATOES.

THE outdoor crop is certainly not a promising one this year; the weather, excepting about a fortnight the last week in June and succeeding week, proved far too cold and wet for the

Tomatoes require but little moisture overhead at any time, and I think if this were more strictly observed we should hear less of the disease than we now do. For the earliest crop pots 10 inches or 12 inches across are a serviceable size, leaving a couple of inches when finally potting for top-dressing, and it is a good plan if the pots are to be stood on staging to place a square piece of turf under the pot for the roots to enter to assist the plants in swelling the crop. Watering is also an important point when the roots are confined in so small a compass, examining the plants thrice daily in bright weather during May and onward, for if allowed to suffer from the want of it when once fruit is formed, the plants receive a check which no after treatment can rectify, the fruit never attaining that standard of excellence it otherwise would had the plants been well cared for from the start. By this I do not mean that water must be applied indiscriminately, far from it; too much care cannot be exercised in the matter, only giving it when you consider the plant is really in need of it. Some of the artificial manures are excellent for this fruit. For a

WINTER AND EARLY SPRING CRIP there is still time to make a start if the seeds are sown forthwith in a little heat, placing three or four in 60-size pots, reducing to one, eventually choosing the strongest, repotting into 5-inch before pot-bound, and then as soon as ready into 8½ inch or 9½ inch, which will be large enough for winter work. The soil used should be good fibrous loam with the addition of a little fresh horse-droppings put through a ¼-inch sieve, and a 6-inch pot of bone-meal to every bushel of the two former thrown together, potting firmly each time and growing on in an unheated house where the sun-heat can be husbanded about 4 p.m., with plenty of moisture about the staging and floor of the house. In a week after their final potting the plants may be stood outside, fastened against a wall or trellis, until the end of September, or even the second week in October, should the weather be warm and dry. On the other hand, if the weather prove very wet they should be put back into the house, or the flowers will fail to set satisfactorily, but our autumnals of late have been just right for plants to form fruit before placing indoors. When taken in, a south side of a span or lean-to house should be afforded them, training upwards and within 18 inches of the glass roof, and if a night temperature of 50 degs. to 60 degs. can be kept up, with the usual rise by day according to the weather, several fruits should be forthcoming from December onwards.

VARIETIES.—These are legion and most growers have their favourites. I have a great liking for Challenger and Chemin, and if a trio were required I should include Frogmore Selected, all of which will be found to give satisfaction if sown early in August, or in February for an early summer crop. I have also grown Early Ruby, which fully maintains its name; but I prefer smooth fruited kinds, as will be seen by the trio given above. If lesser varieties must be included, give Sutton's Golden Nugget and Sutton's Desert a trial.

J. M. B.

NOTES AND REPLIES.

Winter vegetables.—The latter portion of the last and beginning of the present month, being somewhat dull and showery, were particularly suited to the removal of winter vegetables, and now, as the ground is cleared of Potatoes and Peas, after being dug over stuff may still be got in. Savoys, Kale, Broccoli, and late Celery will soon get established, and if the weather becomes dry, watering should be attended to.—WOODBASTWICK.

Lettuce and Endive.—Make several sowings from now up to the first week in September of such varieties as Hicks' Hardy White and Brown Cos, All the Year Round, Lee's Hardy Green, and Hardy Hammersmith Cabbage Lettuce, keeping a sharp look out for slugs this showery weather, dusting with slaked lime late in the evening or very early in the morning. This season has been just suitable for Lettuce, transplanted stock having done well, with just a watering to settle the soil around the roots at the first start. Get a nice lot put out of each sowing, most of which



Watereri's Laburnum (*Laburnum alpinum Watereri*). From a photograph sent by Mr. J. Rose, Oxford.

ordinary sort. Besides the one mentioned there are several other forms, such as Parkesi, Carleri, and grandiflorum, while there is a drooping variety (*penulium*), a graceful tree with weeping branches.

L. VULGARE (Common Laburnum) grows freely in any soil in our gardens, the flower spikes being denser and earlier than in the alpine Laburnum. It, under good treatment, will reach a height of from 30 feet to 40 feet.

L. ADAMI is supposed to be a graft hybrid, and originated by grafting the purple-flowered *Cytisus purpureus* on to the common Laburnum. The same tree, and even the same branch, bears racemes of both yellow and purple flowers, the colour sometimes being dull purple.

Considerable judgment is necessary to plant the Laburnum effectively. Instead of dotting it about in a meaningless way, distinct groups should be planted in widely separated spots, or at least where from any given point one cannot see the tree repeated more than once. Few trees are so difficult to move when large.

well-being of the plants, and though they have made fairly good growth of late, very few flowers appear to have set, therefore it is too early to say what varieties are a success under such adverse conditions.

THE INDOOR CROP has been good in spite of the sunless spring and early summer. Those in unheated houses are a fortnight late in ripening compared with other years, but the plants keep healthy and are swelling heavy crops, which require some approved stimulant twice or so each week, removing all side growths as soon as the same can be laid hold of. Heavy bunches of fruit should be supported with string, bringing them near the glass or into as light a position as possible, partly cutting away any foliage that may shade any fruit. Where space allows, two shoals can be trained up, and I see little or no difference in the size of the fruit whether grown on the single or double cordon principle, though I know some cultivators aver the single stem gives the better returns as to size. Keep the plants dry overhead when the flowers are open—in

will be sure to come in useful later on. What is necessary in transplanting Lettuce and Endive is to preserve the tap-root, and not plant too deep. Plants of both these salads that will be required to be taken up and placed under glass as the season advances, should have plenty of space between them each way, such plants keeping much better than others any way crowded. For the large-growing kinds 1 foot or 15 inches is none too much between each plant. As regards the Moss-curl'd Endives, these are not so hardy as the Broad Batavian, so preference should be given the latter for winter work, though the curled ones look much the better when cut up with Lettuce. Where there is ample space between the Celery ridges, this will be found a capital place for sowing or planting Lettuce.—J. M. B.

Early Potatoes.—Owing to the showery, sunless weather experienced of late, the sooner early Potatoes are lifted the better, as I hear many complaints about the disease. In some cases very bad accounts come to hand, though in my own case up to now few diseased tubers have been found. In lifting the crop, care should be taken that all are clean before storing away, sorting out the seed and keeping in a cool cellar or root-store apart from the eatable ones. The sorts that have turned out best with me are Improved Ashleaf, The Puritan, Sharpe's Victor, Ringleader, and Surprise, the first and the last named having the heaviest crop and quality all that can be desired. Clean and level down the ground, when it can either be planted with Coleworts, or sown with Winter Turnips, making the soil quite firm for both, or Borecole, sprouting Broccoli, or Asparagus Kale, may still be put out. It is full late to plant out White Broccoli, as I find the earlier in July it can be planted out, the better. Late Potatoes look well, though patches of disease can be seen in the stalk, and unless warmer, drier weather soon sets in, it is to be feared disease will be very common. Nothing is gained by cutting away the haulm, as so many cottagers and even amateurs do, as soon as they detect the slightest bit of disease, ignoring altogether whether the haulm has performed its proper function to the tuber below, which it certainly has not while it remains fresh and green. It is to be regretted that no thorough cure has as yet been found for this dreaded disease to so important a crop.—J. M. B.

Asparagus culture.—I find some doubt is being felt by various gardeners as to whether the old methods of heavily manuring Asparagus must not soon be ranked amongst exploded garden practices. It is not difficult to discern, when Asparagus seed drops into unexpected places and growth ensues, that the plants in two or three years become very strong, yet get no manure dressings. I have seen numerous examples of that nature. But it must not be overlooked that such plants have none of their shoots cut from them in the way that cultivated Asparagus has to suffer, and it is fair to infer that, whilst non-cutting of spring shoots does tend to create robustness, the cutting of these shoots, especially so hard as is practised in many gardens, weakens the plants, as it is then late in the summer the ordinary top growth—the renovator of the roots—can proceed. That is a fact which has to be well considered, when it is suggested that we over-mature Asparagus beds. There can be no doubt that the old practice of placing a thick coat of cold manure over the beds or plants early in the winter is a mistake. The crowns and roots are then at rest, and, whilst hardly capable of utilising the food thus supplied, there is a tendency on the part of this manure coat to cause the roots to decay, and if that be so, then great harm is done. There can be no doubt that the most effective way of fertilising Asparagus soil is to give in the growing season occasional soakings of liquid-manure. That the roots, when in full activity, rapidly utilise, and the result is seen in fine robust top growth. Then, the stronger the season's growth, the stronger will be the shoots for cutting the following year. Light dressings of nitrate, salt, guano, or soot, under these waterings, soon wash in. This practice renders needless the objectionable course of giving the resting roots heavily with manure dressings.—A. D.

GARDEN WORK.

Conservatory.—Bouvardias, if confined to pots, should be in the pots in which they are to flower. Many gardeners plant them out on south borders or in pits where the lights can be taken off, and pot them up in September. Good results have been obtained in both ways, but success depends chiefly upon the person who does the work. Bouvardias are more easily kept clean under glass than outside, though the plants growing in the border, if well cared for, are less liable to receive checks and consequent liability to insects. The variegated *Cobra* has a pretty effect trailing and festooning about in the cool conservatory. It is specially adapted for large houses where there is plenty of room on the roof for dangling growth. Among hard-wooded plants I am very partial to the *Diosmas*, of which there are several species, all having neat, fragrant foliage, specially adapted for bouquet work or to mix with flowers in small vases. The flowers, though small, are freely produced, and are for the most part white. There is an old kind named *Diosma ericoides* I used to grow years ago, and which I should be glad to get again, but I have lost sight of it for some years. It was useful for mixing with cut flowers and so fragrant. *Diosmas* are Cape plants, and require much the same temperature and treatment as Heaths. Possibly, now that South Africa is being opened up, these and other plants from the Capo may be re-introduced again. Let me advise those readers who care for sweet-scented flowers to plant some of the *Jasmines* in the border in a light position. There are several suitable kinds, but *grandiflorum* and *gracillimum* are perhaps the best. *Daphne indica alba* and *D. i. rubra* will do well planted in a bed of loam, peat, and sand, well drained. Very often these plants have an unhappy appearance in pots, but planted out under favourable conditions they grow and flower very freely. Bamboos are graceful plants as a background, but they must not be starved in small pots, or the foliage loses colour. They are strong-rooting plants, and if it is not convenient to repot now, give weak liquid-manure. They are easily increased by division of the root crowns, and in the matter of breaking up old plants they soon make good any damage sustained when potted in good stuff.

Stove.—The nights have been cold for some time, and where *Ixoras* and other warm-house plants are grown the fires will hardly have been discontinued, but the average collection of stove plants will do very well without fires to the end of August, especially if we have bright weather, as by closing early in the afternoon some of the sun's warmth will be retained, but when September comes in it will be time to gather the warm-house plants together, and keep a little warmth in the pipes on cold nights and in damp weather. If one has room to plant a climbing plant, *Schubertia grandiflora*, something after the style of the *Stephanotis*, but with larger flowers, will be useful for bouquet work. *Ficus radicans variegata* is a very pretty basket plant that is likely to be in demand now it is getting cheaper. The habit of growth is very graceful, and when it becomes plentiful it will be useful to grow in small pots for standing along the front of the stage to form an edging. It is easily propagated in bottom-heat. *Crotons* and *Dryas* must have plenty of light now to put on colour. If shade is used at all it should be taken off in good time in the afternoon. Do with as little shade as possible everywhere now. Even Ferns will be all the better for a little sunshine during the early morning. The soft-wooded winter-blooming plants should now be in their flowering pots and be getting established.

Propagating bedding plants.—There must be no further delay now in taking a stock of cuttings of all plants required for next season. Delay now adds to the difficulties of the propagator. All the *Geranium* family will strike on a cool ash-bed in the full sunbines, and as the cuttings are of a succulent nature, too much water must not be given. The best way of striking most things now is to insert the cuttings thinly in 4-inch or 5-inch pots, using sandy soil, with a little sand on the top, and the whole pressed in with a reasonable degree

of firmness. Where space is limited, shallow boxes of manageable size may be used. All plants other than *Geraniums* should be placed in a frame or pit, where the cuttings can be kept close, except for an hour or two every morning, and be shaded when necessary. The watering, of course, must be in careful hands, as carelessness may ruin everything.

Ripening late Grapes.—This has not been an ideal summer for the Grape grower. The nights have been cold and the temperature generally below the average. With late Grapes, it is best to start early and get them forward whilst the sun has power. We may have a very bright and warm September, and this will be a great help to late Grapes, as although we may supply the warmth artificially, we cannot supply the sunshine. In many cases with *Gros Colman* and *Lady Downe's Grapes*, probably also with *Muscot*, a little fire-heat will be necessary to finish them and ripen the wood, even if we have fine weather through September.

Peaches under glass.—Sometimes young trees make too much wood. The *Muscel Plum* is the best stock for the Peach. Other stocks often lead to grossness of habit, which is difficult to correct. In making Peach borders, a free use should be made of old plaster, especially when the loam is from heavy land, which, of course, is the best for Peaches and stone fruits generally. When young trees show a tendency to grossness the best course is to lift the roots carefully and replant, adding a sprinkling of old plaster and wood-ashes. This work may be done as soon as the leaves show signs of having finished their work, without waiting for them to fall. Peaches under glass may usually be lifted at the end of September.

Window gardening.—Boxes of flowers may be kept going by giving liquid-manure once a week, and the prompt removal of faded blossoms and discoloured leaves. There will in the usual course only be a few plants in windows or rooms now, as most things will be better outside, and only those which possess some decorative value will be kept inside. Foremost among these will be *Begonias* and *Campanulas*. *Liliums* are easily grown in pots, especially the *lanceifolium* section. *Plumbago capensis* makes a good pot plant to flower now.

Outdoor garden.—Though there is no great number of trees and shrubs which flower at this season there are several which would attract attention at any season, and which ought to be in every garden. Among the most conspicuous things in flower now are the *Sumachs*, especially *Rhus Cotinus* (the Venetian *Sumach*). A good-sized plant on the lawn or in the foreground of a mass of shrubs draws everyone near for a closer examination. The *Buck-eye tree* (*Pavia macrostachya*), a miniature *Horse Chestnut*, is not so common as it might be. In a warm corner the *Ceanothus azureus* is flowering freely. Groups of *Tamarisks* and hardy *Fuchsias* in the Grass are good. *Yuccas* and the *Pampas Grass* are strong features when judiciously placed. *Hydrangea paniculata grandiflora* is very useful in any form, either as a pot plant in the conservatory or in a mass on the lawn. The *Althea frutescens* or *Hibiscus* is very distinct, and the *Escallonia*, especially *macrantha*, make a very distinct group, or may be used as wall plants. I have seen it used to form low evergreen hedges near the sea, and it seems more at home in the sea-shore counties than inland. Dwarf *Briers* and *Manettis* may be budded now, as after the rains the bark works freely. Get the buds in as low down as possible. Do not forget to sow a few hardy annuals for spring bedding, and all such plants as *Wallflowers*, *Canterbury Bells*, *Sweet Williams*, etc., should be pricked out from seed beds to get strong. Pansies may yet be sown, and cuttings taken from choice kinds.

Fruit garden.—There is plenty of scope for the fruit planter yet, and preparation should soon be made for making new plantations and filling up vacancies. There will probably be also some root-pruning to do later on, and it will be as well to look round and come to a decision as regards the work to be carried out. Any tree that is making much wood and bearing but little fruit wants a check, and that check is best given by lifting and shortening the roots, and this may be done

as soon as the wood is ripe and firm without waiting for the leaves to fall. As soon as the Peaches from any tree are gathered some of the older wood that can be spared will be better cut out. This thinning forwards the ripening of the young wood which is to bear next season's crop. Look over ripening Peaches every day to gather those fruits which are nearing maturity. The practised hand can easily tell the fruits which it will be unsafe to leave longer on the tree. Peaches for travelling must not be left on the tree till quite ripe, as a fully ripe Peach will scarcely bear handling, and certainly should not be packed for a long journey. The same remark applies to all fruits except Oranges and Pines. Any bunches of Grapes remaining in the early viney may now be cut and bottled, the house thrown open to complete the ripening of the wood, and the bearing branches shortened to further strengthen the back buds, and if the inside borders are very dry give a thorough soaking of liquid manure.

Vegetable garden.—Make a further sowing of Cauliflowers to stand the winter in frames or in sheltered places. Plant out Coleworts. Tom Thumb Savoy planted thickly now will come in useful during winter and early spring. Bear in mind, also, there is never a surplus of Spinach during the early spring months, and sow more now. Where the land is in good heart Spinach may be sown after early Potatoes without digging. Simply give a dressing of soot and a little artificial manure, or the soot alone will do. Hoe it over deeply, draw the drills 1 inch deep, and sow the seeds thinly. Turnips sown now will not get very large, but they may grow to a useful size, and will produce greens in spring. There have been seasons when Turnip tops have been appreciated. It is mainly a question of having plenty of land, and the land in good heart. Mushroom-beds in the open must be kept moist; as a rule, a little water will be required after each gathering, and the condition of the beds will tell when a heavier watering is required. A little salt in the water acts as a stimulant. When something stronger is needed urate of soda will act quickly. Beds may be made up in houses now. If woodlice are troublesome it is generally because the requisite cleaning of the house has not been given.

E. HOBDAV.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

September 1st.—Spring-sown Onions have been pulled up and spread out to complete harvesting. The largest will be tied up in bunches and hung up in a cool shed for use during winter. Onions cannot be kept too cool. Carnation layers are kept moist. We are increasing our stock of self Carnations, especially the Cloves. Muscas of the white and crimson Cloves are now very effective and their fragrance delightful. Cuttings of Goreniums, Fuchsias, and other plants are still being taken, and will be continued till a stock has been secured.

September 2nd.—We have been busy shifting on Cinerarias and Primulas, and we have potted up our stock of old bulbs of Cyclamens, which have been planted out in an open frame in a shady spot in good soil. They break better turned out in this way than when kept in pots, and the pots are scrubbed and made clean for use again. Some of the largest corms are several years old, and will be placed in 7-inch pots, but only the best of these old corms are used. Several heavily-laden Apple-trees have been soaked with liquid manure.

September 3rd.—Just finished repotting Arum Lilies. We have them in various sized pots for different purposes. They will remain outside for the present. Looked over the early budded Briars to loosen ties. Planted Lettuces and Endives on warm south borders. Made a last sowing of Bath Cos Lettuce. Looked over Tomatoes outside to reduce foliage a little at the bottom. All the leaders have been stopped. Herbaceous borders require frequent attention to keep things in trim.

September 4th.—Celery is earthed up from time to time, as required, though the first blanching material used in papers earthed up

being done later as a finishing process. Sowed a few more Cauliflower seeds in cold frame. Put in cuttings of the new double Arabis. This will prove a very useful border plant. It strikes freely from cuttings of the young shoots in a cold frame kept close for a time. Filled a frame with cuttings of various Eucyomuses.

September 5th.—Bottles of sweetened beer have been hung upon walls and other places to attract wasps. The nests have also been hunted up and the insects destroyed, as when numerous they spoil a good deal of fruit. Orchard-house trees in pots which require a slit have been repotted, others have been top-dressed, removing some of the old soil. Young strays shoots have been removed from wall trees and the leaders trained in. Beds are being prepared for the named Pinks.

September 6th.—New Strawberry plantations are being made to take the place of the old plantations destroyed. Alpine Strawberries are very useful now. We are potting plants for late forcing. Planted a small house with Telegraph Cucumber for winter. Cucumbers in frames are still bearing freely, and will be encouraged with liquid manure. Potted a lot of double Narcissi for forcing.

LAW AND CUSTOM.

Notice to quit garden.—Three years ago I took a piece of land (for a garden) adjoining a laundry, at 10s. per year payable in advance on the 1st April. The land was then with clay, this having been laid on when the laundry was built, and I had all this clay to remove before I got to the soil. I was under the impression that I should require a year's notice if they wanted to take the garden from me (from April to April); but I am now told that they are going to give me notice in November next to finish in May, 1903. Will you kindly tell me if they can legally do this, and if I should do any more work in the garden, or what will be the best course for me to take? Thanking you for your reply through your valuable paper.

—W. K.
[You do not say that you have a written agreement, and so I presume there is none. If this be so, the tenancy is yearly from the 1st of April and can only be determined on the 1st of April. It seems pretty certain that this piece of land is let to you as a private garden and is cultivated as such, and that it is not an agricultural holding. This being so, half a year's notice expiring with a year of tenancy will be necessary, that is to say, notice must be given on or before September 29th next (possibly it might be held good if given on September 30th) to determine your tenancy on April 1st, 1903. If the notice is not given until after September 30th, it will be bad. After you receive a good notice, you should do no more work in the garden than is necessary for the crops growing there when the notice reaches you.—K. C. T.]

BIRDS.

Canary moulting (S. E. Ilford).—Canaries and, indeed, all cage-birds require a little extra attention and abundance of food, and that of a more generous quality than usual, during the moulting season. As a proof of this it is found that birds in a state of freedom moult when their natural food is most plentiful. You may give your Canary some Maw-seed, Flax, and a little Hemp in addition to its ordinary diet, while a good supply of green food may be allowed, such as the flowering tops of Groundsel, Chickweed, or Watercress. It is well, however, to remove from the cage any green food that may remain unconsumed after a couple of hours or so, as stale green food is likely to prove injurious. It is not well to let cage-birds bathe so frequently during the moulting season as at other times, but when your Canary does take a bath, see that it is quickly dried again by placing it in the sun, or by letting it remain in a warm room. At all times guard against draughts or exposure to a low temperature—a difficult matter, often, in our changeable climate. Take care to provide grit-sand from which the bird can pick small stones to assist in the digestion of its food, and put a small rusty nail in the drinking water. This will furnish a mild tonic and assist in the elaboration of new plumage. A piece of cuttle-fish bone between the wires of the cage for the bird to peck at is beneficial at all times.—S. G.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in *GARDENING* free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF *GARDENING*, 17, FURNIVAL-STREET, HOLBORN, LONDON, E.C. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that as *GARDENING* has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three or four specimens of each kind of fruit be sent. We cannot undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Eupatorium Wendlandi (Cory).—All the Eupatoriums require much the same treatment— that is, struck from cuttings in the spring, grown outside during the summer, and taken into a warm greenhouse in the autumn, where they flower during the late autumn, winter, and early spring months.

Carnations (Smilax).—Six for outside should include Baby Castle, rose-pink, very hardy; White Clove; Crimson Clove; Alice Ayres, light striped variety, very free; and Germania, yellow. Six for greenhouse: Pike, crimson; Herbert J. Cuthman, scarlet; Duchess of Fife, pink; Cecilia, yellow; Hermione, salmon; and The Hunter, apricot.

Sedum Sieboldi (Cory).—This is quite hardy and is frequently grown in pots. Its roundish leaves are glaucous and in autumn often assume a rosy-coral hue. The flowers are soft rose, and look well in pots, small baskets, or vases. It deserves a place in the rock garden, but, except in favoured places, it does not make strong growth. It is easily increased by division or cuttings.

Fuchsias falling (T. PatKerryll).—Draughts, excesses of temperature, and irregular watering will cause Fuchsias to behave as yours are doing, and, judging by the flowers sent, we should think your plants have been kept too wet, but, of course, we cannot positively say. We should advise you to stand your plants out of doors in a slightly shaded spot, watering, of course, when necessary, and you will then in all probability find your trouble disappear.

Woodlice (H. M. Smilax).—Woodlice are generally found in old dry dung-hills, Cucumber-frames, etc., and they are injurious to many plants, fruits, etc., by gnawing off the outer skin. If found to congregate at the base of a wall, they may be destroyed by pouring boiling water over them, or they may be trapped by laying bricks, tiles, or pieces of slate near their haunts, under which they will creep. As soon as you have planted your various things, they will soon go away if you keep the soil moist.

Echeveria retusa (Cory).—In an ordinary greenhouse this flowers in the spring, but in a warm-house it may be had in bloom during the winter. Plants that have bloomed should be shaken out during June and repotted, standing them in a cold-frame, where they can be freely exposed to the sun from the time they begin to grow, taking care not to overwater in the early stage of growth. It bears bright orange-coloured flowers, and is one of the best plants we have for room decoration during the late winter and early spring months.

Violets (J. C. H.).—We fall to grasp your meaning, unless it be that by reason of the length of stem in some single kinds someone has been tying them up to small sticks. Princess of Wales and California both have very long stalks, and it is merely a question of the variety, and nothing to do with training. In both the above, and also La France, the stems are long and the blossoms single. If these kinds were placed in the warmth of the greenhouse the stems would elongate, and at such times staking may prove a necessity.

Soil for Tulips (M. W.).—The soil you have ought to grow Tulips well if you dig in now a good dressing of rotted manure, keeping it as low down as you can. You do not say what Tulips you mean. If you refer to the Dutch Tulips, they will not flower well the second year, and must be lifted. The May-flowering Tulips may be left in the ground, but will in time retire to flower, as they will get too thick, and must be lifted and given fresh quarters. Plant the bulbs as soon as you can after the usual bedding plants have been removed, so as to allow them to root well before the severe weather comes on us.

Crassula coccinea after flowering (J. W. F.).—Old Crassulas are best thrown away after they have flowered, when cuttings have been secured, for they become "leggy" and lose most of their beauty. They may be cut back, however, and induced to make fresh growth if preferred, potting them when the pots are empty or two-thirds full, and placing them outside in a sunny window or on an arch-bed against a sunny wall during this month and the next, in order to ripen the growth, as, being very succulent, they need a thorough ripening in autumn to induce them to flower freely.

Planting Bracken (Bowie).—You may start planting at any time now, taking the precaution to leave the fronds more or less intact, or, in any case, not to submit the plants to any wholesale cutting down for the sake of appearance. If you can remove a whole spit of soil containing the rhizomes, take every care that the running end of the rhizome—i.e., the underground stem portion from which the fronds issue—does not get crushed or injured during the transplanting. It is not an easy plant to establish in our soils, though we have seen instances where the fronds have been established in quite cold clay soils.

It would certainly assist matters if some light material could be added about the roots at planting time.

Gloxinias forming too many leaves (Caution).—If Gloxinias are grown too freely and an excess of stimulants used, they are apt to run very much to leaf...

Tulips from seed (J. B.).—It is very rare for these to come true from seed, the seedlings varying in proportion with the care taken to prevent the flowers being fertilised with pollen from other sorts.

Roses for arches in Scotland (Caution).—We presume your intention is to span each of the four walks with an arch. If so, four varieties will be required, as it is customary to have each arch clothed with one kind.

Roses for arches in a cold county (M. R.).—The roses we should recommend for arches on the north side of a walk would be as follows: Queen Alexandra, Azalia, Euphrosyne, Thalia, Carmine Pillar, Mme. d'Arday, Felicité-Perpetue, Flora, Dundee Rambler, Bennett's Seedling, and Fenzance Briers.

Roses for the north (M. R.).—You will find the following two dozen really good hardy kinds, and free bloomers in the summer months.

Primula japonica (J. C.).—No hardy flower is more useful in its way for boldly massing in a shady spot or by the margin of water than this fine species, at one time considered tender.

Skeleton-leaves (Skeleton, Ayrshire).—These are prepared by simple maceration, steeping in water until sufficiently rotted to allow of the skin and soft parts of the leaf being removed from the wood fabric or skeleton of the leaf.

Perennials for border (A. M. Parsons).—The taller perennials, as a rule, require a good deal of moisture to grow them well, but many of the dwarf kinds are content with less.

grandis, and *Monarda didyma*, which may require biennial transplanting in such conditions, any of the *Hellenthus rigidus*, with annual replanting of the toes of the rhizomes.

Rose Crimson Rambler and its treatment (F. H. G.).—This Rose requires but little pruning. The best treatment is to cut away any old wood that can be spared after flowering.

TREES AND SHRUBS.

Creepers for town garden (W. Denton).—*Ampelopsis muralis*, *Cestropis pyracantha*, *C. laevis*, *Virginia Creeper*, *Vitis* in variety (particularly *dentata*, common Irish, *himalayica*, and *maderiensis variegata*, a fine silver-leaved kind), *Euonymus radicans* fol. var. (which probably surpasses the ivy in its quick growth and dense covering).

Shrubs for town garden (W. Denton).—It would have been most helpful had you given the locality, as then we should have had an idea of the elevation, which is important.

Climbers, etc. (A. Scherber of Many Years).—For west wall, we suggest *Lupinus arboreus*, *Jasminum nudiflorum* (yellow winter Jasmine), *Rose Almo* Vibert, *Tropeolum speciosum*, *Choisya ternata*, *Manisanthus fragrans*, *Eccollonia macrantha*, *Diervilla* in variety, and *Rose Fortune's Yellow*.

FRUIT.

Old Currant-bushes (W. B.).—When old Currant-bushes have fallen into the state that yours have, the most satisfactory way is to root them up and burn them, replanting with strong and vigorous trees.

Insects on Peach trees (P.).—The insects are the black aphid. Duet the trees over with Tobacco-powder, or wash frequently with soft-soap or Tobacco-water, and also wash well with clear water, using the garden-engine a short time after the other dressings have been applied.

Grease bands to prevent Codlin-moth (F. G. Dutton).—Put strips of brown paper at about 1 foot from the base of the tree round the stem, and smear these with cart grease or any sticky substance to prevent the female moths getting on to the branches.

VEGETABLES.

Green Tomato chutney (M. A.).—Put a pint of vinegar in a preserving-pan with a pound of Demerara sugar. Let this boil until the sugar is dissolved.

SHORT RAFFLES.

W. Denton.—We think it best you send this size of garden, or give some idea as to the objects you most desire to screen from wind.—*Postman*.—1, You cannot do better than fill the bed with roses.—*G. M. S.*—No, you will not be able to keep the Geraniums without heat. The *Catalpa* will winter in a cold frame.—*M. O. S.*—No, not the Violet disease. The leaves are evidently being eaten by some caterpillar.—*Corn*.—See note as to increasing *Inula phyllanthi* *miliaria* *syn.* *Clivia miniata*, in our issue of August 16, p. 327.

NAMES OF PLANTS AND FRUITS.

Names of plants.—*Cyclamen*.—*Fuchsia procumbens*.—*Alfred M. Sharp*.—1, Blue, *Campanula rapunculoides*; 2, White, *Campanula lactiflora*.—*C. S. B.*—1, *Lonchocarp*, should like to see in flower.—*L. C. M.*—1, Wild Marjoram (*Origanum vulgare*); 2, Field Scabious (*Scabiosa arvensis*); 3, Yarrow, send in flower.—*G. M. S.*—*Calceolaria*, probably *C. nigrosa*; should like to know its height and whether annual or perennial.—*B. Fielder*.—*Sedum triandrum*.—*W. Hobbs*.—*Veronica virginica*; 3, *Lysimachia clethroides*, apparently in flower.—*F. Wilson*.—Ferns: Large Fern is *Laetia*. The other is *Aspidium angulare* var. The Grasses are species of *Poa* and *Agrostis*, but cannot be named without the specimens showing leaves as well as flower. No. 6 is *Anthroxanthum odoratum*.—*M. Clay*.—Rose lilies to pieces.—*K. K. S.*—Specimen insufficient.—*R. A.*—*Henbane* (*Hyoscyamus niger*).—*W. H. Ledger*.—The Throatwort (*Trachelium ovatum*).—*E. W. Reader*.—*Ruscus racemosus*.—*Athy Super.*.—1, Red *Veronica* (*Centranthus ruber*); 2, *Clrysanthemum lacustre*; 3, *Erigeron speciosus*.—*Pizzarel*.—Black *Medicago lupulina*.—*Zany*.—Scarlet Turk's-cap lily (*Lilium chalcedonicum*). It is advisable always to send a complete specimen.

Names of fruit.—*B. Fielder*.—Impossible to form any idea as to the Apple from the specimen sent.—*T. H. R.*—*Plum Orleans*.—*Mrs. Asprey*.—We think it *Follenberg*.

Catalogues received.—*W. B. Hatfield*, Cork.—*List of Rare Dahlias and Tulips*.—*Webb and Sons*, Stourbridge. —*Bubb List*.—*W. Cutbush and Sons*, Highgate Nurseries, London. —*List of Bulbs*. —*List of Border, Tree, and Malmaison Carnations*. —*List of Strawberries*. —*Toogood and Sons*, Southampton. —*List of Bulbs*. —*Frank Dicks and Co.*, 68, Deansgate, Manchester. —*Bulb Catalogue for 1902*. —*Dobbin and Co.*, Rotheray. —*List of Bulbs*. —*Violas, Roses, etc.*—*E. P. Dixon and Sons*, Hull. —*List of Bulbs for 1902*. —*Gilbert and Son*, Dyke, Bourne, Lincoln. —*List of Bulbs and Tubers*.

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FRUIT.

STRAWBERRY ABERDEEN FAVOURITE.

Is the wealth of variety to be found in Strawberries, it is not a little singular that they should almost, in each instance, possess some point differing one from another, and the variety above-named is one that may claim to be distinct from all others. The habit of the plant is robust without giving an excess of foliage, and the fruit of a brighter crimson than any other kind I am acquainted with. In Scotland, some portions of which are not well adapted to the culture of many Strawberries familiar by name in the south, Aberdeen Favourite is in much favour, by reason of its endurance of the moister climate. It is only to be expected that a variety such as this cannot be expected to succeed in English gardens to the same degree as it does further north. Even the well-established and popular Royal Sovereign does not possess this quality. Any one desirous of adding to his existing stock a variety possessing points differing from others might well select Aberdeen Favourite. In point of flavour it does not compare with Royal Sovereign or Pillbasket for sweetness, but the greater sharpness in this one agrees with some palates more than does a higher grade of sweetness. In colour and character it resembles Alice Mande somewhat, though in every respect it is distinct, the colour brighter, the fruit larger, and the plant more robust in leaf and habit. From the fact of the seeds being embedded in the flesh it is not likely to suit those who have to pack fruit for long journeys. Good travellers must have the seeds well disposed on the surface of the berry, as those protect the fruit from damage by friction. The crop this year was lessened by the loss of the earliest flowers, and consequently the finest fruits; yet, all the same, its distinct characteristics made a good impression on those who saw the ripening and gathered fruits. It is not a new variety, but is better than some of modern introduction, which have been tried and found wanting.

SUMMER PEARS.

For dessert, Pears are always popular, and in their season are in good demand. In the summer, say in July and August, there is not a large selection, and considering that there are so many other fruits available are they needed? Citron des Carmes is one of the earliest, though much of the same character and better known is Doyenné d'Ete. This is an excellent little Pear, one that must be eaten from the tree, or within a day or two of being gathered, because it so soon decays. The tree is a very regular and free bearer, and though of better colour and appearance from a wall, east or west, the fruits are good from a bush or pyramid-trained tree. In Petite Margaret we have a kind that is almost equally reliable, and bears fruit somewhat larger than the last-named. It also keeps slightly longer in a sound state, though it lacks

the pretty rosy flush on the sunny side of the fruit, and consequently loses attractiveness compared with Doyenné d'Ete. Jargonelle is another summer Pear that has many admirers. This, in size and shape, outdistances the small kinds already named, but in quality it is a matter of taste as to which is best. While the smaller sorts are free fruiters, this last-named is often very shy in bearing—especially is this so if hard pruning is resorted to. This can be grown either in bush or standard form, or as a horizontal-trained tree against a lofty wall. It is not at all suited for a restricted space, because this entails more pruning than is good for its habit of growth. Thus the lofty dwelling-house affords a much more suitable aspect than a low garden wall, and a standard gives greater area and expanse than the ordinary bush or pyramid garden tree. Another Pear in our collection which is most useful, regular in its bearing, and of nice appearance in a sunny season, is Fondante de Bihorel, a variety not often seen or catalogued. In size and shape it is similar to Doyenné d'Ete, but in its russety and firmer skin it differs much. In some seasons there is a red suffusion on the bronzed surface which enhances its value. The tree is very healthy and moderate in growth, a fact that favours regular bearing. A Pear that succeeds these is Clapp's Favourite, an extremely pretty fruit, but one that, like those already named, must be eaten from the tree or soon after. William's Bon Chretien need only be mentioned, as it is so well known. This, however, is more of a September than an August fruit, but no collection, however small, would be complete without it. Nor would it be complete without one at least of those before-named, and if only one is required then Doyenné d'Ete would be my favourite. The varieties named in this note maintain a succession from the beginning of July to the end of September, varying, if necessary, with the nature of the season.

PLANTING RASPBERRIES.

I WISH to make a new plantation of Raspberries, and shall be obliged if you will answer the following queries in your paper. What are the best kinds, and at what distance should the canes be set out, and when should they be planted?—NOTABELLO.

[Raspberries will thrive and bear fruit in almost any kind of soil that is well manured; but the finest fruit is produced by plants growing in a deep, rich loam. Raspberries produce a thick mass of fibres near the surface, and therefore are very susceptible to drought. The ground for Raspberries should be trenched 2½ feet deep, this, however, in some instances depending on the character of the sub-soil, as if it be of an inferior quality it will not be advisable to bring much of it to the surface. When trenching, plenty of manure or garden refuse should be worked into the ground. The best time for planting is as soon as the canes have shed their leaves. The

MODE OF PLANTING must be regulated by the form in which the canes are to be trained. Where stakes are available, the simplest plan is to tie the bearing canes to them, taking care that they are securely fixed in the soil. The stakes should stand out of the soil about 4½ feet,

and to each of them should be tied, when the plants have become established, five or six of the strongest and best placed canes from each stool after the fruiting canes of the previous season have been removed. Assuming that this plan of training is adopted, they should be planted in lines not less than 5 feet apart, and the distance asunder in the line should be the same, or not less than 4 feet. They will not throw up very strong growths the first year, but if the fruit be sacrificed and the canes cut to within 1 foot of the ground they will throw up much stronger canes the following season. Another mode of training consists in placing strong posts at each end of the row, connecting these with galvanised wires, strained through intervening iron standards. Thus a trellis is formed on which the canes are trained, and, if properly fixed, a plantation of Raspberries thus treated will last for years. Where this system is adopted the canes should be planted about 1 foot apart, and the shoots should be trained a little diagonally. After planting, surface dress with decayed manure. During the summer the ground must be kept clear of weeds and the soil occasionally loosened with the Dutch hoe. When the plants have become established and the young canes in the growing season have made about a foot of new wood, all useless suckers should be pulled away in order to admit light and air to such canes as are selected to remain. When the fruit is gathered the canes that have borne it should be at once cut out, so as to give increased space to those intended to bear next year's crop, and as soon as the leaves have fallen the latter should be thinned and regulated. After regulating the canes, loosen the surface with a fork, and then mulch with 2 inches or 3 inches of decayed manure, which will protect the surface roots from frost in winter and drought in summer.

Good varieties are Superlative, Baumforth's Seedling, Norwich Wonder, and Hornet, red; Guinea and Yellow Antwerp being good yellow kinds.—T. P.]

NOTES AND REPLIES.

Bark splitting (A. S. B.)—It is difficult to say positively what has caused the injury to your young trees. I was at a committee meeting the other day, where I met several of our leading horticulturists, to whom I read your letter, and they all agreed that the cause was probably frost. One stated that he had had several young trees affected in the same way.—G. S. S.

Planting fruit-trees.—Having just bought a house in this locality, I am desirous of planting in the garden some fruit-trees, and am venturing to ask your assistance as to the sorts suitable to the soil, which appears to be light, rather dark in colour, and, I think, marl and chalk as a subsoil. What sorts of Apple-trees, cooking and dessert, both late keepers, would be the best? Also Pears and Cherries?—OCTRAH, Croydon.

[Your soil seems to be a suitable one for fruit-trees. Certainly they do very well in your locality, if not too much in the heart of the town. If you have any walls to your garden you can plant on the south aspect, or walls facing south, an Apricot, Amsden June, and a Royal George Peach, and an Early Rivers' Cherry. On west or east walls, plant Green Gage and Monarch Plums, or Marie Louise and Winter-Nelis Pears, and on the north wall Catillac baking Pear and Morello



Gooseberry Green Champagne.

Charries. Of course, these would have to be flat-trained trees obtained from a nursery, and would need good attention in pruning, training, and nailing them each year. If you want trees out in the open ground only, plant bush Apples of such varieties for late keeping, as Cox's Orange Pippin, Cockle Pippin, and Starmer Pippin, and of cooking varieties, Waltham Abbey Seedling, Wellington, and Lane's Prince Albert. Pear trees should be of bush or pyramid form, and may be for late keeping, Josephine de Malines, Bergamotte Esperen, and Easter Beurré. The best Pears, however, ripen in November, such as Louise Bonne, Doyenne du Comice, and Durondeau. Good Plums for bushes or dwarf standards are Victoria, Monarch, and Wyedale, cooking. Good dessert Plums are Green Gage, Jefferson, and Kirke's, but these fruit best on a wall. Good bush Cherries are Elton, May Duke, and Black Tartarian. These would, however, whether on a wall or as bushes, need to be well netted from the birds. Bush trees should be planted fully 12 feet apart, to allow ample room, and it will be well to get the ground ready for planting in October, then plant so soon as the trees can be obtained.]

Pruning fruit-trees.—I should feel obliged if, in your next issue, you would kindly state the best time to prune Apple, Pear, and Plum-trees (standards). Some say early August (summer pruning), others say not till November—December. I have some very healthy pyramid Pear-trees, but get little fruit from them. They were pruned last December. At present they are covered with a very strong growth of new wood, and the question is, whether it should now be cut well back to the second or third eye for next year's fruit-bearing?—D. P. MAY.

[Standard fruit-trees, whether Apples, Pears, or Plums, once the heads are well formed, after, say, three years' growth, simply need occasional thinning, although should any one or more branches grow too strong those can be shortened back to keep the head of the tree fairly well-formed. The best time for doing such pruning is in October or November in dry weather. If done yearly, then the thinning need be slight and the trees suffer no check. If the heads be left untouched for two or three years, so that they become denser, then a severe thinning is needed, and the tendency of this

Plums. Will you kindly give me the names of sorts most suitable, and which will give good shade for the fowls? I thought of putting about three trees in each run. Ought they to be on the Paradise-stock or Crab-stock?—M. W.

[Plant standard trees only in your fowl-runs. They will be in the form of heads on clean

stems from 5 feet to 6 feet in height. That will keep the heads and fruit quite out of the reach of the fowls, which must have one wing clipped if they take to flying up into the trees. Standard Apples are always on the Crab-stock, Pears on the Pear-stock, and Plums on the common Mussel-stock. The trees should be planted from 12 feet to 16 feet apart at least. Of Apples, for your purpose plant of kitchen or cooking varieties, Duchess of Oldenburg, Manks' Codlin, Warner's King, Waltham Abbey Seedling, Wellington, and Lane's Prince Albert. Of dessert varieties: Irish Peach, King of the Pippins, Fearn's Pippin, Cox's Orange Pippin, Cockle Pippin, and Starmer Pippin. Of Pears: Williams' Bon Chrétien, Louise Bonne of Jersey, and the stewing Pear Catillac. Of Plums, have Victoria, Rivers' Early Prolific, Czar, and Monarch, with Farleigh Prolific Damson. Order your trees from a good nursery at once, and get them planted, if possible, before the end of October. Plant shallow, with the roots well spread out, but all the same have large holes for each deeply broken up. Add in planting just a little well-decayed manure. Feed chiefly from the surface after planting. For a time, until the soil about the roots becomes firm, you will have to place bushes or other protection over it to keep the fowls from burrowing into it. In time fowls, if well fed in their runs, practically manure the trees. Especially do fowls eat up any insect life that may harbour in the soil, and this helps to keep the trees clean

is often to cause the trees to respond by again throwing out too much wood growth. When from main branches a quantity of shoots is thrown up each summer it is folly to allow those to remain and make all possible growth, just cutting them out again in the winter. Far better, with some leather gloves on the hands, rub them clean out whilst they are young, and then they may yet grow again. With respect to your pyramid Pear-trees, you had better at once summer prune, although it would have been better done rather earlier. Cut back at once all side-shoots on the branches to three or four leaf-buds, and just stop or shorten the leader or extension shoots to each branch. That operation should result in causing the leaf-buds of the shortened shoots to plump up, or become partially changed from wood-buds, which they would simply be if left untouched, into semi-fruit-buds, and next year they become true fruit-buds or spurs. In the winter you would have to go over the trees again, and shorten each cut-back shoot to two buds, so as to keep the fruit-spurs as close to the main stems as possible. If this process of summer pruning fails to make the trees fruitful, then you will have to try the effect of root-pruning on them.]

Fruit-trees for fowl's-run.

—I wish to plant my fowl-runs with fruit-trees. The runs are Grass about 25 yards square, soil light and sandy. I want Apples, Pears, and

Properly support each tree with a stout stake a few weeks after planting.]

THE BEST GOOSEBERRIES.

How often one hears the question asked, "What are the best Gooseberries to plant?" But the quorists seldom state the uses to which they wish to put the fruit, consequently they have to be questioned in turn before the desired information can be afforded. As is well known, there are a great number of varieties of Gooseberries, some of which attain a large size when mature. Others, again, are only medium-sized when ripe, and some are but small. With one or two exceptions the last-named furnish the richest-flavoured fruits among Gooseberries, some of them being green when ripe, others yellow, and some red and white. If Gooseberries of first-rate flavour, irrespective of size, are required, it is from amongst the varieties to be presently named that a selection should be made, and no garden is complete unless these delicious though small-berried kinds are represented in such numbers that a daily supply may be afforded as long as the fruit is in season. Among the medium-sized fruiting varieties we have what may be termed useful Gooseberries—i.e., the berries may be put to such uses as the bottling of these in a whole condition, and the making of a preserve, either while the fruit is green—which method finds favour with many—or when nicely ripened. Some of these (Gooseberries, too, are well flavoured, although not so rich as those already alluded to, and are consequently of great service when a good demand has to be met. Among the large-fruited kinds are those which are fit for gathering before any others in the spring, and are therefore very valuable, both from a market grower's as well as a private consumer's point of view. The large exhibition kinds also belong to this section, but these being outside the scope of this note, they will not be further alluded to just now. We therefore have what may be termed three classes of Gooseberries, the one for affording early supplies to be gathered in a green state for cooking, the next, or the medium-sized fruits, alike valuable for bottling, preserving, and general utility purposes, while the small kinds are the highest flavoured, and, therefore, most suitable for the dessert.

LARGE-FRUITED KINDS.—Taking the large fruits, and those that come in for gathering



Gooseberry Whitesmith.

early, it is questionable if Whinham's Industry taken all round—has a superior. Once they are set the berries quickly grow to a good size;

the bushes are strong growers and bear very heavily. Keepsake is preferred by many growers to the foregoing, but my experience of it is that it is not quite so early, but soil and position may perhaps account for this. Be this as it may, it is a valuable early kind, and is considered by some to be synonymous with a variety named Berry's Early Kent, but this is

PLANTS AND FLOWERS.

ROSES

REPOTTING ROSES.

(REPLY TO "HORTULAN.")

Your plant is starving in such soil as you send and must be repotted. Roses when repotted must not be dry at the root. A compost is prepared as follows: Two parts fibrous loam, one part well-rotted manure, one year-old cow-dung being best. Mix this well together, then incorporate a 5-inch potful of some good artificial manure in each barrowload of soil. The pots must be well washed, also the crocks. Oyster-shells make fine material for crocks. On to the latter (which must be plentiful) a thin layer of well-rotted manure is placed, then a little of the compost, and all rammed firm. The plant to be repotted is turned out and laid on the potting bench. Remove the crocks carefully, and if roots are abundant the plant needs repotting, otherwise return it into a similarly prepared pot, which, of course, must correspond in size to that from which the plant was taken. When the roots are plentiful, gently release them and remove the outer crust of soil all over the ball with the end of a pointed stick.

Take the ball in both hands and give a good, vigorous shake, and by this time sufficient of the old soil will have been removed. If the plants have not been repotted lately, more of the old soil should be shaken off, but be very careful to preserve all roots. When the ball is thus prepared, place it in a pot one size larger, and fill up the sides with the new compost, making this run down freely by using a thin label. A thicker but flat stick is now brought into use, which rams the soil well down. It is the little details which tell in gardening as in other things. If a cavity is left around the ball serious mischief is caused, and this is very likely to happen when a pot only a size larger than the previous one is used. After potting stand in full sun on a bed of ashes, and should the weather be dry the plants must be watered with a rose can after

sides during November, partly to ward off excessive rains and partly to prepare for covering over should frost occur. A few degrees of frost will not harm the Tea Roses, but 9 degs. or 10 degs. will seriously injure the pith, so that unless one can well cover over with mats, remove the plants to an airy glass structure.

BUDDING ROSES.

I SHALL indeed be grateful if you will kindly furnish me with instructions for securing Rose-buds for grafting on Brier-stocks. I find it so difficult to remove the wood or pith without injuring or removing the eye from the bud. Please describe what shoot and the age thereof I should select for taking buds from. Would soaking the buds with the wood on for a few hours render its removal easy without injuring the eye? If part of the eye is left in the bud, would this suffice, or must the eye be intact? How can I tell when a shoot has well-seasoned wood suitable for taking buds from?—CONSTANT READER.

[It is not at all difficult to secure the proper kind of wood for budding the Hybrid Perpetual and many of the Hybrid Tea Roses, but the true Teas require careful watching as the eye or bud quickly starts into growth, and is then not so suitable. We always prefer shoots that have blossomed or upon which the flower is opening. They are then in their best condition, and you should experience no difficulty in removing the wood. Upon established plants the eyes or buds of both Teas and Hybrids do not start into growth nearly so quickly as they do upon young or maiden plants. One may obtain suitable wood from most kinds, even after the flower has opened several days, but in some cases it is necessary to take them even before the flower is fully expanded. The shoots must not be so dry that they require soaking, and this is never necessary excepting in very rare cases. We have inserted buds even without removing the wood at all, and they have "taken," but we do not commend the practice. It is most important for successful budding to see that the stocks "run" well—that is, the sap should be flowing freely. It is useless to bud if the bark does not open freely. The safest method to adopt to remove the wood from the bud is to press the thumb nail of the right hand into the wood just above the eye, and with the left hand raise the wood and pull it towards the right hand, when it will snap off near where the thumb nail is pressed. Now change the bud into the left hand and raise the wood from the other end. It will then come



Gooseberry Crown Bob.

a matter that should be cleared up, as in some fruit lists Keepsake is given as a red kind and others yellow. I have always known it as a yellow fruit, and it grows to large dimensions if allowed to ripen, as does Whinham's Industry also. The old Crown Bob is also still largely grown for early and market supply, and large quantities of it find their way to Covent Garden Market. A new variety named May Duke is spoken highly of, and said to be a valuable early variety, but not having grown it, I am not in a position to offer an opinion as to its merits. Those about to plant should not fail to give it a trial, and be sure to include Whinham's Industry and Keepsake in such numbers that the supply will rather exceed than meet the probable demand. Among the

MEDIUM SIZED KINDS, we cannot well dispense with the old Rough Red, as this is generally considered to be the best of all Gooseberries for bottling in a green state. Scotch Nutmeg is a good substitute for it, but it is not such a heavy cropper. Lancashire Lad, Wilmot's Early Red, Red Warrington—the last indispensable for late supply—and Keen's Seedling are four good reds. Glenton Green, Gretna Green, Green Walnut, Langley Green are four good varieties of that colour. Bright Venus and Snowdrop are white, while Early Sulphur and Yellow Ball are also to be recommended among the medium-sized yellow kinds. Turning next to the

SMALL-FRUITED KINDS, we have Ironmenger, Early Red Hairy, Red Champagne, Small Rough Red, Pitmaston Green Gage, Green Gascoigne, Early Green Hairy, Hedgehog, Yellow Champagne, Golden Drop (see illustration), Rumbullion, and Yellow Ball. These are undoubtedly the best in this section, and cannot be excelled for flavour. Those who would like to grow sixteen of the best of large-fruited varieties, should select Criterion, Catherine, Langley Beauty, Leveller, or Guinea among the yellows; Antagonist, King of Trumps, Lancer, Hero of the Nile as whites; Conquering Hero, Dan's Mistake, Speedwell, and Lord Derby as reds; and Stockwell, Telegraph, Thumper, and Matchless as green kinds. A. W.



Gooseberry Golden Drop.

Photographs of Gardens, Plants, of Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

The Prize Winners this week are: 1, Mr. J. H. Taylor, Little Trinity, Cambridge, for Phyllocactus White Hybrid; 2, Geo. E. Low, for Dimorphothecca Eckloni.

the first three or four days, but only resort to artificial watering when really necessary, or the soil becomes too much compressed for the new roots. If it be desired to retard the Roses as much as possible, keep the plants outdoors so long as frost keeps off, but we are rarely safe after October. Lay the plants on their

sides, and leave the germ of the eye or bud intact. Cut a few shoots of a common Rose or Brier and practise this removal of the wood before you commence budding. If the shoots are in the proper condition—that is to say, half ripe—you will soon be able to remove the wood without difficulty. Do not insert any

bud where there is a hole left beneath the bud after the wood is pulled out, as this is a common cause of failure. There should be a small portion of wood beneath the eye about the size of a pin's head, which in reality is the germ of the bud, and it is of vital importance to see that this is not removed.]

NOTES AND REPLIES.

Roses on own roots.—Last autumn my gardener took about three dozen cuttings of Hybrid Perpetuals, which he simply placed in the ground and made firm. Out of the three dozen only about two have failed, and the others are quite large plants, from which I picked off many buds. The position was shady and damp. Do you think cuttings of H. Teas would answer as well treated in the same manner?—MR. PALMER, *Naburn Hall, York*.

[Yes, they will strike as readily as the H.P.'s, with which you seem to have been very successful.]

Rose Aglaia.—By your advice, about three years ago I planted an Aglaia Rose, together with two Crimson Rambler and a Flora, over wire arches planned to form a Rose temple. Till this year the Aglaia has not flowered, and even now has only had a few small clusters, but it has made enormous growth. I am writing to ask if this growth should be cut back heavily to make it flower, and what time is most suitable for doing so? If it does not flower more freely I shall cut it down, as it takes up much space without any result. An Electra Rose I put in only last autumn, though a tiny plant, had eleven trusses of bloom. If from your experience the Aglaia never blooms freely, even after pruning, I will cut it down at once and so lose no more valuable time. The Crimson Rambler has been ever since planted a sheet of bloom. I must own to being rather disappointed with Flora, which seems to have rather a poor little flower, though it certainly has improved this year.—MRS. PALMER.

[No, thin out the weak wood and so allow the sun to ripen the growth that is left. Your Rose is too thick, hence the failure to bloom. Unripened wood will never give a profusion of bloom. See reply to "T. H. G." re treatment of Crimson Rambler in our issue of August 30th, page 358.]

Preparing beds for dwarf Rosess (Wilfred).—Unless your soil is badly drained, it will not be necessary to raise the beds for the Tea or Hybrid Tea Roses, but you must take care that the drainage is ample when preparing. This you can do by well breaking up the sub-soil with a fork. Some broken bricks, large stones, or corks to a depth of 6 inches placed about 2 feet to 3 feet below the surface would provide sufficient drainage, but this would only be necessary if the garden lies low and water passes away slowly. The Hybrid Teas generally should be regarded as Teas. They, like the latter, prefer a somewhat porous soil, therefore a fair amount of grit should be well incorporated with the staple soil. You must, however, plant firmly, and see that the roots are not cramped, carefully place them in the hole, and work in some fine soil among them before treading. As you desire to plant rather thickly, you may place the majority of varieties now grown 1 foot 6 inches apart. Kinds marked "moderate" in catalogues may be planted 1 foot apart, and those marked "very vigorous" should be 2 feet apart. By planting thus, you are enabled to prune away much of the old wood each season, and the quality of blossom obtained from the previous season's wood is of the best description. The dwarf-growing Polyantha Roses should be planted from 12 inches to 15 inches apart. If you desire to keep them very dwarf, you may prune close to the ground each year, otherwise treat them as Tea Roses.

Rose Frau Karl Druschki (H.P.).—The marvellous results obtained by cross-fertilisation become more manifest each succeeding year. Herr Lambert, of Trier, Germany, is to be congratulated upon the production of this splendid Rose. It must prove of great value both as a cut flower and for garden decoration. It is magnificent in form in the half expanded state, but is not excessively double, for in this case the full blown blossoms open out like a huge semi-double Peony. It is the snowy purity of the blossoms that gives the Rose its chief value. Hitherto we had no large-flowered Hybrid Perpetual so pure in colour. It is really remarkable that the variety is such a dazzling white, for one would expect a seedling from Merveille de Lyon and Caroline Testout to have a shading of blush or pink. The only colour perceptible is on the outer petals of the buds, which are tinted rosy-pink, but when the high-centred half-open flower is developed it is of the purest white. It is a splendid grower, maiden plants making shoots each 4 feet or 5 feet long, and it appears to be thoroughly perpetual, as every shoot shows a bud. Frau Karl Druschki will be a grand pot Rose, and the fine long

which are produced will add further to its usefulness. There are few Roses but possess some defect, and it is only right to mention the fact of an utter want of fragrance in this Rose. I prefer fragrance in a Rose to any other quality, but I cannot shut my eyes to the usefulness and beauty of some of those that are deficient in this attribute.—Rosa.

Rose Ben Cant.—This splendid Rose will undoubtedly take a foremost position among show Roses. I am told it is a cross between Suzanne Marie Rodocanachi and Victor Hugo, and one need not be informed of its relationship to the former, as it is so patent from the splendid shell-like petals. The variety inherits the glowing colour and pointed, high-centred form of Victor Hugo, but is apparently a stronger grower than either of the parents. This Rose has been awarded the highest honours obtainable—namely, the gold medal of the National Rose Society and an award of merit from the Royal Horticultural Society.—C. W.

Rose Gardenia.—I have been agreeably disappointed with this Rose, which proves that a hasty judgment of Rambler Roses is to be deprecated. I imagine it will be possible to raise a fine variety from it in course of time. Even now the flowers of Gardenia are some 3 inches in diameter, of a beautiful pale yellow colour, expanding to sulphur-white as in Solfaterre. The buds are charming, produced singly in most cases, but not infrequently in twos and threes, and of the tint of Perle des Jardins. When gathered they are scarcely distinguishable from Tea Rose buds. The only drawback from these valuable running Roses is their want of a perpetual flowering character, so that, of course, they are not comparable to the Teas and Noisettes, but there is this to be said of them—they appear to be exempt from mildew, and spring frosts do not harm them; at least, that is my experience of the Rose under notice, and also of Jersey Beauty. I would particularly recommend Gardenia as a pillar Rose and for the supports of a lofty pergola where it will receive plenty of sun. This and Jersey Beauty are much too good to be planted where perhaps they will not receive that attention which their merits entitle them to. If a position could be prepared after the style of that at Kew, then I would say plant these two freely. In this dell garden many loads of really good soil were placed before a Rose was planted, which explains why the Crimson Rambler and other glorious kinds are in such a flourishing condition.—Rosa.

Very dark Roses.—One is frequently asked to recommend a good dark Rose that is satisfactory in growth and bloom. Undoubtedly Prince Camille de Rohan is the best very dark Rose we at present possess, and truly splendid it is when well developed. It requires high cultivation in order to bring out its good colour, for when neglected or in poor soil the flowers are quite a light red hue. Although standards or half-standards seem to yield the best blossoms, I have had lovely flowers from the seedling Brier. It roots freely from cuttings, but the flowers seem to require powerful root action to bring them to perfection. La Rosiere is bracketed with Prince Camille de Rohan as being too much alike. This they are when in blossom, but I find the former the freest bloomer on young plants, which indicates that the two kinds are not exactly synonymous. A cool season suits the dark Roses best, the beautiful velvety shading being very lustrous. It is an excellent plan to dig in a liberal dressing of good farm-yard-dung about the end of November, and at the end of May, when buds are swelling, give a good watering once a week of liquid-manure, if possible from the cow-yard, and it may be given of good strength if the plants are well established. Abel Carriere is another good dark Rose, which is best from standards or half-standards. The form is imbricated, and, from an exhibitor's standpoint, less meritorious than the last-named. At times, however, the rich maroon colour is very intense, the half-expanded flowers being superb. Both kinds should be in every fair-sized collection, and if a third is wanted I should name Baron de Bonstettin. In all three cases vigorous growth is required, and a severe clearing away each year of the old wood, the one-year-old being retained a good length.—E.

INDOOR PLANTS.

THE ZONAL PELARGONIUM FROM SEED.

To those who have been careful of their seed when ripe, now is the time to sow it, provided, of course, there is ample accommodation to keep a few hundred plants through the winter, and this means also that the temperature must not go below 45 degs. Prepare a seed-pan or box in the usual manner, filling it with good fibrous loam, freely mixed with sharp, gritty sand and a little leaf-mould, if properly decayed. The seed, being of a light, flaky nature, should be thoroughly dry, otherwise it cannot be scattered evenly. After sowing cover the seed with fine soil to the depth of $\frac{1}{2}$ inch. Cover the pan with a square of glass and place in a corner of the stove or fernery until germination takes place. When the tiny plants have made two or three pairs of leaves pot them singly into thumb-pots, using soil similar to what they were sown in. Some recommend a little bone-meal or guano, but I think that stimulants, in any form whatever, only retard the blooming period; in fact, I have seen instances of plants three years old failing to bloom owing to their being fed with manures in different forms. After all are potted keep them on a nice warm shelf in the greenhouse, when rapid growth will be made through the autumn. At the end of January shift them into the 4 or 4½ inch size, using as a compost three parts good yellow loam, one part sharp sand, one part well-decayed leaf-soil, mix thoroughly, adding a 6-inch potful of soot to a barrowload of soil. Pot the plants very firmly in these, and the result will be short jointed growth. No pinching or stopping should take place, allowing the plants to grow naturally throughout until they bloom. After the last named pots are full of roots the plants may receive the final shift into pots 5½ inches in diameter, in which they will flower, and in many cases show a pleasing diversity of colour and form throughout. If these plants are shifted on the next spring into 7-inch or 8-inch pots delightful specimens may be had from 3 feet to 4 feet high, providing an abundance of bloom for a long time. When the plant is beginning to bloom a little liquid-manure should be given each week, taking care to keep it on the weak side. D. G. McL.

Bridge of Weir, N. B.

WATERING SEEDLINGS—A NOVEL IDEA.

A SIMPLE experiment which I have lately tried here may be of interest to your readers. I do not know if the idea is new to you, it is so to me. I placed a board across a greenhouse tank nearly full of water, and on this board placed two flower-pots (48's) containing an ordinary compost, with broken crocks, etc., at bottom as usual. Into one of these I inserted the ends of two pieces of flat lampwick, about an inch wide, close against the side of the pot and extending to the bottom inside—i.e., between the compost and the pot. The other ends of these two pieces of wick simply dipped into the water. In the second pot I used no wick. This was done three or four weeks ago, and during the whole of this time the contents of the pot in which the wicks are used has been uniformly quite moist (too moist for most things), while the compost in the other pot is absolutely dry. I have not proceeded further in the matter as yet, but am well satisfied with the result so far. The method appears to me to be of wide and useful application, especially for such purposes as that of raising Ferns from spores, where it is so important that the spores should be undisturbed by the somewhat violent process of watering. The degree of moisture to be attained under the above method admits of perfect control, and is uniform and constant by day and night. The number and size of the wicks may be varied at will. There is also a practical guarantee that the water thus taken up from the wick by the compost is of the same temperature as the surrounding air. There are also an obvious saving of time and a avoidance of any evil consequences arising from

neglect. It will be seen that it is desirable to keep the tank fairly full of water so that the height to which the water must be raised by the wicks shall be as small as possible.

Woking. HOUSTON STEWART.

HYBRID PHYLLOCACTI.

WITHIN the last few years interest in the showy-flowered members of the Cactus family has been considerably revived, and they are now more extensively grown than was at one time the case. True, the individual flowers do not last long, but a succession is kept up for some time, and they are so gorgeous when at their best as to fully compensate for any failings. They are essentially everybody's plants, for they can be grown in the window of the cottage quite as successfully as in an elaborate glass structure. The cultural requirements of these members of the Cactus family have been so often dealt with in GARDENING ILLUSTRATED that little need be said on that score, except to point out that a soil composed principally of good loam, with an admixture of brick-rubble, sand, and well-decayed manure, suits them well. They are all sun lovers, and should be fully exposed thereto, except when in flower, as the blossoms remain

INCREASING GERANIUMS, ETC.

Will you kindly publish an article dealing with the propagation of bedding-out plants—e.g., Geraniums, Calceolarias, Lobelia, and Pyrethrums—and their care during winter?—H. WALKER.

[No time should be lost in going over the beds and taking all the cuttings of Geraniums that can be spared without disfiguring the plants. Cut off just below a joint, and remove the bottom leaf, not by stripping it downwards, but by cutting it off near the stem. Then remove the scales from the portion that is to be buried in the ground, otherwise they are apt to prove a seat of decay. A length of 4 inches to 5 inches is a suitable one for the cuttings, which, if they are very succulent, may be allowed to lie on the bench a day before insertion. In carrying this out a couple of inches of the stem may be buried in the soil. Some prefer boxes and others pots for the cuttings, the pots being in many ways more convenient than boxes, and they may in the winter when space is limited be stood here, there, and everywhere. Pots 5 inches in diameter are very suitable for the cuttings. The pots should be quite clean and crocked with a few broken potsherds. Then fill the pot with light sandy soil pressed down moderately firm, and put six or seven cuttings in a pot.

frosts. Failing a frame, as above, the cuttings may be struck in pots and wintered in the greenhouse, choosing a spot as far away as possible from the hot water pipes. In the spring pot off singly. Lobelias were at one time struck from cuttings, to obtain which the plants selected for propagation had all the flowers cut off about the end of July, and the young shoots then produced were struck in a close propagating case and wintered on a greenhouse shelf in a dry atmosphere, as they are very liable to damp off at that season. Now, seed is so carefully saved that a very uniform batch can be raised in this way; in fact, it is the method now generally employed. The seed is sown in a gentle heat early in March, the seedlings pricked off when large enough to handle, and either potted into small pots or planted a couple of inches apart in large shallow boxes, from which they are carefully lifted for planting out. Pyrethrum is raised from seed sown in the same way as the Lobelia.]

NOTES AND REPLIES.

Treatment of Fuchsias and Hydrangeas after blooming.—I should be glad of your assistance as regards the following: What is the correct method of treating greenhouse Hydrangeas and Fuchsias after blooming in respect to (a), should they be placed out-of-doors until late autumn? (b), do they need much water now or during winter? (c), when and how should they be cut down?—H. WALKER.

—How ought I to treat my Hydrangeas after they have finished flowering? How much pruning is required?—J. W. F.

[(a) If your Fuchsias and Hydrangeas have done blooming stand them out-of-doors in a spot fully exposed to the sun in order that the wood may be thoroughly ripened. (b) Continue to water as before till the leaves show signs of falling, when less must be given. In the winter stand them in an ordinary greenhouse where they are just protected from frost and nothing more. The Hydrangeas may, if you prefer it, be wintered in a frame and covered up in the winter to keep safe from frost. The Fuchsias will need very little water till the end of February, but the Hydrangeas will require a little more. (c) Just before the Fuchsias start into growth—that is, about the end of February—they may be trimmed into shape; but the Hydrangeas will not need any pruning unless there is a tendency for the centre of the plant to become crowded up with weak shoots, and if so they may be thinned out in the winter.]

Hybrid Streptocarpus.—The freedom with which the Hybrid Streptocarpi bloom, and their varied colours, commend them to all lovers of greenhouse plants. Their blossoms also lasting long when cut, is another point one cannot afford to lose sight of. They may be grown with the ordinary greenhouse plants, and do not require so much heat as many imagine, the extra care being needed in the winter-time, when damp is one of their worst enemies. Seed may be sown in March or April in heat, or a sowing can be made now, and as the seeds are very small care should be exercised, just covering them, and no more, with sand, and placing the pan under a propagator where bottom-heat can be obtained. Those who grow (Hoxinias will have no difficulty with the Streptocarpus.—LEAUFST.

Geranium Mrs. R. Parker.—There are few finer subjects for pot culture than this Geranium. Like all the variegated kinds, it is less liable to lose its leaves in winter than the plain-leaved varieties. Why this should be so I cannot say, but it is a fact, and one that is of some importance to window gardeners whose plants cannot enjoy the same advantages as when grown in glass-houses. The old variegated kinds, such as Flower of the Day, and which for many years have been so largely used in the flower-garden, are not effective as flowering plants, but Mrs. R. Parker is quite as remarkable for the beauty of its flowers as for its foliage. The large trusses of double soft pink flowers are very striking, and they are produced freely, well-grown specimens carrying a dozen or more trusses. Some appear to find a difficulty in inducing this variety to flower freely—the plants making strong growth but failing to form buds. I find the best way is to grow them liberally through one season, get them well established by winter, and starting in spring.—BYFLEET.



A hybrid Phyllocactus. From a photograph sent by Mr. J. H. Taylor, Cambridge.

fresh for a longer period if shaded at that time. Very little water will be needed during the winter months, though in the summer more may with advantage be given. Lastly, a structure with a minimum winter temperature of 45 degs. will suit these Phyllocacti well. As illustrating the increased interest taken in flowering Cacti, it may be pointed out that at the Temple Show the group of these plants annually exhibited by Messrs. Veitch is usually surrounded by hosts of admirers. By continually raising seedlings and selecting the best therefrom, there is now quite a large number of these hybrid Phyllocacti, ranging in colour from white, through various shades of pink to a rich scarlet shaded with magenta, and overspread with a more or less metallic lustre, which appears to be of different shades, according to the standpoint from which it is viewed. A selection of the best varieties would include: Agatha, bright red, purple centre; Brilliant, vivid scarlet; Cooperi, creamy white; delicatus, light pink; Ena, orange-scarlet, shaded apricot, purple margin; Isabel Watson, particularly fine, the outer part of the flower dark coral-red, with an orange-red centre lit up with violet; Olivette, rose carmine; Plato, brilliant scarlet; Syrens, soft salmon-pink, with a darker centre; Venus, crimson, shaded violet; and Vesta, white.

They may then be stood out-of-doors on a hard bottom, and in a spot fully exposed to the sun but sheltered from the wind, and when necessary watered through a fine rose. They may be left there, as a rule, till about the second week in September, when they must be removed to a light, airy shelf in a greenhouse or some similar position. If you have plenty of room you may put the cuttings under glass now, and as soon as rooted pot them singly into 3-inch pots. Throughout the winter only sufficient water to keep the soil slightly moist should be given. Those that are wintered in stores must be potted off singly early in March in order to get them well established before bedding time comes round. The old bedding plants, too, may be lifted in the autumn, and a good many of the large succulent leaves cut off. Then pot them into small pots, and in a dry house they will pass the winter well. Calceolarias are propagated from cuttings put in towards the end of August. They are rather impatient of too much fire heat during the winter, hence they are usually dibbled into an ordinary garden frame, into which a few inches of sandy soil has been put for that purpose. In the event of hot sunshine they will need shading till rooted, after which plenty of air must be given whenever possible, while the frame must be well protected during severe

OUTDOOR PLANTS.

PLANTING HOLLYHOCKS.

(REPLY TO "E. P. S.")

The preparation of the ground for Hollyhocks is important, and this should be seen to in the autumn. The Hollyhock is a gross feeder and requires a deeply-worked soil with a good dressing of farmyard-manure, and when the ground is trenched up in the autumn the winter weather prepares it for planting in April or early in May. The young Hollyhock plants should have been well inured to the open air before planting them out, and the operation of planting should be performed when the weather is mild and the ground dry. The permanent stakes must also be placed to the plants at the time of planting-out—indeed, it is much better to drive the sticks firmly into the ground before planting, and dig out a hole at the front of the sticks, into which should be placed some prepared soil, such as is used to pot *Pelargonium*, to give the plants a start. The plants must be tied to the stakes as soon as they have grown a little, and it is a good plan to mulch around the roots with a little decayed manure; this keeps the soil moist, preserves a more equable temperature over the roots, and the plants will make a much better growth. As the season advances, if dry weather sets in, water at the roots will be needed, and it will also be desirable to syringe well underneath the leaves to keep off red-spider. The first appearance of the fungus which has been so destructive to Hollyhocks in late years is the signal for an attack upon it; if it is taken in time some good may be done, but when it has spread widely over the entire collection of plants the case is hopeless. It requires a good stout stake to hold a well-grown Hollyhock plant in position, and as the spikes advance in growth they must be securely fastened to prevent their being snapped over by a high wind. A good strong plant will throw out many side-growths, and it is usual to remove these so that all the strength of the plants may be thrown into the centre spike. Upon the side-growths there are also numerous flower buds, but at the base of each there are a few leaves with leaf-growths at their axils; all these may be taken and cut out as Vine-eyes are treated for propagation, and if inserted singly in a small flower-pot, they will soon form plants in a mild heat, if covered with a garden frame. All decaying flowers should be removed from the plants, as they not only have an untidy appearance, but they also cause the seed-pods to rot.

Seedling raising is also interesting. Sow the seeds in May, and the seedlings, if well attended to, will form strong plants for flowering the following season. They may be sown out-of-doors, or, what is better, in a frame over a hot-bed. The seeds are more likely to germinate well in that position, and the seedlings can easily be pricked out into boxes to be transferred to the open borders as soon as they are large enough. They ought to be planted where they are to flower in good time, so that they are well established before the winter. Seedlings are seldom injured by frosts.

HERBACEOUS BORDER.

I HAVE a herbaceous border which has been made five years. The soil is naturally very sandy here. Two years ago I had some clay dug into it, and occasionally I dig in a little manure when putting in fresh plants. I should be so glad if you would kindly advise me what to do with it, and when to have it done? It is a mixed herbaceous border, and needs to be made wider, and I wish to add more herbaceous plants. Would you kindly say which are the best for flowering in July, September, and October?—H. B.

[The only way to improve the soil of the border, as you have already added some clay, is to give a mulch of manure each autumn, to be forked in early in the year. As, however, the border has already been in existence five years, a thorough overhauling with replanting may be advised. We believe it is insufficiently recognised that sandy soil requires more attention in this way than do the more holding or clay soils, the plants in the latter often succeeding for many years without showing signs of deterioration. The early autumn is a good time for replanting such a border, but as you appear to appreciate the autumn flowers, the same work could be

done quite well in February or March. We strongly advise autumn, when bulbs are mingled with the usual hardy things, for at such time all may be planted with safety. But at any time when the work is done, nothing short of a very deep digging and a heavy manuring will be of use, and more clay may be added at the same time. If it were possible, the following is a good plan: Lift and heel in the plants you have for the time being, then dig and heavily manure the border and finally give a surface dressing of clay. Allow this to remain on the surface all the winter, and the frost having well pulverised it, fork it in rather deeply in February and plant the border a little later. This should give good results, and such as may last for years, and as you are adding other plants and widening the border, the opportunity should be embraced. Some of the best things for the months named are: *Platycodon*, any, *Rudbeckia purpurea*, *R. Newmanii*, *Achillea* in variety, *Kniphofias*, herbaceous *Phloxes*, *Montbretias* in variety, *Campanula vesicaria*, *C. lactiflora* in three varieties, *C. Van Houttei*, *Cimicifugas*, any of the Perennial White *Margarites*, *Perennial Pea*, *Echinops*, *Eryngiums* of sorts, *Erigeron speciosus*, *Erodium Manesavi*, *Galetia candicans*, *Gaillardias*, *Galegas*, *Harpalum*, *Helianthus* in variety, *Heleniums*, *Lychnis chalcidonica*, *L. Haageana*, *Lathyruses*, *Aster Amellus* in variety, *A. acris*, *A. Lavigata*, *Anemone japonica* vars., a set of the *Michaelmas Daisies* that should embrace *Coombe Fishacre*, *cordifolius elegans*, *lavis*, *Mrs. Peters*, *Novae-Angliae Melpomene*, *Mrs. F. W. Rayner*, *Wm. Bowman*, *turbinellus*, *N. B. Arcturus*, *N. B. densus*, *N. B. F. W. Burbidge*, etc., *Veronica longifolia subsessilis*, *lino blue*, (*Oenothera macrocarpa*, *Aconitum pyramidale*, *Centaurea ruthenica*, *Scabiosa caucasica* and *alba*, *Statice latifolia*, and *Potentillas* are also among good flowering things, some of which, however, you may possess already. A few groups of *Gladioli* could also be added for the season when you most wish for flowers, while the striking *Physalis Franchetti* is a plant not to be forgotten.]

A GARDENER'S WISH.

TO THE EDITOR OF "GARDENING ILLUSTRATED."

SIR,—I am an old woman, sixty this month, and cannot remember the time when I did not garden. I was an only child, and therefore a lonely one, but both my father and mother were lovers of flowers; my mother especially so, and I rather think it was her example in the garden that made my father such an ardent disciple. And so I grow up, and my garden has ever been my keenest delight. Much sorrow has come to me, but I find no purer, no better interest than my flowers, and my hope in writing this is that all readers of this paper will teach their children to garden. Its delights are never-ending, and certainly all pertaining to the beautiful is elevating. I think all parents should, wherever possible, give their children little pieces of ground to keep—and keep not as the parents think, but as the spirit moves the child, which teaches the child to use his or her brains, and by encouragement and approbation when deserved they learn tidiness and neatness. How well I can recall my own small plot, my little corner in one of the houses, my small pots filled with my treasures, and the intense pleasure it was to me to care for them. The force of example does much, and when others see how much can be done to beautify one's home, they try to emulate you, and so the example of one good woman in her love of flowers can raise a whole neighbourhood, for I have known of its being done. There is no greater help to the searcher after knowledge than this penny paper, which to me has been a help in difficulties for many a long year, and a weekly treat to look forward to. You cannot think, until you experience it, how much interest you learn to take in other's troubles. A garden is a never-failing source of interest—the watching in spring for the first leaf to come through the frozen earth, and when it comes with all its fresh beauties, that give one hope of summer, with all its wealth of verdure and brilliant colours, autumn, with its varied tints, and even winter, which has its own charms, and we live through many plants, sometimes in the seed-

hope of again seeing spring. And spring, as we have it in our dear Homeland. Where is there a place so sweet on the face of the earth? I have spent springs—what a misnomer!—in India, Ceylon, Australia, Egypt, etc., but where do we find spring so sweet, so lovely, so fresh, as in our own little island? The flowers may be more gorgeous in other lands, but they lack the delicate fragrance of our own humbler-tinted blossoms. Let us all unite in trying to teach the young a love of flowers. AN OLD GARDENER.

NOTES FROM AN ARMAGH GARDEN.

A LONG, severe winter, followed by a late spring, was, I think, by no means an unusual experience in this year's gardening. It is many years since we had a winter here so trying to plants that are just on the borderland of hardiness. A very fine *Dracyna australis* that had survived for many years was completely wrecked, the stem alone remaining; this now stands almost 7 feet high, and I have utilised it to train a golden and silver variegated ivy pillar fashion. Once before, many years ago, it was cut down by frosts, but after a long interval it surprised me by reappearing and making vigorous growth. I have, therefore, not quite abandoned hope of another reappearance. A few feet away a fine plant of a Palm (*Chamærops excelsa*) survived the winter without any protection other than the sheltered position which it occupies near a wall. Among shrubs, etc., Bamboos were a good deal cut up, and have not yet altogether recovered their good looks, but they are now improving. *B. fastuosa* is one of my most recent additions, but I have not yet planted it out. *B. nitida* has made considerable growth and is a very graceful Bamboo. *B. palmata* seems a great rambler; it has encroached on quarters devoted to other purposes in a manner certainly not anticipated, and in some cases not required. However, some of the undesigned combinations which it has effected come as pleasing surprises, and induce one to tolerate the intrusion. *Clematis Pallasi purpurea* is an extremely ornamental herbaceous plant, with numbers of small white flowers which contrast well with the rich dark-tinted foliage. It has formed a fine clump, and has remained in bloom for a considerable time. *Phlox suaveolens variegata* is a very elegant little ornament for the choice position it occupies near the front of a rock garden. The foliage is creamy-white, with some touches of a lovely shade of bright green, the neat little flowers being pure white. Three beautiful little *Thalictrums* are *T. adiantifolium*, *T. adiantifolium glaucum*, and *T. tuberosum*, the foliage of each being very elegant and Fern-like. The *Thalictrum* which I first acquired as *adiantifolium* is a very different and much inferior plant to that which I have recently obtained as the true kind, which bears a very close resemblance to the small-leaved Maiden-hair Ferns. A very uncommon-looking *Thalictrum* is *T. laserpitifolium*, the leaves longer and very different-looking from those of any other Meadow Rue with which I am acquainted. My plant is about 3½ feet high, with pale yellow flowers. At the end of May and beginning of June several beds of seedlings of double and semi-double Welsh Poppies presented a gorgeous blending of colour, comprising yellow, orange, and a still deeper tint almost identical with that of *Geum minimum* in a setting of pretty green foliage. As I grow and flower many hundreds of these plants from seed, I have obtained considerable variation. Numbers of the seedlings have now formed large plants producing quantities of bloom. Some of the deepest coloured and very double kinds have hitherto yielded no seed. Some plants afford a few wretched-looking pods, while others seed with tolerable freedom. Some of the yellow varieties produce large handsome flowers which open well, a few of them with deep orange petals near the centre. Many of the deep, rich, Geum-coloured flowers do not open so fully as I would like, but I have obtained at least one which combines the charm of rich colour with open symmetrical form. I have been very much interested in raising and flowering these new varieties of *Mecanopsis cambrica*. The seedlings often bloom when

bores, and these flowers are charming little miniatures. Many of the seedlings are single, and some of the semi-double flowers are a long way behind the best forms; yet even among these are some pretty varieties well worth growing. Just now there are crowds of seedling plants as yet unbloomed, and there is a delightful element of uncertainty as to what form or colour each opening flower may take, and still the hope that some new break may reward perseverance.

J. McWALTERS.

The Mall, Armagh.

LILIES AND ROSES.

In the height of the summer, when the two rival queens of the garden, the Rose and the Lily, are disputing sovereignty, border and bed, porch and trellis, are bright with countless flowers, beautiful indeed, but falling short of them in loveliness. Lilies and Roses associate charmingly with one another. The Crimson Rambler, whose somewhat crude colouring

pergola and porch. Rosa polyantha, besides its charming type known as R. polyantha simplex, and its larger form grandiflora, has given us the pink Euphrosyne, the nankeen Claire Jaquier, the flesh-pink Psyche, the white Thalia, the pale-yellow Aglaia, the pink Leuchstern, and the deep-coloured Crimson Rambler. From the Ayrshires, or Rosa arvensis race, we have the white Bennet's Seedling, and Dundee Rambler, white shaded pink. The Evergreen or sempervirens section has provided the pink Flora, the white Félicité-Perpetuo, and the pale pink Myrianthes Renoucle. The half Garland Rose and the white Mme. d'Arhlay are hybrid Musks. The glorious Carmine Pillar, glowing crimson, and Longworth Rambler, light crimson, are hybrids, while of Hybrid Teas we have the vigorous Reine Olga de Wurtemberg, bearing great semi-double, light crimson flowers, and making shoots 12 feet and more in length during the season. Teas and Noisettes also furnish us with many strong-growing climbers, such as

many other Lilies are found to flourish, L. auratum, L. speciosum, L. longiflorum, and L. Browni becoming permanently established, and even the lovely flesh-pink L. Krameri doing well and flowering freely, but these are not to be relied on, as are the earlier-named species. The pale yellow L. Szovitzianum will generally, though not always, succeed, and in deep soil the noble Giant Lily of the Himalayas (L. giganteum) forms a splendid picture.

S. W. F.

NOTES FROM A ROCK GARDEN.

TO THE EDITOR OF "GARDENING ILLUSTRATED."

SIR,—Owing to the wet summer, one has been able to plant out seedlings and early-struck cuttings during August, giving them a chance to get well established before the winter. Few people seem to grow rock plants from seed. Not only is it more interesting than buying the plants, as something new may appear, but so much exchange may be done



Lilies and Roses in a Hampshire garden. From a photograph by F. Mason Good.

renders it objectionable where other bright tints are present, is handsome when seen with only a complement of green, as where its blossoms drape an archway having a background of full-foliaged trees, while a trellis covered with this Rose in full flower, fronted by a wide row of Madonna Lilies, furnishes a striking and pleasing contrast. Of the summer-blooming, so-called "garden Roses," there are many, notably the old Cabbage Rose, Maiden's Blush, the pretty little De Meaux, the striped York and Lancaster, the white Provence, and others which all form good bushes, as do the Austrian Briers, single and double, the Persian Yellow, and the Penzance Briers. In climbing Roses suitable for covering porches, verandahs, trellises, or even for clambering to the top of small trees, we have a wide selection. Our Dog Roses of the hedgerows testify to the beauty expressed by the rambling Brier, and other wild species will succeed equally well with us, but it is chiefly to the varieties raised from these wildlings that we owe the soft colours with which the climbing Roses mantle

Mme. Alfred Carriere, cream-white, Mme. Bérard, salmon, and Waltham Climber, light crimson, in the first section, and such varieties as the white Aimée Vibert, the copper-yellow Réve d'Or, and the apricot W. A. Richardson in the second, while in the warmer localities the white and the yellow Banksian Roses may also be grown.

In Lilies, although the peerless Madonna Lily holds the first place, there are many others that are of easy culture in the border, such as the common Orange Lily (L. croceum), the many named varieties of the comparatively dwarf-growing L. Thunbergianum or elegans, and the L. umbellatum section, ranging in colour from lemon-yellow to crimson, the buff L. excolsum or testaceum—a hybrid between L. candidum and L. chalcodonicum, L. Martagon, and its white form, the scarlet Turk's cap (L. chalcodonicum), the Tiger Lilies, of which the best are L. tigrinum splendens and L. t. Fortunei. L. Henryi, called the yellow speciosum, is also a vigorous Lily, but at present rather expensive. In some gardens

with surplus seedlings, however small the rock garden is. This year I have grown from seed Dianthus caesiis (the Cheddar Pink), a delightful plant for crevices, D. deltoides, D. superbus, Linum flavum (the yellow Flax) for a hot, sunny corner, Linum alpinum (the dwarf blue, trailing one), and Linaria alpina, in heavy soils an annual, but in light dry soil a perennial. I have a good batch of the new Polemonium confertum melitum, one of the loveliest of rock plants, with its delicate creamy hanging flowers, planted in a well sheltered nook with a south-west aspect. Seedling alpine Auriculas, when large enough to handle, are pricked out on a north border and put on the rockery in the autumn. Primula obconica is now flowering again. The plants are protected in the winter with a mulch of leaf-mould. This is the time to take cuttings of alpine Phloxes—Vivid and Nelsoni are difficult to strike, their stems being so hard—Dianthus Napoleon III., D. Marie Farr, Lithospermum prostratum, and the best coloured of the Helianthemums. These likewise grow freely from seed. The

encrusted Saxifrage strike easily and are ready to plant out in the late autumn, though some of the choicer ones, such as *laetoscana*, *Rocheliana*, *valdensis*, and *Engleri*, might be wintered in a cold frame. The young rosettes of *Androsace sarmentosa* are now ready to be pegged down, and have a top-dressing of leaf-mould, sand, and fine grit. In some districts this plant is taken up and replanted every other year. Here, in Yorkshire, it is liable to damp off after such treatment. *Daphne Cneorum* is better layered now into peat and sand. The new African annual, *Arctotis grandis*, is useful for a hot, fully exposed part, and it produces its silvery-blue Daisy-like flowers till the frost comes. The Lavender Cotton (*Santolina alpina*) on the high parts of the rock garden is now a mass of golden flowers, falling over the rocks. Its grey foliage shows off to advantage in winter. A good companion for this is *Phlomis fruticosa* (Jerusalem Sage), also grey foliaged, with a yellow flower, both blooming about the same time. The *Wichuriana* Rose is now showing bud, and in another few days will be covered with its fragrant white, single flowers; the type blooms later than its hybrids *Jersey Beauty* and *Gardenis*. *Gaura Lindheimeri* has white, starry flowers, not unlike those of a Willow-herb in shape. This, with *Delphinium nudicaule*—sown in March—now makes an attractive group. *Gentiana septemfida* is now out, this wet summer having suited it. I never saw its flowers a better blue. It always comes as a surprise, following when all the smaller *Gentians* are over. *Primula capitata*, with its powdered blue-purple flowers, is well worth growing. The seed ought to be saved, as it often dies out after blooming well. This summer the *Oenothera missouriensis* and *fruticosa* have been very fine, their flowers remaining perfect all through the day. *O. marginata*, requiring more sun, has not done so well. I have it planted in very sandy light soil in a sheltered corner, where it spreads rapidly, and last summer did well. In Devonshire, this June, I came across a most striking *Mesembryanthemum* growing like a weed all over the stony sides of the cliffs; it had large sulphur-coloured flowers, quite 3 inches across. It strikes easily, and would be an excellent plant for hot, dry banks where little else would grow. It is evergreen. A severe winter in the north might kill it, but it is well worth trying, as a few cuttings could always be wintered in a frame, in case the old plants suffered.

Drigton Grove, York. E. M. W.

NOTES AND REPLIES.

Iris Gates in Devon.—There is a small clerical error in the note on "Iris Gates in Devon." It should be, "the open flower 13 inches from top, etc."—A. BAYLOR.

The disease in the Madonna Lily.—I am sending a photo of Madonna Lilies, which were a great success this year. Originally they were in herbaceous borders, but owing to their being attacked by this disease I had to move them two years ago, when they were planted in their present position in the kitchen garden, after having been well sulphured and dried in a greenhouse for about a fortnight. This year they bloomed well, and with the exception of about six or eight were entirely free from disease. I am giving these notes, as I so often see questions and articles on the Lily disease, and thought my experience might be interesting. I saw the treatment recommended in your paper first. I intend trying some of the best bulbs in the borders again now that they seem to be all right.—Mrs. E. D. HOUNES, *Daleholme, Craighead, Co. Down.*

[The photograph showed a very handsome group of this in full flower, and apparently quite healthy, the foliage and flowers being all one could wish.]

Marguerite Carnations.—Miss Spurrway sends us from her garden at Mount Wear, Exeter, a beautiful gathering of these from plants raised last year. The colours are rich and vary from scarlet to pure white, the flowers double and beautifully fringed. The blossoms of these, though not large, are graceful in vases for table decoration. Any sturdy plants that have not yet flowered may be lifted, potted, and kept in a cold greenhouse, and will give abundance of blooms for months. Such plants are benefited by a watering of weak liquid-manure when coming into bloom. These will be found very useful during the autumn for conservatory decoration.

Lawn decoration.—Have a Fir-tree that is about 8 inches in diameter sawn off quite flat at the base. Remove all branches up the stem for 12 feet, and leave all the branches that are growing at that height, and cut the remainder

of the tree off. Then sink the tree 2 feet into a lawn and plant a Honeysuckle at the base and train it up the Fir-tree, cutting off all side shoots. On its reaching the branches train it round and round the branches, commencing in the centre, until the Honeysuckle has gone all round to the end of the branches. Then let it grow just as it likes. It is a very rapid grower, and in two or three years you will have a tall, beautiful, and graceful tree, with branches hanging down and swaying in the wind, covered with lovely flowers, and when they are over with bright red berries. Roses and other climbers can be trained in the same way, but require better attention in the way of a border, mulching, removal of weeds, dead branches, etc., but Honeysuckle is very hardy, and thrives well planted almost anywhere. It is easily struck, and if cuttings are now stuck into the ground in any damp situation and left till next spring, they will be found to have good clusters of roots, and the plants will flower next June and make a rapid growth if planted in a sunny place.—Mrs. E. MAY.

Seeding Carnations.—I have a bed of Carnations grown from seed last year, 15 feet by 6 feet, a lovely sight just now, and giving any quantity of cut flowers. May I trouble you to kindly tell me in an early number of your excellent paper, *GARDENING ILLUSTRATED*, from which I have derived great pleasure and instruction, how best to treat these for next year? When blooming is over should they be cut down, and will the roots throw up new stalks to bloom next year? Can some of the roots be transferred later on to another bed, as they are, I think, too thickly planted, or must I take layers or cuttings and do away with the old roots? If so, kindly say the best way to take and treat layers and cuttings? These and any other directions will greatly oblige.—KINGSTON.

[You should at once have the flowerless shoots on your best Carnations layered. That is best done by someone who understands it. It is getting late for layering, therefore lose no time. When, at the end of November, the layers are well rooted, they can be lifted and planted in fresh ground. If there are still some shoots left unlayered, then you can, after the rooted ones have been removed, either allow the old plants to remain, putting fresh soil about them, or lift them carefully with a spade, having good balls of soil about the roots, and replant them elsewhere. It is a good plan to have a hole in the new ground made ready to put the newly-lifted plants into without greatly disturbing it. All such plants should grow well next year. All present flowerless shoots now will carry bloom next year. If you put in some shoots as cuttings, set them in sandy soil under a handlight at once. These should be about 4 inches long, and be dibbled in 2 inches apart—half their depth. It will pay you best to hire an expert to do the layering. Cut away all over-blown stems now.]

Triteleia laxa and T. uniflora.—In the late spring I saw a fine patch of *T. laxa* blooming abundantly in an open border near Yeovil. The spikes were 12 inches long, and made a fine show with their loose rich Tyrian purple flowers at the edge of the border. Adjoining were large patches of various kinds of Pinks and other hardy border plants, with groups of annuals. Especially noticeable was *Phacelia*, with its uncommon blue flowers. I was told this *Triteleia* bloomed in this way every year and received no extra attention. I have it growing at the edge of a shrub border, where it blooms each season. Good as this is, *T. uniflora* is equally so. This is fine for growing in patches in the rock garden, or in groups in sheltered beds or borders. I have a group of it at the foot of a Tea Rose under a south wall. Here in early spring I always get abundance of flowers, and it receives no protection.

Planting out old pot Mignonette.—In many gardens a batch of this is grown for winter and spring blooming, and when no longer of service for this purpose it is generally thrown away. This is a mistake, seeing it will bloom early and over a long time if planted out in a favourable place. For years as soon as over (early in May) I plant all of it out, either in kitchen garden border to cut from early, or amongst Roses in the grounds, where it continues to bloom till the autumn frost destroys it. For cutting it comes in long before that sown in the open, for immediately it begins to grow good spikes may be cut. I simply turn it out of the pots, remove the crocks and plant intact, then it quickly takes to the soil.—J. CROOK.

GARDEN PESTS AND FRIENDS.

NOTES AND REPLIES.

The Marguerite Daisy-fly (*Phytomyza almidis*).—My Chrysanthemums are greatly infested with a small maggot which is between the leaves and disfigures them greatly. I suppose it is the leaf-minning maggot. The plants are in a sunny but sheltered position in 8-inch pots, and good soil. I shall be glad of a remedy.—CONSTANT READER.

[Your plants have no doubt been attacked, as you imagine, by the grubs of the Marguerite Daisy-fly, which burrow in the leaves of Chrysanthemums, Cinerarias, and other composite plants. The best way of destroying this insect is to cut off the infested leaves and burn them, or, if the attack has just commenced, to pinch the leaf at the part where the grubs are. Syringing with an insecticide is of little use, as it would not reach the grubs, but it would possibly prevent the flies laying their eggs on the leaves if it could be applied at the proper time.]

Caterpillars on Rose-bushes (*Truquay*).—Your Rose-bushes are attacked by the grubs of one of the Saw-flies (*Hylotoma rosarum*). The best way to destroy them is to go carefully over the plants and pick them off. If they are very numerous, and many plants are infested, it would be worth while to spray them with paraffin emulsion. When full grown they will bury themselves in the soil 2 inches below the surface, where they become chrysalides. In the course of a week you might remove the surface soil 2 inches in depth and burn or bury it. You would then destroy all the chrysalides, or, if it were not convenient to do so, ground to the depth of 4 inches and turned up early in the winter, so as to expose the chrysalides to the weather and the birds.—G. S. S.

Insect in house (*Acon*).—When your letter reached me there was only one kind of insect in it, although there were several specimens. The insect is commonly known by the name of "silver fish," "silver wick," "sugar louse," or "bristle tail." It generally feeds upon starchy substances, and, in many cases, has injured books by feeding on the paste used in binding them. It is fond of getting behind wall papers and eating the paste. Curtains and articles of dress which have been starched have at times been injured by it. It is clear, however, that it will occasionally feed on animal substances, such as wool or felt. Probably some of the carbolic disinfecting powders would have the same effect as Keating's, but the latter, if sprinkled about for a week or ten days regularly, would be most likely to exterminate them. I forgot to say that the scientific name is *Leptisma saccharinum*.

Wood Leopard-moth (*Zeuzera aesculi*).—I am troubled with a pest in my Apple-tree, the nature of which is quite unknown to me. It attacks the wood of the tree, in the trunk of which it holes appears, and in this each morning are a number of little egg-shaped pellets of sawdust. The hole then gradually increases in size, and it also extends out of sight right into the heart of the tree upwards. One tree, a Cox's Orange Pippin, is much damaged, the hole being large enough to contain one's finger. I am unable to discover the cause, as nothing living can be traced, even under a microscope, but I send herewith a number of the pellets for your examination, and you can inform me what is the cause of the trouble and the remedy I shall be extremely obliged.—GUY.

[Your Apple-tree is bored by the caterpillar of the Wood Leopard-moth (*Zeuzera aesculi*), and by no means uncommon insect. The presence of one of these caterpillars in a branch or stem may be detected by finding small sawdust-like particles sticking to the tree where a little moisture is oozing from the bark; on closer examination a small hole will be found from which these particles (which are composed of small pieces of the wood gnawed off by the caterpillar and its droppings) are exuding. The easiest way of killing the inmate is to pass a sharp-pointed wire as far as possible into the hole, which will usually be found to proceed upwards, so as to stab the caterpillar. It can usually be seen, from the appearance of the wire, whether the insect has been reached or not; if by any turn in the tunnel it has not, the entrance to the tunnel should be slightly enlarged, and some cotton-wool or tow soaked in tar or paraffin-oil should be pushed in as far as possible to stifle the caterpillar, and the mouth of the hole should then be closed tightly with a plug of clay, so as to keep the smell in.

If it is possible to cut off the branch without injury to the tree, you can then, by splitting it open and killing the insect, make sure that it is destroyed. The caterpillar lives for three years before it attains its full growth and becomes a chrysalis, which it does near the mouth of its burrow. The moth is a fine and very elegant insect. The females are considerably larger than the males, and are 1½ inches in length, and measure 2¼ inches across the wings, which are white and almost transparent, with yellowish-brown veins, between which are rows of roundish bluish-black spots. The body is white, with black markings. They may be found in July or August.]

FERNS.

THE ROYAL FERN (OSMUNDA REGALIS).

This, our native Royal Fern (*O. regalis*), is found in many bogs and marshy woods, and is well worth cultivating, as it is the largest and most striking of our native Ferns (sometimes attaining a height of 8 feet). It should be

12 inches high, but have stopped growing. I may add that I have standard Tea Roses between the poles and they have done well. Can you explain the cause of their dying? They had grown about 15 feet to 16 feet at the time.—A. P. DAVISON, *Banbury*.

VEGETABLES.

SELECTING SITES FOR WINTER VEGETABLES.

MUCH may be lost or gained in winter by the choice of site for, at least, some kinds of vegetables. It is common knowledge that vegetation in the open market fields is stronger than in the garden hemmed in by walls, and further hindered by fruit-trees, which usually share the same ground. The hardy vegetables may, and often do, take care of themselves under any circumstances—others less robust succumbing to adverse weather even of short duration. There is nothing to which the latter remark applies more forcibly than Broccoli. None of these are too hardy, given unsuitable ground and shelter, and the early

and may be planted anywhere. Turoips, too, are similar. It is hopeless expecting large roots to endure frost, so the alternative is to sow at different times until the middle of August. Spinach will grow in open or on sheltered borders, but it suffers anywhere if frost follows mild weather. With Endive it is possible to have plants that will live outdoors through a severe winter; it is equally possible for two or three severe frosts to destroy whole plantings. I have had this happen when protected somewhat with light coverings of leaves. Any vegetables when in an advanced state are more sensitive of weather changes than those of less age and size. Winter Endive is not safe left in the open, frame protection must be given if a daily supply is expected. Lettuces, always so valuable, if to be had in winter should be planted on different sites. In the winter and early months of the year, the foot of a warm sunny wall is the only suitable position. Of these, too, it is impossible to make too many sowings in July and August. The plantings may be small or large, according to the demands to be met.

It is well, therefore, in planting for winter and spring to consider the variety and the time of its maturity, remembering that the latest sorts and smallest plants have the greatest resisting power against cold.

W. S., *Wills*.

GLOBE ARTICHOKE.

I HAVE about half-a-dozen plants of Globe Artichokes about four years old. Wishing to increase the plantation of these to some fifteen plants, will you please give me some cultural directions? Can I divide the plants I have, which have attained to considerable size and bear well? What time to plant, preparation of ground, etc.? Soil sandy loam, over shingle.—E. P. S.

[It is difficult to account for this vegetable not being more popular, for it is truly, when properly cooked, most wholesome. With the majority of people, however, in this country it is looked upon as worthless. Can this be because they do not understand its cultivation, or on account of not knowing how to cook it? There is one drawback to its becoming more popular, which might be easily overcome by a little forethought, and that is, the liability to be injured in severe winters, particularly where the ground is heavy. If a few ashes be put round the roots on the approach of winter, this will usually enable them to withstand the frost. We too often see the old stools growing in the same place year after year until they become exhausted, instead of making a fresh plantation each spring. It is, however, not advisable to take up the whole of the plot every year, as plants that are allowed to stand undisturbed for two years usually send up their flower-stems earlier than the newly-planted ones, therefore if only half the plot is taken up the season of their usefulness may be prolonged. Much, too, may be done in the selection of suckers, as those that produce the largest and most fleshy heads spring from low down on the old stools where the roots are soft, not from the base of the old flower-stems. These latter, though stronger at the time of planting, seldom grow so vigorously as those produced lower down on the roots. After a fairly mild winter these suckers will be ready to take off the old stools towards the latter part of March, but after a severe one it will be the middle of April before they are forward enough to be separated from the parent plants.

PLANTING.—The ground intended for Artichokes should be liberally manured and deeply dug before planting. Some prefer setting the suckers singly in rows 4 feet apart, allowing 3 feet between the plants in the row, but if they are planted 4 feet apart each way and three suckers put out at each station, better results are obtained the first year. The suckers are planted diagonally about a foot apart, so as to form a clump. Should the weather be dry, it will be necessary to water frequently, but only sufficient should be given to keep the soil moist round the plants. As they are only allowed to stand two years there will be no overcrowding, particularly if all but three of the best suckers are removed the following spring. As the Artichoke is a gross feeder, liberal applications of manure-water must be given at the time the plants are throwing up their flower-stems, and these must be con-



The Royal Fern (*Osmunda regalis*) at Mount Usher.

planted in moist peaty soil, and the most suitable spots are half-shady places on the banks of streams (as in the illustration) or of pieces of water. It may also be planted in the water. When exposed to the full sun it does well, with its roots in a constantly moist, porous, moss-covered soil, if sheltered from strong winds. In shady positions and in deep bog soil it attains a great size.

Clematises failing.—I read a most interesting article on growing Clematis in a recent issue, and as I have been very unlucky with mine, I shall be much interested to know why I failed. Two Jackmani which were planted two years ago on two poles of my pergola, thrived well last year, and this year had any quantity of buds on them, when suddenly they both died right down to the ground. There was no frost and nothing to account for it. One died June 7th and one June 12th. They were on two poles next to each other. The soil is rich, drainage perfect, and they had liquid-manure at intervals in May, and the soil was moist. I cut them right down to the ground, and in a week they both threw up shoots agsin, and are now about

winter ones are particularly uncertain. It is impossible for those which mature in December, January, or February to make headway, if, at the time, there is severe frost, and should the flower be in an advanced state, and overtaken with a sudden fall in temperature, accompanied by night frosts, it almost invariably succumbs if no suitable shelter is provided. I now resolve that whatever the coming winter's prospects may be—and no one can foresee weather events—to plant so as to expect Broccoli at all seasons. The more delicate or mid-winter sorts are, as far as possible, planted where they get some shelter from frost in the morning. It is this which inflicts so much injury on frosted vegetation. A west is better than an east or south aspect. Late sowings of Autumn Giant Cauliflower and Self-Protecting Broccoli, if given this shelter, may continue a supply of small, clean heads almost, or quite, to Christmas, Winter White, a very useful Broccoli, following, and continuing for some time. Then would come Backhouse's, Penzance, Snow's, and Spring White. Savoys are more or less hardy, keeping up a succession, if regulated by sowing and planting. Late-sown ones stand cold weather the best,

tinued, should the weather be dry, until the heads are cut. As a spring dressing, kainit, salt, seaweed, and such-like manures are beneficial. When raised from seed many of the plants are worthless, as the heads are not at all fleshy; some of them have long spines, being little better than Cardoons. It is, therefore, necessary to procure suckers from a reliable source. These, if planted in April and well looked after, will give a supply of nice heads towards the end of the summer. The season may be prolonged by taking off suckers in the autumn, and after potting standing them in a cold-frame where protection can be afforded in severe weather. These plants if set out early in April will usually throw up their flower-stems a fortnight in advance of those that have remained out through the winter.]

NOTES AND REPLIES.

Salsafy and Scorzenera running to seed.—I should like to know if it is better for the roots of Salsafy and Scorzenera if they are prevented from flowering?—M. S.

(The roots of Salsafy and Scorzenera will increase in size without becoming less tender or less fit for use, even though the plants may have produced some flowering stems in the course of the summer.)

Winter Spinach.—This, no doubt, is one of the very best green vegetables that can be eaten, but many think it requires skill to cook and prepare it for the table. It requires to be put into boiling water that has a salt spoon full of carbonate of soda to every gallon of water before the Spinach is put in. A second lot of boiling water, or rather, two saucepans, are necessary for this vegetable, this taking away the bitterness to a great extent. Boil for about fifteen minutes, then put through a fine sieve. The principal sowing should be made not later than the 20th of August in rows 15 inches to 18 inches asunder, and thinned out to 6 inches apart when fit to handle. Ground recently cleared of Potatoes or Peas will come in well for this crop, if a fair dressing of soot and wood-ashes combined be spread evenly over and the ground forked over and levelled with the rake in the usual manner. When the soil is found to be extra dry, it is well to saturate the drills—which should be 1 inch deep—before sowing the seeds. I find the Round Summer Spinach withstand the winter equally as well as the Prickly or Winter variety, but it is wisest to sow a piece of each, as the former may not succeed everywhere during winter. Perpetual or Spinach Beet is often sown as a substitute in case the ordinary kinds fail or become exhausted. I have used Sorrel in extreme cases.—J. M. B.

Protecting Globe Artichokes.—Last year I made a new bed in sandy loam which has turned out a disappointment, and my gardener thinks owing to frost spoiling the crowns, though these were well covered with litter. I suggest ashes for covering, then straw, or would a light roof be better? They are not too crowded, but I find a disposition to make small suckers, and have tried to thin them out in spring to one or two crowns.—Snow-droo.

[With newly-planted Artichokes it is not a good plan to use straw litter as a protection in winter. This lies too damp about the crowns, and also encourages slugs to eat away the young leaves and tender crowns. Nothing we have used serves the purpose so well as ashes. These being porous allow rain to pass through, while at the same time they lie closely around the crowns of the plant protecting the most vital parts. In some soils Globe Artichokes give trouble in winter by dying out, but in sandy loam, with a covering about the crowns in late autumn, there should be no difficulty. We do not attempt to reduce the growths to one or two for the reason that the crop in summer would be too limited. Encourage sucker growth rather than restrain it until the plants are strong and bushy, when they may in early spring be divided, at least, some portion of them, and replanted on fresh ground. If you have decayed litter about the plants now remove it, and before wintry weather sets in, place a covering of ashes some 2 inches or so in thickness. A little soot sprinkled around them previously would help to dispel slugs, which do damage sometimes. Some decayed manure may be forked into the surrounding soil in spring after the ashes are removed. Liquid-manure given at any time during spring and summer would stimulate vigorous growth.]

GARDEN WORK.

Conservatory.—Tuberous Begonias, Fuchsias, and other plants which have ceased to be effective, should be placed outside to complete ripening. Better arrange the plants a little thinner than keep anything in the show house which has passed the best period of flowering. There may be for a week or two a time of scarcity as regards flowering plants. Hydrangeas, if not already done, should be cut down, and the best of the cuttings inserted in sandy soil, and plunging the cutting pots in an old Cucumber or Melon bed where there is still a little warmth, where roots will soon form. Scarborough Lilies (Vallotas) are now showing flower-spikes, and where a good batch is grown they will make very bright groups during the autumn. Montbretias and Hyacinthus candicans do very well in pots, and will be useful in the conservatory now for a change till other things come on. Camellias and specimen Heaths should soon be placed under cover. Pelargoniums that were cut down have now broken into growth, and should be repotted in clean pots of the same size, or in some instances, smaller pots may be used. Be careful about the drainage as this is important. Zonal Geraniums intended for winter flowering may now be permitted to bloom if early flowers are desired, and they are always useful. Make a further sowing of Mignonette. Remove most of the shading from Cyclamen frames as the plants draw if much shaded, and the earliest plants will soon be showing blossoms. Ventilators very freely, and in bright weather sprinkle every afternoon. Scarlet Salvia, if grown in pots, should now have the final shift. If planted out, cut round with the spade so that they can be lifted by-and-by with balls of suitable size to fill the pots intended for them. They must not be left out too long, as frost will injure them. We must always be on the look out for frost after the middle of September. Chrysanthemums, even those intended merely for decoration, should be helped with liquid-manure now. In the matter of keeping, something may be done to make the house attractive. Decayed flowers should be promptly removed without waiting for a clearing-up day, though rearrangements should be made as often as time will permit. Insects are not generally so troublesome at this season, though both red-spider and thrips are sometimes present if there has been any want of cleanliness or moisture.

Stove.—Regular fires will be necessary now, though, as plants are being brought back from cooler houses and pits, the temperature should not be excessive from fire-heat. Shading should scarcely be necessary now. Though up to the present there has been very little summer weather, it is possible September may bring us the Indian summer we have sometimes in this month, and the conditions must be made suitable for the plants. Achimenes and Gloxinias which have completed flowering may be kept cool and gradually dried off, and afterwards laid on their sides under the stage to rest. Full light, with its accompanying sunshine, will put colour into Crotons, Dracenas, and other fine-foliaged plants. Caladiums will not need so much water, as for the most part their work is done, though the beautiful little variety *C. argyrifolius* will last in condition some time, and, if well done, will be useful for table decoration. Among the newer forms of Caladiums, Crystal, Mrs. Harry Veitch, Queen of the Isles, Silver Cloud, Sir Henry Irving, and Triomphe de Comte are distinct and good. Under favourable conditions Allamandas are still blooming freely, but, where flowering is over, less water will be required, and the plants gradually allowed to go to rest. Most of the watering should be done in the morning now, and, as the days shorten, less moisture should be used in the atmosphere; but all changes must be gradual, and will in some respects keep pace with the fires.

Cucumbers in frames.—Less air will be required, as the sun's warmth will be wanted to keep up the temperature and encourage growth. No shade should be used, and the water given should have the chill taken off, either by standing in the sun or mixing with hot water from the boilers. Cover the frames

at night with mats to keep in the sun's warmth accumulated during the day. By giving proper attention, the plants may be kept bearing some time yet.

Orchard-house.—There will be a few late Peaches and Plums left yet, if late kinds are grown; but for the most part the trees will be outside ripening wood, but must not be permitted to suffer from want of water. This is the time when mischief is done to the buds if the roots are permitted to get too dry. Any trees which require larger pots should be shifted this month, and those trees in large pots may be carried on by top-dressings of good loam and a little old manure and bone meal, with a dash of soot.

Tomatoes under glass.—These are ripening fast now, even in cool-houses. The medium way is best in giving stimulants. Plants very highly fed may burst or crack their fruit, and then the crop is less valuable. Give all the air possible during the day, and leave a part of the ventilators open all night. As a rule, Tomato-houses are required by the end of the month for storing plants in pots, and a few leaves may be taken from the Tomato-plants to hasten the ripening, and afterwards less water will suffice. Those who want Tomatoes in winter may adopt either of two courses. They may leave one house where the plants are healthy and tie in the young shoots that will break up the stem after the fruits are gathered; these, by stopping when a truss of flowers has been secured, will do well and produce good crops with a top-dressing of good soil. The other course is to have a stock of young plants now, and grow in pots near the glass in a light, warm house. The first course will be found the best, as, unless the fruits are getting forward by the end of October, they will not be of much use. Neither systems will produce a paying crop as the prices run in this country now. The market grower contents himself by sowing early in the new year, and runs his young plants quietly till the days lengthen. Tomatoes require plenty of light to do well.

Window gardening.—The Campanulas are still effective, and there are a few Begonias and Zonal Geraniums. But the principal work just now is putting in cuttings for spring. Myrtles will root now, as will also pretty well every plant of which cuttings can be had. Early-flowering bulbs, such as Roman Hyacinths, Freesias, Narcissi, Snowdrops, and Crocuses, may be potted now and plunged outside in coal-ashes to make roots.

Outdoor garden.—Gather seeds of anything good and choicer before the pods burst, and place in saucers or other vessels in an airy room. Among the seeds which should be looked after are good strains of Hollyhocks, Pentstemons, Gaillardias, Coreopsis grandiflora, Paeonies, Dictamnus Fraxinella, Scabiosa caucasica. The last is one of the most beautiful things we have now for cutting, and may be easily raised from seeds in spring. Sow in a box in frame and transplant when large enough. It is necessary to raise a few plants every season, as old plants often die during winter, especially in wet, cold seasons. This the growth of Cactus and other Dahlias if fine blooms are wanted. The staking and tying also must have attention, as the plants are heavy, and offer no resistance to gales of wind unless well supported. Beds for choice Pinks should be made ready, and the plants set out in good time. Edging and border plants may be pulled to pieces and replanted firmly, burying the stems up to the foliage, and they will soon form roots if kept moist. Groups of Tritomas coming into flower will be improved by a soaking or two of liquid-manure. Polygonum cuspidatum is an effective autumn plant in a good-sized group in front of a shrubbery or at the back of a border. The propagation of a stock of tender and other plants should be carried on till enough has been secured. Madonua Lilies should be planted in a well-drained site and not disturbed again.

Fruit garden.—Apples are, in many gardens, a scarce crop. Trees planted about eight or ten years are, in many instances, doing well, showing how necessary it is to keep constantly clearing away and replanting. Grafting is also advantageous where the kinds are inferior and not prolific. This is the

time to take stock of our positions and select sites for young trees. There are several Apples which scarcely anyone can do wrong in planting. Those I have marked for increasing our stock of are Bismarck, Newton Wonder, Lane's Prince Albert, and Cox's Orange Pippin. The last requires a deep, warm soil. This we can give. The Jargonelle Pear does well as a standard in many places, and bears more freely than on a wall. On a wall, after being planted a few years it makes too much growth, and one does not care to be always hacking the roots off, but as a standard, with permission to develop, the growth is soon kept in check by the crop of fruit. All young wood required for extension on wall trees and espaliers should be laid in. Growth now has pretty well ceased for this season, and all strong shoots should be cut back to let every ray of sunshine reach the trees.

Vegetable garden.—There is some disease among the Potatoes in some districts, though I have not seen much of it here, and our own crops are entirely free at present. Fine water now will save the crop, and the Corn harvest also needs it. One is apt to wonder sometimes where all the weeds come from. At the present moment, after the damp weather following a dry time, even land where scarcely a weed is permitted to seed is coming full of small annual weeds. The seeds of many weeds are carried about by the wind, and it is not impossible for the seeds of the weeds to come in the showers of rain. The industrious man has to bear a part of the burden which should be placed on the back of the idle and careless, especially in this matter of weed killing. The hoe on a fine day will soon clear off the small weeds now coming up, and benefit the crops at the same time. Turnips, Spinach, and other crops just up should be frequently gone over with the hoe, and all the surface between the rows moved. Take up all early Potatoes. If the seed is saved at home, carefully select the sets and place them under cover somewhere. There is much in the selection of the seeds of anything. If the sets come from a very prolific root, we may reasonably expect a good crop from them next season. Vegetables, like man, are either moving upwards or downwards; there is no standing still. E. HOBDAV.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

September 7th.—Cuttings are still being taken of many things required for next year's furnishing of the garden. In addition, before frost some of the best of the old Geraniums will be lifted and kept for spring propagation. Alternantheras, Coleuses, and Iresines are still used to give colour among sub-tropicals, and, of course, cuttings are being rooted, and will be kept on shelves in a warm house during winter to produce cuttings in spring, as spring-struck plants are best.

September 8th.—Early Potatoes are being lifted, and whosoever a more prolific root than usual is found the tubers of a proper size are placed on one side for seed. A little heat is used over in stove, also for Melons and Cucumbers. Poinsettias have been taken from cold pits and placed in a low warm house. Cactuses which were placed outside in the sunshine have been moved indoors, and the water supply will be reduced. Scarborough Lilies are throwing up flower-spikes and have been taken indoors.

September 9th.—Specimen Azaleas and other hard-wooded plants are being housed, but the lights will be left open night and day, so that the change may be as gradual as possible. Groups of the Chimney Campanula (C. pyramidalis) are very attractive in the conservatory now, so distinct from anything else in growth and colour. Palms that were planged out in summer about the grounds are being taken in, as the cold night and wind gales may do damage to the foliage. Planted out more lettuce and Endive.

September 10th.—Finished planting Strawberries. The plants were started in pots, and are strong enough under favourable conditions to bear a crop next year. They are chiefly Royal Sovereign, Leader, and Latest of All, with a few Elton Pine. Beds intended to

remain to produce another crop are being cleared of runners, and later will be forked between the rows and mulched with manure. Commenced some alterations in shrubberies with the view to introducing a few groups of better things. The ground will be trenched and prepared for planting at once.

September 11th.—Thinned the beds of seedling Cabbages, pricking out a part and leaving others to grow till the ground is ready. The main crop of spring-sown Onions has been harvested in fairly good condition, and the ground will be prepared for Cabbages. Celery is being earthed up in fine weather as required, the soil being well broken up and pressed firmly round the plants, care being taken that none enters the bearte of the plants. Earth is drawn up to Leeks.

September 12th.—Most of the buds of Japanese Chrysanthemums have been secured, and the incurved are now being taken. Up to the present we have seen no rust, but preventives have been used. Early-flowering kinds in pots have been placed under cover, and will be moved to the conservatory as soon as the flowers begin to expand. Early kinds of Apples, Pears, and Plums are gathered in good time before they fall. Late Peaches on walls have been freely exposed by clearing away a few leaves.

POULTRY.

Chickens ailing (T. Yeo.)—Your chickens appear to be suffering from diarrhoea, which is often brought on through exposure to cold and damp, or from being fed upon unwholesome food. You do not furnish any particulars as to what food and management your chickens receive. You should move the coop to a fresh place once a day at least, as foul, tainted ground is as likely as anything to cause trouble. The best food for chickens after their first meal or two of egg and bread crumbs is a crumbly paste made of two parts of coarse Oatmeal to one part of Barley meal, mixed with water. When a few days old they may have grits, crushed Wheat, or bruised Oats in addition to the meal, and also a small piece of cooked meat, rather underdone, and mixed fine, may be given daily until they are about three weeks old. Bread sopped in water, although often given to young chickens, is about the worst food they can have, and causes diarrhoea. Give your chickens their meal in a warm state, also boiled rice, with a little powdered chalk and Cayenne Pepper, till the looseness is checked. Cover the coop at night with thick canvas or sacking, providing ventilation without drought. Castor oil is the best medicine for this complaint, and can do no harm.—S. S. G.

BIRDS.

Treatment of Goldfinches (A. F.)—With good treatment these birds will live for many years in a state of captivity, being generally free from most of the diseases to which other cage birds are subject. They are, from their beauty of plumage, gracefulness, and general docility, very much valued as feathered pets. They will breed freely with Canaries, and sometimes among themselves, where they have the range of an outdoor aviary. The most beautiful male birds are those bred from the Goldfinch and Canary. Caged Goldfinches may be allowed a great variety of food, and Canary-seed, Rape, Hemp, Flax, Millet, Muw-seed, and Groats will all be relished by them. When Thistles are ripening it is good policy to secure a supply of heads for use during the winter. For green food, Groundsel, Chickweed, Dandelion, and Lettuce may be given. A large cage should be provided for these birds, as they are naturally lively and require much exercise. The allowance of Hemp should be somewhat limited, as it has a tendency to darken the plumage. It is somewhat difficult to distinguish between the sexes, but the hen is not so brilliantly-coloured as the cock, and is somewhat smaller. The variety known to fanciers as the Chevril Goldfinch resembles the rest of its race, with the exception that the white streak extends from the base of the lower mandible down to the breast; such birds are highly valued.—S. S. G.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in GARDENING free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of GARDENING, 17, Farnham-street, Bolton, London, E.C. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruit for naming; these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Chrysanthemums—when to retain the buds (H. S. T.).—Each of the varieties in your list should have their buds retained until the plants have developed on the plants. An ideal time for most varieties is the latter part of August, and buds forming about that period invariably give good results.

Size of tennis court (A Constant Reader).—The court should be 28 feet long and 27 feet wide for a single-handed game, and for a double-handed game, 74 feet long and 36 feet wide. It is divided across the middle (of the length) by a net, which should be 3 feet 6 inches high at the posts, and about 3 feet at the centre. The ball court line is halfway between the side lines and parallel with them. The service lines are 21 feet from the net and parallel with it.

Annuals for the flower garden (A Constant Reader).—A garden may be made very gay in summer with half-hardy plants raised from seed. These include Stocks, Asters, Marigolds, Lavatera, Zinnias, Verbenas, Heliotropes, Petunias, Phlox Drummondii, Dianthus, Ageratum, Pyrethrum, Lobelia, and Begonias, which may be sown in heat early in the year. Those when pricked out thinly into cold-frames or boxes and hardened off can be planted out in May. To flower in the spring you should raise a stock of Polyanthus, Myosotis, Wallflowers, Silene, Violas, Iceland Poppies, Saponaria, Digitalis, etc.

Remaking a lawn (Harold Smith).—The first thing you will have to do is to see that the lawn is well drained. Break up the surface several inches deep early this month, make it firm and level, then sow some good Grass seed, and with it a light dressing of any suitable artificial manure, well raking it in and rolling the surface well. By the end of October you should have a good green sward, which could remain untouched all the winter. Falling sowing in the autumn or re-lurding, prepare the soil and sow next April. Seeing the soil is very stiff, a liberal dressing of gritty street sweepings, if such can be had, would be beneficial.

A north aspect conservatory (Cermos).—Undoubtedly your greenhouse is at a disadvantage at a certain time of the year because it is on the north side of the house, but it gets a fair amount of light in the summer and does not need shading. Hence you should be able to flower in it in the summer Fuchsias, Geraniums, Petunias, Begonias, Heliotropes, Roses on the back wall, and climbers at the ends, such as the Trumpet Honeysuckle or the blue Plumbeago capensis. It would be unwise to have climbers on the roof with your aspect. You would find most Ferns, some of the birdier Palms, such as Kentia Fosteriana, Phoenix reclinata, and others do well, and such fine-lobed plants as Aspidistra lurida variegata, the India-rubber-plant, Aracaria excelsa, Ophiopogon, Aralia Sieboldi variegata, and similar fine-lobed plants do well all the year round.

Planting window-boxes (Ignorance).—We fear you will find few sweet-smelling plants suitable for a window-box in the winter, but if you plant first, after the box has been properly filled with good loamy soil, some Hellebores, these will give strong perfume in the spring. You can also plant just a few bulbs of Stella or other single-flowered Narcissus. Plant all those 3 inches deep. Then get to front the box and hang down plants of Creeping Jenny, and at the back just a few Wallflowers, and cover the rest of the soil with Pansies or Violas. That will give you a green effect in the winter and plenty of pretty bloom in the spring. Sow very thinly in 5-inch pots, properly drained and filled with soil, seeds of Mignonette, Nemophila, dwarf Sweet Peas, one or two varieties of Clarkia, and any other dwarf-growing annuals. When the plants are a few inches in height, they may be planted in the box after it has been emptied of winter things and refilled with fresh soil. This would be at the end of May. Sow the seeds in the pots under glass in April, or, if outdoors, then early in May.

Creepers for a glazed corridor (Fitzstuart).—From the following list of good flowering climbers suitable for clothing a verandah you can make your own selection: Bignonia radicans, red trumpet-shaped flowers, borne in July and August; Clematis montana, pure white starry blossoms, in early spring; Clematis Jarkman, rich purple flowers, towards the latter part of the summer; Clematis lanuginosa candida, blooms large, pale mauve, summer; Psephenia suspensa, yellow, end of February and in March; Jasminum nudiflorum (the Winter Jasmine), from the depth of winter till spring, flowers yellow; Jasminum officinale (common Jasmine), pure white scented blossoms, summer; Lonicera japonica, whitish, very fragrant; Honeysuckle; Lonicera xylosteum, evergreen; Honeysuckle, with red and yellow trumpet-shaped blossoms; Passiflora coriacea (early blue Passion flower) blooming in summer; and P. Constantia Elliot, a white-flowered counterpart of the

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VEGETABLES.

BLANCHING CELERY.

It matters little how well Celery may have been attended to previously if the blanching is not well carried out. It must also be borne in mind that, although blanching is all-important in the production of good edible Celery, yet the foundation must be laid beforehand to ensure good solid hearts pushing up. If the plants are small or undersized for the variety, however carefully blanching may be done, good solid-hearted Celery will not be obtained. For this reason, if the plants should be now undersized, it will be much better to encourage growth as much as possible before any soil is added, unless it should be as a top-dressing, by keeping the trench in a well moistened state with an occasional application of liquid-manure or a light sprinkling of salt. Nitrate of soda will also hasten on the growth of backward Celery. With the growth active and well up to time, clear water will be ample, and with a free use of liquid-manure or of nitrate of soda the plants become coarse. Over-feeding Celery leads to inferior quality, and is also against its keeping well after earthing up has been completed. Huge sticks may certainly eventually be had, but on the approach of winter they quickly suffer from damp, and when this sets in the leaf-stalks decay wholesale. Moisture being a necessity for the securing of high quality in Celery, must have attention before earthing commences, for although it is possible to water Celery after the first earthing, yet with the soil in a well moistened condition prior to this operation, it invariably keeps moist enough afterwards to lead to a satisfactory after growth. The first earthing must not be confounded with an ordinary top-dressing, after which water may be applied as often as before. Before blanching proper commences the trenches should be well watered, giving sufficient so that the soil is thoroughly moistened. Earthing up Celery with the soil about the roots in a dry state, if it does not exactly lead to bolting, renders the quality poor, the heads being tough and insipid instead of crisp, sweet, and nutty in flavour. There is also the danger of being in too great a hurry with the blanching. A good guide is to have sufficient well in hand for use, the blanching of that which is needed for the main winter crop being left some time longer.

MODE OF BLANCHING.—Some growers have their favorite methods of blanching, such as surrounding the stems with stout brown paper, or collars purchased for the purpose. Others go to the trouble of surrounding the stems with sand, ashes, and burnt soil, but whatever advantages these may have, well-worked soil is the most generally used, and, besides being the most convenient, invariably results in securing well-blanching produce. Heavy soils are supposed to be the worst to deal with, but with a free use of lime and burnt refuse mixed with the staple in the ordinary course of cropping, there is no difficulty in this respect. If, on turning up the soil for earthing, it should prove lumpy, the best addition is to wheel some burnt refuse

along the sides, this being worked in with the soil as it is being thrown up, of course taking all ordinary precautions to get it as finely divided as possible. As fresh soil is added, the plants should be drawn up together and tied with a piece of matting, as this will prove a much more convenient method than having one person to hold each up separately whilst another adds the soil. Three earthings are generally sufficient, and these at intervals of a fortnight. After each earthing, take care that the matting is cut away, for if this were allowed to remain the hearts would become crippled. To ensure a clear growth after earthing, the hearts, except at the final earthing, must be kept in advance of the soil added, or there will be danger, if the stems should be heavily weighted with soil and the hearts thereby enclosed, of the stems bulging; consequently the heart growth would be cripple. At the final earthing use plenty of soil as a protection from frost, taking care, however, that the sides of the ridges are brought up sharply and made smooth, this being an excellent protection from wet. It is when the soil is thrown up loosely with a rough outer surface that the wet penetrates. As a safeguard from slugs, salt is a good antidote, a little being sprinkled over the soil at the first earthing. Lime may also be used for dusting over the soil at each earthing, or even soot may be used.

PRESERVING SEED POTATOES.

THE aim of all growers ought to be the careful preservation of the seed-tubers, now being stored, in as dormant a state as possible. Nothing in the shape of a heap should be formed. At lifting time let them be separated from the wery and quite the smallest Potatoes—good medium-sized uncut tubers being the best for planting—and kept stored thinly till next spring. Greening Potatoes by exposure to the light and air, is so far advisable, inasmuch as it slightly retards sprouting, but this ought not to be brought about by leaving them for several days or weeks lying on the ground or on paths, boards, or mats in the open, as by planting time not a few of the tubers may have taken disease between the lifting and storing times, this being effectually hidden by the coat of green. Tubers thus diseased do not decay rapidly, and perhaps the first indication of its presence is in many cases the weakly growth of the sprouts. Diseased sets cannot support a strong growth of haulm till it has time to become self-supporting, and ought never to be planted. Disease germs are far more plentiful in the air than most of us are aware of, but if they cannot reach the tubers before their skins are dry and well set they will not affect them afterwards, always provided the Potatoes have been properly stored. Dig all tubers that are to be stored in dry weather, and while also the ground is in a semi-dry state. This admits of the tubers being placed under cover or in heaps, and lightly covered up almost as fast as they are dug. It is a mistake to leave a lot of newly-dug Potatoes on the ground to dry all night. Sprouting must be prevented as much as possible

by storing thinly as well as exposing the tubers to light and air. Keeping them in single layers, resting in the case of Ashleaves on the smaller end or that previously attached to the plant, cool end fairly light, is the best preventive of premature sprouting and also the surest way of having the sprouts stout and strong when the proper time arrives for growth to be made. Shallow trays with the corner blocks 2 inches higher than the sides are very handy for storing seed tubers in, as these can be packed one above another and yet not unduly shade each other. Any kind of flat box or shallow basket blocked up well one above the other is preferable to storing in deep boxes, hampers, and suchlike. The tubers should at planting time be quite firm and the sprouts short, yet how often do cottagers turn them out from a spare room or elsewhere all matted together and shrivelling. Protection must be afforded during severe frost, and if the room or outbuilding when closed cannot be depended on to protect sufficiently, then mats, blinds, straw litter, or even several coverings of paper, should be used as well.

NOTES AND REPLIES.

Pea William Hurst.—Of the many Peas in cultivation I consider this to be one of the most valuable for small gardens. Coming midway in height between the very dwarf and the taller-growing kinds, it can be grown either with or without sticks, according to the option of the cultivator. It appears to be one of the most reliable Peas we have, not being so liable to go off in the provoking way that is characteristic of some of our finest kinds. For some years I have grown this Pea almost to the exclusion of all others, as by sowing at intervals of ten days or a fortnight from the beginning of March, I have been able to maintain a good successional supply without being obliged to have recourse to the troublesome process of staking.—J. C. B.

Tomatoes setting badly.—Here, in the West of England, many who have only an open piece of ground (and this sometimes in allotments) grow a few plants, and this year from present appearances there will be very little fruit. I have not seen any plants in the open with a fruit set on them, although I have seen them in a good many gardens in flower. Even where the seedlings were raised early and strong plants put out at the end of May against sunny walls there are but few fruits set. I put out plants 18 inches high against a south wall at the end of May, but these are only now growing freely and are full of bloom. I have found that fruit set after September comes in is of little value here. In cold-houses the plants grow freely but fail to set, and I have plants 6 feet high growing in a cold, airy house with only three or four fruits on a plant. In some instances bunch after bunch of flowers has failed to set. Up to the present time I have not cut more than a third of the crop that I have had from the same space in some years. Disease is attacking them in many instances. This is not to be wondered at, seeing how severely the Potatoes have been attacked this year.

OUTDOOR PLANTS.

DELPHINIUMS.

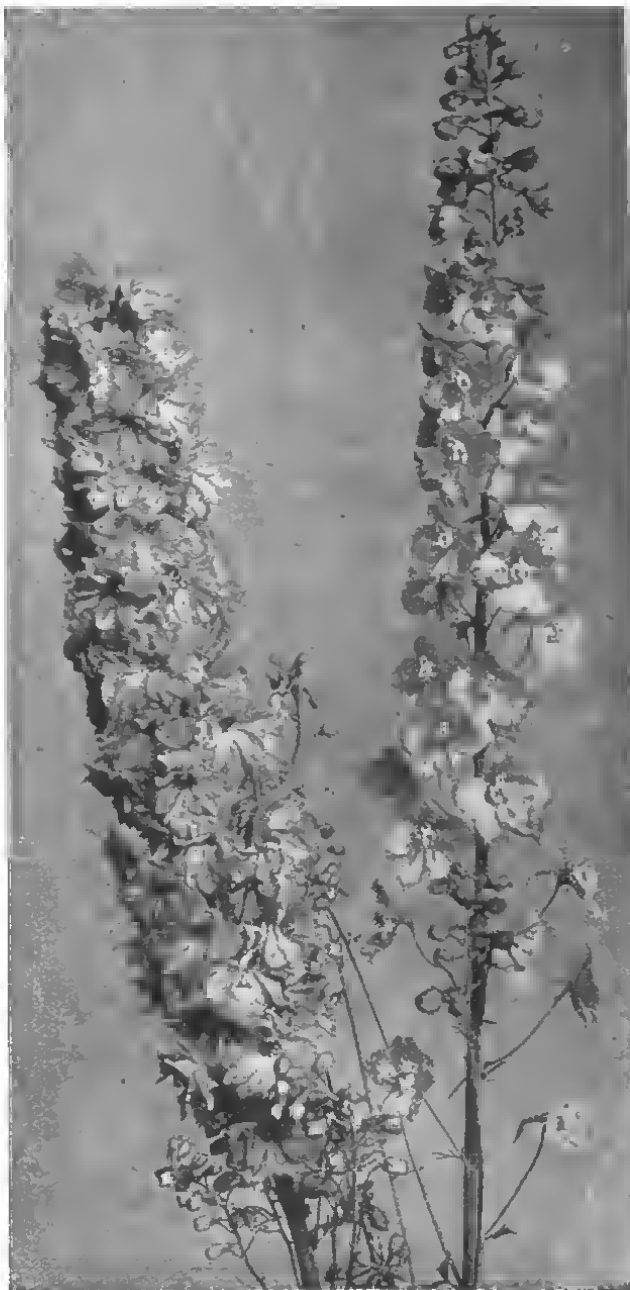
AMONGST our taller border plants none command greater admiration in their time of flowering than Delphiniums. Few herbaceous perennials demand less attention, if planted in well-prepared soil, and if a careful selection of varieties is made, one may have blossoms for months. Not only is it a flower that makes attractive the country garden, but in towns, where some other hardy perennials do little more than exist, the Delphinium will thrive and add colour to the border. Whilst there are many varieties possessing delightful shades of blue, we are not restricted by any means to that particular colour, as white, pink, red, and purple shades are now well represented, and for cutting and placing in jars they are extremely useful.

PROPAGATION.—There are two methods at least by which propagation may be effected—the first is by sowing seed in March or April in cold-frames, pricking off the young plants into boxes, when large enough, and subsequently transplanting them into the open, in well dug and manured soil, paying special attention to them with regard to watering, keeping the surface between the plants well stirred, and encouraging growth generally. Treated thus, many will bloom the same season, and from seed purchased from a reliable source a good proportion of meritorious flowers results. Young plants of the first season's growth, after the flowering stems have been cut away, should have some slight protection, and rough leaf-soil or ashes, placed about the crowns, will be sufficient—ashes, perhaps, are better than leaves, as they not merely protect the plants from frost, but are often a preventive of slugs attacking the young growths. Seed sowing is not much practised in private gardens, as the many beautiful-named varieties we have to-day are so reasonable in price as to be within the reach of all who desire these stately border plants. From twelve to twenty plants in a garden are usually sufficient, and these, if procured and planted in the autumn will be ready for dividing in a couple of years—in fact, three or four years at the most are enough for them to be left to themselves, as after that period they get large and bulky, and have used up much of the nutriment of the soil, and need a change of position and compost. This dividing is best effected by digging up the clumps and severing them with a knife or spud. In planting it is well to group two or three varieties together, leaving, say, 12 inches to 15 inches between each clump, as by so doing they make a charming show when in bloom. Too much attention cannot be paid to making the soil ready for the clumps. This is best done by digging in some turf, well chopped up, and partly rotted dung, as Delphiniums being gross feeders, it is useless to put them into an impoverished soil at the start, and a mulching of manure in the autumn will also be of immense benefit. Early in the summer arrangements should be made for staking the plants, as if this is not done, in wet and windy weather the tall shoots break off. It is a little more trouble to give each shoot a separate stake, but it is advantageous to do so, as then each has freedom to bloom and develop properly, which is not so when one stake only is used, and all the stalks are bunched up to it, a very common but somewhat rough and ready method. A second lot of fair-sized blossoms may be had in the autumn, if, after blooming, the plants are cut down and well manured. In a dry season it is imperative that Delphiniums should be well supplied with water, and liquid manure will greatly help the buds.

—These are deserving of cultivation in every garden. The great variety of their heights, varying, as they do, in this respect, from 1 foot to 6 feet high, the equally great variety of their shades of colour, from almost scarlet to pure white, from the palest and most chaste lavender up through every conceivable shade of blue to deep indigo, and the variety of size and

form of their individual blooms, some of which are single, semi-double, and perfectly double, and set on spikes ranging from 1 foot to 6 feet in length, render them objects of great value as border plants. For cutting, either in immense spikes for some forms of decoration or in smaller lateral twigs for bouquets and vases, they are most useful. The combinations in which they can be placed in borders are numerous. When planted to back up a mixed border the effect of the Delphiniums and any light-foliaged or flowering plant is very charm-

the winter in some sandy soil in a corner, where they can be more conveniently seen to. This is only necessary until they form large and vigorous stools. It is well to lift them every two or three years and thoroughly work the ground, adding some leaf-mould or manure, and then to replant them. This is best done about the time the crowns begin to move in early spring. In favourable seasons, if they are not allowed to seed, they generally throw up a second crop of flowers late in the season; and the spikes being smaller and more twiggy,



Delphiniums. From a photograph taken at Gravetye Manor, Sussex.

ing. Delphiniums are, of course, perfectly hardy, and can be cultivated in any ordinary garden soil. They are propagated from cuttings detached from stools when 6 inches high, or when the stools become large they can be lifted and divided like any ordinary herbaceous plant. The ground for them should be rich, open, and deep. When young plants are put out in spring in soils where slugs abound, the buds or crowns are apt to be devoured by them in winter; consequently it is well, under such circumstances, to lift them and lay them in for

they are then most valuable for cutting as well as effective in the borders. Delphiniums are now in fine bloom, and anyone requiring to select the best kinds should visit some of the large hardy plant nurseries at once. When the flowers begin to fade, the stems should be cut down to the ground and the plants have a good soaking of water, they will then throw up fresh spikes of flowers in autumn. A packet of good seed sown in May or June will produce good plants for flowering in the following year.

T.

AURICULAS.

AURICULAS may be divided into three classes—namely, alpine, border, and show. The two first are charming garden flowers, but the last can only be successfully cultivated in pots. Alpine Auriculas are divided again into two sections, those with grey or white centres, and those with yellow centres. A native of the high Alps, the Auricula is by nature a perfectly hardy plant. Old specimens of border varieties may be met with in gardens that have been undisturbed for years, and have formed large tufts both on stiff clay soils and in a lighter and more porous staple. These old plants are best divided towards the end of March, lifting the entire clump carefully, shaking it free of soil, and parting each separate crown, which should at once be planted in fresh soil. In raising from seed, this should be sown in boxes in the early spring in a gentle heat of about 50 degs. Good drainage should be provided, and over this fibrous loam and leaf-mould in equal proportions placed, the top inch of the compost being a mixture of leaf-mould and sand. When the seedlings are large enough to handle, they should be pricked out and placed 2½ inches apart in other boxes or pans, removed to the open air in the late spring, and planted out in a partially shaded border after mid-summer. In scorching weather artificial shade is beneficial to the seedlings. These remarks apply to the alpine and border Auriculas, and not to the show varieties, which are always grown in pots.

Everyone who grows Auriculas should raise plants annually from seed, for it is a sportive flower, and there is always a chance of raising seedlings that are far more beautiful than their parents, and in this manner strains may be immensely improved in the course of a few years. As better varieties are obtained, the washy, badly-colored, or weak-habited plants should be weeded out. What is required of a border or alpine Auricula is clear markings, bright colour if a self, sturdy, erect stems, and free-flowering habit, and in these there is still room for further improvement if careful cross-fertilisation be practised. Show Auriculas are divided into five sections—namely, selfs, white-edged, grey-edged, green-edged, and fancies, the last section including flowers that, though often pretty, may not be admitted into any of the other four sections. The foliage of the show Auricula is covered with a mealy substance, and portions of the flowers with a white, floury powder. Thus the centre of the flower is yellow; this is surrounded by a ring of farina, outside of which is a ring of dark colour, beyond which is an edging of green, grey, or white. This outer edging is, in fact, a development of leaf-like properties in the petal. In the green-edged this is unpowdered, but in the grey-edged and white-edged the green is covered with a white powdering, the density of which powdering constitutes the difference between the white-edged and grey-edged sections. Alpine Auriculas are destitute of powdery matter on their petals, as are those of the border section, which may be termed less refined alpine Auriculas. S. W. F.

TUFTED PANSIES—SELECTION OF PROVED SORTS.

So many lengthy lists of Tufted Pansies are issued that the inexperienced grower becomes bewildered when endeavouring to compile a list of the best. Each season sees additions to the already long list of sorts, and, that intending growers may be helped in making a good all-round selection, the present opportunity is taken to give their names and descriptions.

This should enable the would-be grower to determine those sorts best suited to his requirements. For the next two months propagation by cuttings will be largely practised. The more noteworthy varieties are given prominence under the heading of their respective colours:—

WHITE.

WHITE EMPRESS.—This variety is also distributed under the name of *Blanche*, and as a good robust and free-flowering creamy-white sort it is superb. The blossoms are large and rayless, and possess plenty of substance. It is also a most continuous bloomer.

SEAFIELD.—A very beautiful pure white, rayless flower, with an extremely neat yellow eye. The plant has a very good dwarf and compact habit, and is free-flowering.

ELAINE.—This is a large pure white flower, with a suffusion of yellow on the lower petal. The blooms possess plenty of substance, and are developed on a splendid length of footstalk. It is free-flowering, and the plant has a capital constitution.

EDWARD MASON.—This variety does well in the warmest weather. The flowers are pure white with a neat yellow eye, and rayless. The plant is a very free bloomer, and possesses a beautiful habit of growth.

bright yellow self, has achieved distinction. The plant has a creeping-like style of growth.

KLOSDYKE.—The modern florist would probably find fault with this flower, yet the free manner in which the blossoms are developed appeals to all who have seen them. When massed the effect is very striking. Colour, clear yellow, rayless.

PENSER D'OR.—Unfortunately, there is very little stock of this lovely variety obtainable. The habit is all that could be desired, and the plant is a profuse bloomer. The deep rich orange-yellow colour of the flowers is one of its chief charms.

BLUE.

PHOENIX.—This is not a large flower; in fact, it is one of the miniature sorts. The plant, however, is very free-flowering and has a good habit. For edgings this plant has a special value. The colour may be described as deep heliotrope-blue, and the flower has a neat yellow eye.

KING OF THE BLUES.—This excellent kind is one of the late Dr. Stuart's raising, and is the best true blue sort. The flowers are of small to medium size, and the beautiful deep blue colour is enhanced by the bright yellow eye. The blooms are rayless, but are heavily veined in the centre. Habit good, and also a free-flowering kind.



An alpine Auricula. From a photograph by Mr. Jas. E. Tyler, Hantshead, Essex.

CREAM KING.—A novelty of the present season, in which the rayless blooms are very large and circular, and of splendid substance. The colour may be described as a rich creamy-white, with a brilliant orange eye. Extra strong growths are benefited by having their points pinched out occasionally.

PENSCITLAND.—This has had a good trial and is now recognised as a very useful kind. It is a pure white sort, and is slightly rayed.

YELLOW.

KITTY HAY.—In this the colour is a particularly striking shade of yellow, and is most effective when the plants are grouped in quantity. The flowers are rayless, and the plant is a profuse bloomer.

MELAMPUS.—In this plant we have a kind with a perfect habit, and this, together with an erect flower-stalk, carrying the blossom well above the procumbent foliage, makes it a distinct acquisition. The flowers are of goodly proportions and rayless, colour deep yellow.

ANDROMEDA.—This is a 1900 novelty, of which but little is known. The flowers are very large, and the colour may be described as bright yellow, with a deeper shade of yellow on the lower petal. With age the blossoms pale off to a primrose on the edge of the upper petals. The plant has a good tufted habit.

BLAND G. SINCLAIR.—Although only distributed in 1901, this variety, a free-flowering

BLUE GOWN.—If good pieces of this delightful Tufted Pansy can be secured, there is no better. The habit is ideal, and the plant flowers freely. The colour may be described as mauve-blue. Rayless.

OTHER COLOURS.

FLORIZEL.—No collection can be considered complete without this variety. The smallest pieces will develop into handsome plants which will bloom freely. The colour is a shade of blush-lilac and the blooms are rayless. Habit perfect.

VIRGINIA.—A refined and beautiful flower of a pleasing pale blush colour and rayless. The habit is dwarf and compact and the plant blooms freely.

COUNSELLOR W. WATERS.—This has a good habit and is free-flowering. The colour is rosy-purple.

MAGIE.—This variety is often printed as "Maggie," but the name given in this instance is the correct one. It is a large, deep rose flower, paling somewhat in the warmer weather, and it has a neat yellow eye. Habit compact and fairly dwarf.

DUCHESS OF FIFE.—This is generally considered one of the very best of the margined flowers, the colour in this instance being primrose, irregularly margined blue. The habit of this plant is dwarf and crawling, and each plant develops into a large clump. Two other

members of this same family are Goldfinch and White Duchess, and these are slight variations from the variety under notice.

CROWN JEWEL.—This is somewhat similar in its markings to Countess of Kintore, so well known. In this case, however, the colours are brighter and the habit is far better.

D. B. CRANE.

NOTES AND REPLIES.

Gladioli.—Messrs. Kelway and Sons, Langport, have just sent some beautiful spikes of Gladioli, the flowers richly coloured, large, and of fine form. Among those sent we note: Frank Miles, bluish, flaked carmine; Edward VII., scarlet crimson, light centre, an immense, well-formed flower; Cellini, maroon, with dark spot in the throat; Lord Milner, red, spotted yellow in the throat; Sir Chas. Russell, orange, with yellow throat; and Matengo, a fine flower, bright scarlet, striped violet. No garden should be without the Gladioli so rich and varied in colour and effective when the summer is merging into autumn.

Planting flowers and Ferns on walls.—Take two cupfuls of very fine, dry soil passed through a sieve, place in a basin, and make into a moist cake with water. Continue to stir this while you sprinkle all over it hardy Fern seeds, rock plants, Wallflower, Snapdragon, and other seeds, of which any seedsman would give you a mixture. Mix all well together, and then place very minute dabs of it into small fissures in a wall that is, if possible, backed by a bank. Have another basin of moist soil and fill in the cavities with it with a round-topped knife, putty-knife, or oyster opener. August is the best month for doing this.—E. MAY.

Sea Hollies (Eryngium).—I have to-day been cutting my first lot of Sea Hollies, and although they last for many months when taken indoors, there is just a possibility of leaving them too long before gathering, and so losing their beautiful colours. I know people, who contrive to keep up their supply of cut flowers as long as possible in the autumn, who know nothing of Eryngiums, and yet in them we have flowers that have a charm of their own, and will add interest to a room all winter.—W. F. D.

Using weed killer near well.—Will you kindly give me your opinion in GARDENING ILLUSTRATED on the following point? The water supply of my house is derived from a well sunk in the middle of the garden, and conveyed by pipes to pump in yard, and thence to the house. The well is sunk in solid rock, with exception of about 5 feet at the top, which is built up with bricks and mortar, and the top covered with steel rods and sheet iron, and Grass growing over all. The well is about 25 feet deep. I can safely use on the garden walks a weed killer, of which the active ingredient is arsenic? If there is danger of the water becoming poisoned, at what distance from well might it be safely used? I shall be greatly obliged for your opinion.—W. M. G.

[Under ordinary circumstances a well would be safe if the arsenical weed killer were not used at any point nearer than 50 feet or 60 feet from the well. But there is always the possibility that, owing to the accidental spilling of the stuff or to the occurrence of heavy rain soon after it is used, the water of the well might receive traces of the poison, and as this might do serious mischief, and would not be an easy matter to mend, it would be safer not to use the weed killer at all in such a case.]

An experience with Verbenas.—A comparatively sunless summer is not likely to rid plants that enjoy and flower best in warm weather, so it is that some who have grown Verbenas this year have not been satisfied with them. Even in a season like the present one can record exceptions, and one at least which came under my notice was where the plants, which were raised from seed sown in boxes in March, were potted off, and instead of their being turned out of the pots in June, were plunged on a rather dry border. The result has been a most satisfactory one, for whilst others which were set out in the usual way have made a preponderance of wood and very little bloom, those plunged in pots have flowered well, presumably because their root action was curtailed somewhat. At any rate the difference has been most marked.—W. F. D.

Begonia Worthiana.—Kindly tell me the name of this Begonia, flowers of which I send? When fresh it was a lovely coral-red, standing erect, about 8 inches high, and looking rather like a *Fuchsia*. Also, would you say how a supply can be got—by seeds, bulbs, etc.—and when one should begin, to ensure about 800 plants by June next?—AUSTRALIA.

[The enclosed specimen is *Begonia Worthiana*, which has of late years become very popular for bedding purposes. It can be raised

from seed, and to obtain about 800 plants by June next the seed should be sown by the latter part of February, in a temperature of 60 degs. to 70 degs., and given the treatment usually accorded to *Begonias* of the tuberous-rooted class—that is, pricked off when large enough to handle, and in time potted off singly into small pots. There is, of course, a certain amount of variability in the case of seedlings, and in order to ensure absolute uniformity many increase this *Begonia* by cuttings in the spring. The young shoots when about 3 inches long form the best of cuttings. One-year-old bulbs make a finer display out-of-doors than those raised the same season, and as most growers who make a speciality of bedding plants grow this *Begonia* largely, it is very probable that during the dormant season you might obtain them at a cheap rate.]

Michaelmas Daisies.—Some few plants in our gardens have special claims upon us, and we give them attention on the approach of their blooming seasons. We may mention in this connection *Roses*, *Carnations*, *Chrysanthemums*, then why not specialise a little more the *Michaelmas Daisy*? Who thinks of feeding it with liquid manure, or shuddering it, or even tying it up properly? Few, I fear. We somehow think that any scant treatment will do for this hardy autumn flower. I suggest to those who have not tried the plan to notice the difference in plants that are manured, buds thinned, and staked properly, as against neglected roots.—LEAURIST.

Lawns—autumn treatment.—We are often particular in cutting and rolling our lawns in the early summer in order to obtain a good sward, but many, I think, give less attention to the matter in the autumn than they should do; consequently, *Dandelions*, *Plantains*, *Daisies*, etc., no longer kept in check, grow apace, and the whole plot becomes weak and patchy. All lawns should be gone over at this season, ridding them of weeds, and be mulched with rotted manure after the last cutting. Just now *Cucumber* beds are being disturbed, and such manure as a winter dressing will be found of great value. Soot, too, after it has stood out-of-doors a few months and has lost its heat, may be dusted over the Grass with beneficial effects. It not only improves its colour, but keeps worms from coming through the surface.—LEAURIST.

Gardens ridiculous in design.—The photos of Drumlanrig in *Country Life* for August 23rd might well be a lesson for all who care for the garden as to what to avoid both in design and planting. They show a hideous waste of ugly pattern beds, with nothing in them but scraps of miserable plants, costly and wearisome *Stone Worts* out of place, and all the ugly aspects of the bastard Italian gardens as understood in North Britain. Not a thing is visible in these photographs showing any beauty of form of tree or plant, any grace of true design, or of the simplest skill in adapting the designs to the ground. If one thinks of the cost of all this hideous rubbish, and its effect on the minds of the many who, seeing it, mistake it for what is best in gardening, one cannot but deplore the stupidity that mistakes it for art or endures it as a foreground to a fair landscape.

Banks transformed.—In country gardens more particularly is the need soon for taking in hand banks, often near to the house and on either side carriage drives, etc. If neglected they quickly get into a bad state. If covered with turf it either becomes dried up or patchy, or, as is often the case, is neglected from want of cutting, because one cannot conveniently run the machine over it. Under all the circumstances, banks should come under cultivation to make the most of them, as by planting what is suitable they may be made very effective. No time is better than the autumn in which to commence, and one should see to it that the soil is as deep as possible, and not, as is often the case, have banks made up of all kinds of rubbish. *Wallflowers*, *Canterbury Bells*, *Antirrhinums*, *Foxgloves*, *Primroses*, *Ivies* in variety, are some of the subjects which occur to one as suitable for planting now, whilst in the spring, *Poppies*, *Nemophila*, *Mignonette*, etc., may be sown. On shady banks *Ferns* may be made much of, and *Ivies* should be planted for an edging.—LEAURIST.

ARRANGING DAHLIAS IN VASES.

EACH section of *Dahlias* seems to have its allotted place in indoor decorations, and for this reason it is well to consider where the different types of the flower may be seen to advantage. Most gardens possess a few plants of some form or other of this useful flower, and as they blossom so freely one is rarely at a loss to refill the vases and other receptacles, when their somewhat fleeting beauty is over.

The large double flowers of the show and fancy types are very handsome when at their best, and a bold effect may be made with a dozen flowers in a large vase. But for such work they should be cut with long stems and a few pieces of foliage attached, with a bud or two to stand out from this to relieve the heavy character of the arrangement. Of course, plants grown for exhibition would be severely disbudged, everything going to size; and because of this fact it might be a difficult matter to secure additional buds. However, in most gardens sprays of the kind I have just described may always be had. The stems may be kept in position by inserting between them nice fresh pieces of green Moss. On no account bunch the flowers together, but instead arrange them gracefully, so that each bud, flower, and piece of foliage can be seen. It is surprising what a splendid vase may be arranged in this way, a dozen sprays giving a rich effect. The fact that the blooms are cut with their own foliage adhering to the long stem is ample embellishment in the way of foliage. Small vases and specimen glasses, each to contain one specimen bloom, are seen to advantage on the mantelpiece or dotted about on the dinner-table, and in the numberless ways in which small utensils are now used. The *Cactus* and decorative types of the flower are each year becoming more popular, and deservedly so. The *Cactus* type of the flower is very pretty and effective.

A table decoration composed exclusively of the *Cactus Dahlias* makes a superb arrangement. There are so many warm tints of colour, which, seen under artificial light, produce rich effects. For a centre-piece, or any of the larger vases on the table, long stems with foliage and buds become a necessity; but these are easily fixed in position with a little Moss. A much better effect is obtained if each type of the flower be arranged by itself, the beauty peculiar to each kind being by these means better appreciated. For this reason the *Pompon* and the single-flowered sorts are the best. The former are always very pretty by themselves, and being neat and so freely produced the supply from a few plants seems almost inexhaustible. The singles, unfortunately, fall soon, but for an evening's display they last well indeed, and make a pleasing change.

When arranging the colours the softs may be associated together, and an opportunity afforded to make a change with some of the fancy-coloured sorts on another occasion. The yellow, orange, fawn, and crimson flowers are magnificent under artificial light, while the white, pink, and light shades of colour are seen to advantage during the day. Flowers of lilac, rose, and magenta look well under artificial light, and either one of these colours by itself, with white for a contrast, is effective. T.

Sweet Peas arranged in a bowl.

At the August meeting of the National Amateur Gardeners' Association, a class for a bowl of Sweet Peas was this season provided, for which two prizes were offered. Seven exhibits were forthcoming, and of this number five were really pleasing. The first prize exhibit was charmingly arranged. Each spray of blossom was deftly adjusted in position, and there was no crowding. Interspersed in a most delightful manner were pretty pieces of Sweet Pea haulm with buds and foliage standing out in bold relief. The colours were beautifully blended, and the display being made under artificial light, the brighter and richer shades of colour were very effective. It was a splendid illustration of the decorative value of the Sweet Pea when arranged with a proper regard for colour. There were others in which there were flowers of better quality but indifferently arranged.—W. V. T.

ROSES.

CLIMBING ROSES.

If we look at southern Continental gardens which enjoy a warmer climate and more constant sun, we shall find such climbing masses of beautiful Roses which will cause us to regret the absence from our English gardens of these luxuriant masses, that neither require nor obtain any special care from one year's end to the other. If the Roses that produce such glorious effects in foreign gardens are not hardy enough for us, why not try to raise new varieties that will stand our cold and changeable climate? We have *R. sempervirens* (here figured), and the several garden varieties, such as *Felicité-Perpetue*, that will climb a pillar or rail over an old outhouse or shed. The *Arvshire* Roses (*R. arvensis*) and the varieties of *R. alpina*, though very beautiful, only bloom during the summer. We have also the Spanish *R. rugosa* and its many forms, the

sent the photograph from which our illustration was prepared, has kindly sent the following note—

"The Rose (*sempervirens*) was planted against an old Pear-tree at the end of a large corrugated iron shed, and was first allowed to climb for some little time in a rough way up the Pear-tree, but afterwards I covered the top and both sides of the shed with coarse wire netting, and tied out as many of the Rose shoots as possible, thereby getting the pretty effect which is shown in the picture. Everyone who has seen it has greatly admired it, and I am sure if readers would beautify all garden outhouses in the same way, they would be well rewarded for the little time necessary and small outlay."

NOTES AND REPLIES.

Roses shedding their foliage (F.M.).

—We think that your trees suffered from the

smooth-wooded *Victor Verdier* tribe. We should advise you to plant more of the Tea and Hybrid Tea Roses, which are never infected like those you describe. The above recipe for destroying the resting spores of the fungus was gathered from an article by a very able scientist, Mr. W. G. Smith, F.L.S., which appeared in the "*Rosarian's Year Book*" for 1887. We do not think your plants were weakened by the luxuriance of the first crop, unless you gave them overdoses of liquid-manure, the evil effect of which would show itself only after flowering.

Pompon Rose "De Meaux."—The miniature *Provence* or *Pompon* Roses are a very interesting group of *Rosa centifolia*. Flowering as they do with the Scotch Roses, their diminutive little flowers were never more welcome than this year, when all other Roses appear two to three weeks later than usual. *De Meaux* produces its charming little blossoms very plentifully, the shoots bearing the flowers rising one above the other, which



Rosa sempervirens clambering over corrugated iron shed. From a photograph by Mr. G. H. Towndrow, Malvern Link.

double *R. Fortunei* and the beautiful *R. banksiana*, the parent of the so-called large white *banksiana* Rose *Fortunei*. Then, again, we have the monthly or China Roses, which are vigorous in growth, hardy, and most constant bloomers, often continuing to flower until winter. Of all the China Roses *Madame Laurette Messimy* is, perhaps, the most distinct variety that has yet been raised. Among other good kinds we may mention *Cramoisie-Superieur*, *Eugene Desal*, *Hermosa*, and *Fellenberg*. Let us use what we have and plant in the wilder parts such hardy kinds as we have mentioned. When a warm wall needs covering the *Banksian* Rose or the various hybrids of the Tea and *Voisette* may be used, though they are liable to suffer in cold situations and seasons. For sweetness what can rival the lemon and white clusters of *Lamarque*? *Aimée Vibert* should be in every garden. What, again, among the roses with the Tea blood in them, can equal *Leve d'Or*, *L'Idéale*, *W. A. Richardson*, *Mme. Alfred Carrière*, *Gloire de Dijon*, *Mme. Berard*, or *Celine Forestier*?

Mr. Geo. H. Towndrow, Malvern Link, who

artificial watering rather than from red-rust. Of course, it is quite possible for Roses to have an attack of red-rust thus early, and this would be owing to a bad attack the previous autumn. The resting spores of this fungus will lie on the ground and reappear in spring in a pale sulphury state, changing about mid-summer to the orange colour so well known. If you succeeded in banishing the fungus from your garden, your plants would still be liable to infection from the hedgerows. A good preventive is to rake off in autumn all decayed foliage and a thin layer of the surface soil. Let this be burnt. Then give the ground a good dressing of quicklime. You can return the burnt earth to the beds. At pruning time all shoots should be collected and burnt, and the growths of the plants dressed with the following mixture: Quicklime and soot, mixed to the consistency of paint, in a pailful of which add half a pound of sublimated sulphur and a handful of coarse salt. Stir well together before applying, the object being to destroy the resting spores. Many Roses are badly addicted to this fungus, especially the

gives the plant the appearance of a floral cone. The colour of this variety is light rose with a silvery-white shading, the flowers possessing a most beautiful compact form. It is much grown on the Continent in pots, and would certainly be worthy of more extended indoor culture in this country. Plants raised from cuttings or layers retain the diminutive form much better than do those propagated by budding, and I should say plants of *De Meaux* would be very welcome for table decoration. The variety *Spong*, being larger, is not so interesting, but the white *De Meaux* is a delightful little Rose that everyone who possesses a garden should cultivate. There is a Moss Rose named *De Meaux*. Although small and charmingly mossed it is quite distinct from the Rose under notice. The miniature *Provence* Roses are not so much in demand now for edging as they were formerly, doubtless owing to being superseded by the dwarf *Polyanthas*, and also the Monthly Roses. These two groups, by reason of their free and continuous flowering habit, are, of course, more suitable.

INDOOR PLANTS.

FINELY-GROWN FUCHSIAS.

PROBABLY at no show in this country are Fuchsias seen better than at Trowbridge in August. At the late exhibition these were staged in goodly numbers. The season has apparently suited the plants well, judging from their vigour, freshness, and abundance of bloom. The majority of the plants ranged from 7 feet to 9 feet high, and in most instances perfectly trained and flowered from tip to base, their growth half-concealing the pots in which they grow. These are of large size, probably 14 inches to 16 inches in diameter, which, together with the weight of their heads, makes them the most cumbersome among exhibition plants. They must have careful handling, and be carried on open spring trollies to the shows, otherwise the flowers fall prematurely, causing irreparable damage and loss in their appearance. Mr. George Tucker, of Hilperton, has been a grower and the most successful exhibitor at the Trowbridge and Bath shows for many years. Some are, despite their striking proportions, less than eighteen months old. Aged plants are not retained, because greater vigour, better foliage, and larger blooms are obtained from young plants. Cuttings are rooted in the autumn, and kept growing all the winter in a warm temperature, and by the time when all fear of frost is past they are stood on the garden paths in the open. Needless to say, generous, though very careful, feeding must be practised, both to maintain and to promote a desirable vigour, and dryness of the soil must be at all times avoided. I noticed among the better plants, the varieties adapted to the purpose of exhibition included Masterpiece, Brilliant, Western Beauty, Arabella Improved, Charming, Lye's Favourite, H. Roberts, Mrs. Bright, Doel's Favourite, Amy Lye, and Mrs. Rundle. Apart from exhibition purposes, such plants would be desirable and very pleasing ornaments grown in pots, and plunged during the summer on the lawn or on broad Grass or gravel terraces. It would be necessary for the pots to be plunged, and the plants stood in sheltered spots where high winds could not easily reach them. Fuchsias are impatient of wind, and their height necessarily makes them easy victims to its force. W. S.

Keeping Geraniums through winter (H. A. J.)

You have given no information as to the conveniences you possess for wintering your Geraniums, nor as to the condition they are now in. The best position in which Geraniums may be kept during the winter is on a shelf, or a good light position in the greenhouse, where the minimum winter temperature does not at any time fall below 40 degs. If your question refers to Geraniums now planted out, the better way is to lift them as soon as they can be spared, cut back the very vigorous shoots, and remove the particularly strong leaves. In doing this, do not strip off the leaves, but cut them, leaving an inch or so of leaf-stalk attached to the stem. This will soon drop off and leave no scar, whereas if the leaves are stripped the stem is often injured and decay is liable to set in there. During the winter the soil should be kept slightly moist, but nothing more, as an excess of moisture will often prove fatal. If your conveniences are limited to a room in a dwelling house or a moderately dry frost-proof cellar, a different mode of treatment will be needed to keep old bedding Geraniums throughout the winter. They should be lifted and trimmed over as above detailed, then lay them rather thickly into boxes about 5 inches or 6 inches deep. The soil used should be nearly dry, and the plants will scarcely need any water till the spring. True, the leaves will all drop, but when the growing season comes round new ones will be pushed out, at which time, if possible, the Geraniums should be potted singly and any straggling shoots shortened.

While very anxious to answer all questions sent, we are often greatly handicapped by the absence of any details on which to base our answer.

CHRYSANTHEMUMS.

HOUSING THE PLANTS.

THE work which should engage our attention now is the necessary preparation for housing the plants. Before the hulk is ready there is sure to be here and there a plant the flowers of which are showing colour. Without a room or a delay place such under cover, for with damaged outside florets the beauty of a bloom may be marred. The mildew pest can be effectually dealt with at this time, and if each plant with any sign of it on the leaves be put on its side, sulphur may be puffed on to the under surface in a thorough manner. In the south, placing the whole collection under cover is generally started the last week of September, it seldom being safe to leave anything outside longer than a fortnight after. I have, however, found backward flower-buds swell better in the open air, and I never put a plant under glass to hasten it, but only for safety from frosts. Before the buds show colour they miss the night dews. Unfortunately, many of us are not over-long in the matter of glass structures, so that there is little choice as to positions. A



Philadelphus coronarius. (See page 377.)

well-ventilated span-roofed house is the one I should select for Chrysanthemums to bloom in, and I would so place the incurved sorts that they get less sun than the Japanese varieties. I would divide the latter in this way. There are many, including all the large, heavy, thick-petalled kinds, that appear to revel in the sun's rays, and need shade only in the morning till the accumulated moisture of the night before has been dried by air. Then there are the thin, many-petalled, delicate kinds, as well as very deep coloured varieties, which strong sunshine spoils. Such should be stood in the shadiest part of the house, or otherwise the sun kept from them. Stand the pots as far apart as room will allow. A capital plan with most of the incurved sorts is to take away their sticks and fasten them up the front and sides of ordinary greenhouses, vinerias at rest, and the like. In this position the foliage is close to the glass and the flowers become partially shaded, while the blooms, hanging their heads as it were, seem to take on the desired shape more evenly than when tied upright. When all are under cover fumigate each house on two or three occasions, whether aphides are seen or not. These are pretty certain to appear when fire heat is employed. There is no danger in fumigating, even when the blooms are opening, provided air be passed among the plants in early morning after the operation.

WATERING AND AIR-GIVING are important when Chrysanthemums are under glass. Allow the roots to get on the dry side for a few days, as the

inside conditions are so different from those in the open. During this time throw water among the plants if the weather be at all dry. When well used to being under glass more water at the roots will be required. The collection should be gone through twice a day. Feeding with stimulating manures is still needed, and may be continued till the blooms are well open. Be very careful, however, about feeding varieties of very high colour like Wm. Seward, or delicate growers like Mrs. Alpheus Harly. There is little doubt that over-feeding predisposes to damping in the blooms, so trouble some to many growers. Open doors and ventilators night and day, and gradually lessen the supply of air as the flowers open, so that cold draughts may not play upon them. A free current of air should pass through the house at all times except when fogs prevail. Growers of Chrysanthemums near London know what they mean and how difficult it is to prevent damage being done to opening blooms. At these times keep the ventilators almost closed and the pipes nicely warm.

Chrysanthemum "feast" at Tamworth.

—One of the chief events of the year in connection with the popularising of the early-flowering Chrysanthemums is what is termed by the originator of the idea a "feast" and this is to take place at Bellehall House, the residence of Mr. William Sydeham, on Saturday, September 27th next. This enthusiastic horticulturist has been at considerable pains and expense in planting a thoroughly representative collection of both Pompon and Japanese types of the early sorts. It is interesting to learn that quite a number of the older kinds are doing well, and, what is of importance, they are holding their own in competition for popular favour with a large proportion of the newer kinds. That the early-flowering Chrysanthemums are likely to become extremely popular as plants for the hardy flower garden those who have given the question close attention for years unhesitatingly proclaim, and interesting events such as the one under notice are most likely to give the plants the notoriety they deserve than any other less prominent means. The "feast" will give those attending it the opportunity of making comparisons, and, as the date may be regarded as a very suitable period in the flowering season, good results must, as a consequence, follow. Mr. Sydeham has quite a number of the older Pompoms, which many of us have long since discarded, and, strictly to say, there are among them many plants with ideal characteristics for outdoor display. This event will be looked upon as an excellent trial of both old and new sorts, as the collection has been brought up-to-date by the acquisition of all new kinds which the different trade specialists and others have brought into commerce. On the Saturday in question, all who are interested in making known the excellent qualities of the early-flowering Chrysanthemums for all purposes will be welcomed to see the display. Added interest will be given to the meeting, as some four silver cups and other prizes will be competed for. Special classes have been framed for competition, and these are of such a character that both large and small growers will have an opportunity of competing on grounds of equality. The success of the display of early-flowering Chrysanthemums which took place in the Town Hall, Tamworth, last year, gives grounds for the promoters of the "feast" to hope for an equally pleasurable and profitable meeting of enthusiasts.—W. V. T.

Anemone Pompon Chrysanthemums.—There is no doubt that the age has abnormally large blossoms has done much to eliminate small sorts of Chrysanthemums from places where they were once grown, hence the reason why we find the Anemone Pompoms so seldom met with; but if they do not compare with Japanese and incurved in size, they are very beautiful, and so many of them being of dwarf habit are particularly adapted for growing in small houses. A few worth noting are Ernest Carr, crushed strawberry; Grace Darling, lilac-blush; Mue. Sentir, white; Eugene Lanjaulet, yellow; Eric, orange-buff; Meteor, crimson and gold; Perle, deep rose; and Calliope, ruby-red.—W. F. D.

TREES AND SHRUBS.

THE MOCK ORANGES (PHILADELPHUS).

All the Mock Oranges, with the exception of *P. mexicanus*, which is tender, are quite hardy, and from their great beauty deserve far more attention. They are generally seen in some choked-up shrubby border, and often in some shady spot where they bloom but sparingly. Ample space should be allowed for the free access of air and sunshine, as upon this will to a very great extent depend the future display of bloom. The larger kinds are seen to great advantage when isolated on the Grass or disposed thereon in a group of three or four, plenty of room being allowed each for its full development. Complaints are often heard of some of the Mock Oranges failing to flower in their usual profuse fashion. This is, doubtless, often owing to their growing too freely, as where the soil is rich and moist they will not bloom so well as if it is drier and less rich. In pruning the Philadelphia, if carried out at all, the main thing should be to remove exhausted and useless wood.

P. coronarius is the common European Mock Orange, which is so well known that any further description is unnecessary. There are, however, one or two well-marked varieties, as well as several with double blossoms.

P. Gordonianus, belonging to the large-growing kinds, is a native of North America. The blooms are smaller than those of the last named, but produced in the greatest profusion.

species a good deal in the same way are *P. inodorus* and *P. verrucosus*, both North American, while *P. mexicanus* is too tender to be generally planted.

P. grandiflorus (syn. *P. speciosus*).—This is certainly one of the finest flowering shrubs

P. hirsutus.—In this the flowers are, with the exception of those of *P. microphyllus*, about the smallest of the genus. They are also generally solitary, but are borne in great profusion, so that a specimen is wonderfully pretty when in bloom. This, as a rule, grows about 4 feet or 5 feet high. *P. Lewisii* is a good deal in the way of this last.

P. Lemoinei, said to be the result of a cross between *P. microphyllus* and the European *P. coronarius*, forms a shrub in general appearance about midway between its parents, and flowers very freely. The blossoms possess the pleasing fragrance of its North American parent, without any of the heavy smell common to the Mock Orange. Since *P. Lemoinei* was sent out, a second form has made its appearance from the same source under the name of

P. Lemoinei erectus. Though of more erect habit, this is in other respects much like the preceding.

P. microphyllus forms a dense bush, at the most not more than a yard, and frequently less, in height, clothed with small Myrtle-like leaves, disposed in a regular manner on the slender twigs, which in their turn are arranged regularly. The fragrance of the flowers is very pleasant, being more like a combination of ripe Apples and Quince. This kind is a native of New Mexico and some of the adjacent States, and was introduced in 1853, but it is now far from common.

P. SATZUMI.—A slender yet freely branching bush about 6 feet high. The flowers, though



Philadelphus microphyllus.

to be met with in gardens. The individual blooms are a couple of inches in diameter, pure white, and with comparatively little scent. This forms a rounded mass from 6 feet to 12 feet



Philadelphus grandiflorus. From a photograph by G. A. Champlin.

They are also later in opening than these of most of the others, and on that account this species is especially valuable. It was introduced from north-west America in 1823. Other

in height, according to the soil and situation in which it is growing. There is a variety of this (*P. g. laxus*) less in stature and of a more open style of growth than the type.

rather small, are borne in little clusters for some distance along the shoots. Forms of this are often met with under different names, and it is also very probable that the North Ameri-

can species could be reduced in number if grown under similar conditions and compared together.

FRUIT.

LIFTING PEACH-TREES.

EARLY lifting of trees is not favoured by some, but it is useless to wait for the leaves to fall if the best results are expected next season. No matter how carefully one plants Peach or Nectarine trees, with good culture gross wood results, and this grossness is better counteracted by lifting than any other plan—that is, if due attention is paid to extension. In good loam the trees invariably run to wood, and as one is anxious to fill a large space as early as possible, a check during the growth of the trees is not given by stopping. In such cases lifting may be described as the remedy. By proceeding cautiously there need be no fear as to loss of crop, and the health of the tree will be assured for the next four or five years. If care is taken to preserve the fibrous roots no harm will follow. Cherries thrive much better the following season if lifted or planted early in October in ordinary seasons. This early lifting or transplanting is more difficult when the trees have to be conveyed some distance, but even then it is advisable to plant early, provided the trees are well furnished with fibrous roots. In lifting, care should be taken to keep at a good distance from the trees, and in the case of Peach trees in early houses lifting should be done early in September. It is a very good plan to dump the lifted trees overhead in the evening, as this keeps the buds plump and enables forcing to be done more readily the next season. With large trees it is not necessary to remove every particle of soil. Allow that adhering to the fibrous roots to remain, provided the weight does not break the latter. The preservation of fibrous roots is an easy matter if room is allowed at the start to get round them. All large roots may be cut clean off at a fair distance from the tree, and if the roots are inclined to descend, planting higher is beneficial. Manures of any kind should be omitted, good turfy loam well rammed or trodden being essential, and in clayey soil some mortar, brick rubble, or road scrapings is a valuable addition.

By this early lifting, severe cutting back, often the cause of canker later on, is avoided, and the trees can be forced the next season if not subjected to excessive night temperatures at the start. In the case of trees on open walls and that are required to fill up gaps early lifting is advisable, as by so doing the root action continues as long as the leaves remain, if these are assisted by frequent dampings to preserve vitality and encourage new root growth. After lifting no tying should be done till the trees have well settled down.

NOTES AND REPLIES.

Treatment of Raspberries (E. L. S.).—You may cut away the old fruiting canes on your Raspberry-stools at once. In future, cut them away as soon as they have done fruiting, as then more room is given for the young canes to grow and ripen. If your stools are a few feet apart in rows, the usual course is to allow about five stout canes or six weaker ones to remain for the following year's fruiting, cutting out all the rest. Do that now, also as many small canes or suckers, only do not injure those it is desired to save. When that is done, it is well, unless you can give the surface some manure, to allow the breadths to remain until the leaves have fallen, then to tie up the canes to stakes, rather loosely than tight, and to give the soil a dressing of manure or decayed garden-refuse, and only very lightly fork it in.

Pears as pyramids.—Will you please give me the names of the best twenty Pears to be grown as pyramids?—*BORIS, Worcester.*

[All of the following twenty varieties of Pears named, and placed in their order of ripening, succeed as pyramids. They bear freely, and should answer well in the district in which "Bobus" lives:—From July to end of September: 1, Colmar d'Été, 2, Clapp's Favourite, 3, Williams' Bon Chrétien, 4, Souvenir du Congrès, 5, Beurré d'Amansis. October to end of December: 6, Beurré Superfin,

7, Beurré Hardy, 8, Beurré Fouquieray, 9, Louise Bonne of Jersey, 10, Marie Louise, 11, Doyenné du Comice, 12, Seckle, 13, Hacon's Incomparable, 14, Conseiller de la Cour, 15, Thomson's, 16, Huxley's Prince of Wales. January to March: 17, Knight's Monarch, 18, Winter Nellis, 19, Bergamot Espereu, 20, President Barabe. As "Bobus" does not state the purpose for which he requires the Pears, we have given him a list of the best flavoured, irrespective of size. If he intends marketing the produce, he should substitute Pitmaston Duchess for No. 12, Durondeau for No. 15, Marie Louise d'Uccle for No. 16, and Josephine de Malines for No. 17. If a stewing Pear is required, Verulam or Black Pear of Worcester may be substituted for No. 20.]

Root-lifting and tree-moving.—As root action is brisker after the crops are cleared from the trees and the wood hardened, any root-lifting and tree-moving that may be thought desirable should be done, this giving the trees a chance to recover from the check before the leaves drop. Those trees that are rooting most strongly near the surface prove the most profitable, these also presenting the healthiest appearance throughout the season. Deep root action is very frequently denoted by the sickly yellow colour of the points of the branches. Now is a good time to open a wide, deep trench at a distance of 3 feet or rather less from the stem of the trees, following this up by well undermining so as to reach all the deep running roots. In many instances it is necessary to considerably raise the ball of soil and roots saved, the collar of the stem being brought fully up to or even well above the level of the border. In any case, the roots saved, after having their broken ends pruned, should be brought up much nearer the surface than heretofore, and if the old soil is at all exhausted, substitute a good loamy compost. Trees may also be safely transplanted from early houses to successional compartments, or *vice versa*. No attempt should be made to save a very large ball of soil with the roots, especially if hot-water pipes are in awkward positions or doorways have to be passed through. Take good care of the best of the roots, and make some allowance for sinking when the trees are replanted. Keep the roots within easy distance of the surface, and well distribute them through the soil. Keep the old ball of soil constantly moist, but avoid saturating the new soil. Syringe all newly-moved trees frequently; they must be kept constantly wet, in fact, if disposed to flag badly, and they should also be shaded from bright sunshine and kept rather close. Partially lifted trees that give signs of flagging should be similarly treated.

BOOKS.

THE "BOOK OF THE STRAWBERRY."

OUR readers will, we think, agree with us that Dr. Harry Roberts was well advised in delegating the writing of the ninth vol. of the series of handbooks he is issuing, entitled the "Book of the Strawberry," to Mr. Edwin Beckett, head gardener to Lord Aldenham, Aldenham House, Elstree, for we consider it one of, if not the most valuable of the series yet issued. Mr. Beckett is, as so many of our readers are already aware, a well-known and highly successful gardener; he is also a liberal contributor to the gardening press. The treatise contains eighty pages, fifty of which are devoted exclusively to the Strawberry, the remainder being given up to the consideration of the culture of Raspberries, Blackberries, and the less known Japanese Wineberry and Loganberry. The chief portion of the work, therefore, is, as it should be, given up to Strawberries, and the various details in connection with their successful culture are all treated upon in a concise yet thoroughly lucid manner, and under different headings. The advice tendered in every case is sound, practical, and to the point, whether it be respecting the selection of sites, preparation of soil, propagation, manuring, or the forcing of the Strawberry, so that all who read may readily understand what the writer intends to convey.

* "The Book of the Strawberry," by Edwin Beckett. Edited by Dr. Harry Roberts. John Lane, The Bodley Head, London and New York.

The grower for market is not forgotten, as the production of Strawberries on a large scale is treated upon, as are also the best known methods of packing and despatching the fruit when gathered. So pleased are we with the treatise that, irrespective of the portion devoted to Raspberry and Blackberry culture, which is exceedingly good, we have not the slightest hesitation in recommending it most highly to the notice of all amateurs who wish to excel in the cultivation of the Strawberry, while all practical gardeners should add it to their bookshelves for future reference. The volume is uniform in size and binding with its predecessors, and is printed and published by John Lane, The Bodley Head, London and New York.

GARDEN WORK.

Conservatory.—Among the easily-grown but useful plants in many conservatories now, we may mention *Humea elegans* and the *Chimney Campanula*. The *Humea* is useful outside, and so also is the *Campanula*; both are biennials, and may be raised from seed in spring. If the sowing is delayed beyond May, the plants hardly get size enough to flower freely the following year. Tree-Carnations will be better under cover now or in some position where they can be sheltered from heavy rains. They should be neatly supported with small stakes, and the plants which have filled the pots with roots may have weak root-water occasionally. We find this very good for Carnations in keeping the plants healthy and vigorous. An easy way of working up a stock is to plunge out the old plants after flowering in May or early in June, and layer the young shoots. Of course, a stock can be worked up from cuttings, but I think layers are best. Soot-water is a good stimulant for many things, but especially *Camellias*, from this onwards. These plants will be under cover now, but the houses should not be altogether closed either night or day. If the flower-buds are very numerous they should be thinned now, leaving the best-placed buds only. It is reported the *Azaleas* in Belgium are not likely to be so large this season in consequence of the unfavourable weather, and where such things as *Solanums*, *Arum Lilies*, and *Bouvardias* are planted out, the plants are very backward. We usually plant out a part of our stock of *Solanums*, and grow the others in pots. Usually this plan answers well, as the two sets of plants form a good succession. Those in pots are now full of berries, but those planted have not made so much progress. The same condition may be noticed in other things planted out, everything being so backward, and not much chance now of fetching up the leeway. Those who are growing early-flowering *Chrysanthemums* in pots will find them very useful for grouping in the conservatory. As soon as a plant shows colour they should be housed in a cool structure, freely ventilated night and day. Less night ventilation may be given to the conservatory now, but the house must not be altogether closed.

Stove.—The fires must now be regular and steady, and this will necessitate careful watering. In hot weather in summer it is not easy to give plants which have filled their pots with roots too much water, but with longer night and less sunshine during the day it is quite possible to overwater even established plants, and newly-potted stuff must be carefully managed. The intervals between the applications will be longer, but whenever a plant requires water, enough should be given to thoroughly moisten all the soil. This is as necessary now as in hot summer weather. There are certain plants which have pretty well finished their work, such as the summer-flowering *climbers*, *Allamandas*, etc., and, among foliage plants, *Caladiums* should have water less frequently, so that they may gradually go to rest. In a mixed collection some things are going to rest and others are just commencing their work. Among the latter are *Poinsettias*, *Euphorbias*, and the fibrous-rooted *Begonias*, and these, of course, must have warmth and moisture to bring their flowers out to perfection. *Gardenias*, also, will stand all the warmth likely to be present in winter to bring the flowers out quickly. There should be no shade now, and

if Summer Cloud or other shading matter of a more or less permanent nature has been put on the glass, it should now be cleared off, so that the glass may be bright and clean. Night temperature now for mixed collections, 60 degs. to 65 degs.; for Ixoras and other heat-loving plants 5 degs. more may be allowed. But with high temperatures a close watch must be kept for insects, especially thrips and aphids, and the vaporiser used.

Winter Cucumbers.—This is a good time to plant a house for nutmn and winter bearing. There must be bottom-heat for winter, as root-warmth is quite as important as top-heat. After the new year Cucumbers may be started on a bed of warm manure that will carry them on for a couple of months or so; but this will not do in the short days. With a comfortable bottom-heat we do not care so much for a higher atmospheric warmth at night than 65 degs. Of course, 70 degs. will push things faster, but we generally find a high temperature tends to exhaustion. At first setting out Cucumbers do not require large mounds of soil; but what they do require are frequent top-dressings as soon as vigorous growth sets in. Winter Cucumbers are often planted in soil of too light a character. It is better to plant in rich old turf which has got some body in it, mixed with a little soot. Of course, wireworms must be exterminated, and if there is the least suspicion, a few Carrots may be buried just under the surface to attract the insects; and wireworms are specially fond of dwarf Kidney or French Beans. These form good baits for them, and should be placed in little heaps and examined occasionally. Where the demand for Cucumbers is a limited one, work on the principle of air giving when the thermometer rises to 80 degs. or 85 degs., but close early; but where many Cucumbers are wanted in a given time, and another house can be planted in succession, then give no air beyond what comes in through the laps, and use more moisture in the atmosphere. One of the best Cucumbers for winter is a good selection of Telegraph. The old original Telegraph, as sent out by the Messrs. Rollisson, was not quite like many of the Cucumbers under that name now. Lockie's Perfection is a very free bearer, and has a good constitution. Emerald Beauty, another of the Telegraph crosses, is one of the freest-bearing Cucumbers I know.

Tomatoes for winter.—If a few sturdy plants of Comet or any other good early kind are placed in 9-inch pots now and brought on quickly, there may be a few fruits in winter, but no one can make Tomatoes in winter pay. I have generally got Tomatoes through the winter by taking a second crop from the plants which have been bearing through the summer. There is no difficulty about this if the plants are healthy. Plenty of young shoots are breaking away now up the stems. As the fruits are gathered upwards the young shoots are stopped at the first truss and tied in.

Window gardening.—It is getting late enough to take cuttings, though they will strike if care is used. Keep the cuttings outside for the present, but always be prepared to cover with something on the approach of frost. If anything among Palms or other foliage plants requires potting, see to it at once. Give only a small shift, and see that the drainage is right. Pelargoniums that were cut down in July will be ready for shaking out and repotting. The loam must be of good quality.

Outdoor garden.—The sooner early-flowering bulbs are planted now the better. The majority, of course, will not be planted till after the beds are cleared in October, but that does not prove that September planting for Narcissus, Crocus, and Snowdrops is not the best. Early-flowering Tulips may also be planted as soon as convenient, but Lord Mayor's Day, 9th of November, was the usual date of planting of the old-fashioned florist. September is a good month for sowing Grass-seeds on new lawns. Seeds sown now will germinate immediately. Thoroughly dig and manure the land if poor, then make it perfectly level and roll down firm when the surface is dry. After rolling, if there is any fault in the levelling it will be easily seen and must be put right, and then rolled again. Sow the seeds on perfectly level and firm surface. Do not strew the seeds, and obtain them from the best

source. After sowing scatter some fine rich compost over them and roll down again, and if the birds are numerous run strands of bleck cotton over the lawn about a foot or so from the ground. Vacant spaces in borders may be filled now with Wallflowers, Sweet Williams, Canterbury Bells, and other hardy plants. Seeds also of hardy annuals may yet be sown.

Fruit garden.—To colour Muscat Grapes well requires warmth and strong light, and, though none of the old leaves should be removed, all the sub-laterals should be shortened back. Fire-heat, too, will be necessary for late crops of both Muscats, Gros Colmans, and Lady Downes. Alicante will generally put on colour without artificial heat, but a little warmth in the pipes in a season like the present will be beneficial. Early Apples and Pears should not be permitted to fall from the trees. If not already done, the fruit-room should be thoroughly cleansed with soap and hot water. In most places this is done earlier in the season. The land works well now for Strawberry planting. Royal Sovereign is one of the best Strawberries, both for forcing and planting outside. It has a strong constitution, and may be grown where other kinds fail, and, though in low situations a few of the blossoms may be cut off in spring, the fruits which survive always come large. One of the best traits in the character of this kind is that it swells up its late fruit. Look over wall trees and remove all late growth, and train in all leading shoots. Remove the mulch from Apricots and Peaches, and let the sun warm the borders.

Vegetable garden.—Continue to make up Mushroom-beds under cover to follow each other in succession, as Mushrooms in autumn and winter are always useful. Thin the foliage of Tomatoes in cool-houses to hasten the ripening of the late fruit, especially when the houses are required for other purposes. The defoliation need not be carried too far, but merely thinned to let in the sunshine. Onions spring-sown are later than usual in ripening; but get them ripened and harvested as soon as possible. Give the land a dressing of soot, and hoe it up deeply ready for planting Cabbages by spring. Where the land was well done for the Onions the deep hoeing will generally be sufficient for Cabbages, as they will heat sooner when the land has not been much disturbed to any depth. Get the late-sown Turnips well thinned; let each plant have not less than from 12 to 15 inches of space, so that the leaves may be on or near the ground to afford protection when frost and snow come. These late-sown Turnips will come in for the spring supply. Continue to earth up Celery in dry weather. Plant a few dwarf Kidney Beans in a pit where heat can be given when required. Ne Plus Ultra is a good variety. Scarlet and other Runners are bearing freely now; gather all pods when fit for use, and preserve in jars for winter use.

E. HOBDAV.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

September 15th.—Most of the early Potatoes have been harvested, and those intended for seed selected and placed in cool shed, to be afterwards stored in shallow trays or boxes in a frost-proof store. Potted more bulbs for early forcing, including Narcissus, Hyacinthus, Tulips, and a few pots of Crocuses and Snowdrops. The latter will not force well, but they flower so early, when potted in good time, that forcing is unnecessary.

September 16th.—The large Palms and other plants that were plunged out at the end of June in sheltered spots about the grounds have now been placed in the houses none the worse for their outing. Many things, including Oranges and Oleanders, are generally improved by a summer in the open air when their wants are attended to; but the middle of September is late enough to keep them out. Frosts may be expected any time, and tender things we wish to save will either be potted up or covered with tiffany on cold nights.

September 17th.—Chrysanthemums are watched from day to day, and any plants with buds in a forward state are placed under cover in a well ventilated house. Stimulants are

given in a weak state frequently now. We have not seen any rust on our plants this season yet. A good batch of Primula obconica grandiflora is now coming into bloom in 5-inch pots. We find these make a charming group during winter. The plant has been given a bad name, but we have felt no inconvenience from it.

September 18th.—All snrplns growth has been removed from Tomatoes, both indoors and outside, to induce the fruit to ripen. Early Apples and Pears are gathered as soon as they part easily from the stalk. Jarponello Pears on standards are later than usual this season. The same may be said of Williams' Bou Chrétien. Both kinds are bearing freely on pyramids and standards. Apple beauty of Bath has never borne a good crop yet, though we have it several years planted.

September 19th.—The early seedling Cyclamens are now showing flowers, and both flowers and foliage are strong and sturdy, and the plants will now be taken to a light house, but no fire will be used yet. Cold-pits are getting too damp for these plants now. Primulas will be placed on shelves near the glass in a light house, but fires will not be used till absolutely necessary. Prepared a bed for cuttings of Roses. We find the cuttings strike best in sandy loam. Will be mulched later with leaf-mould.

September 20th.—Planted Cabbages for sprig, chiefly early kinds. Part of a south border has been planted more thickly than the main crop, which comes in later. Very early Cabbages when young and tender are sought after, and we find it advisable to give up part of a south wall border to them, and plant about a foot apart each way. When the hearts are cut the stems are pulled up and the land prepared for another crop. Gathered seed-pods of a choice strain of Petunias.

POULTRY.

Guinea-hen ailing (G. W.).—Your Guinea-hen appears to be suffering from liver disease, brought about, in all probability, by too high feeding. Avoid all stimulating and heating kinds of food, and give one grain of calomel every other day for a week or ten days, mixed with the soft food. Also lessen the quantity of food given at each meal, and for a time do not give the bird quite as much as it can eat. If for a few days only just enough food were allowed to keep it alive, benefit would arise, as this would allow the digestive organs time to recoup their strength. After the course of medicine has been gone through, add a little sulphate of iron to the drinking water to give strength and stamina. Boiled Oatmeal is very good in a case of this kind, while a crumbly paste, made by mixing boiled vegetables with Barley-meal, is good at any time. These birds require a wide range, where they can be constantly on the move, and pick up insects and other natural food on their travels; otherwise, they cannot remain long in good health.—S. S. G.

BIRDS.

Parrot pulling out its feathers (Constant Reader).—Your bird appears to be suffering from an irritable condition of the skin, which would cause it to peck itself and draw out its feathers. This irritability of the skin would arise from various causes, being sometimes associated with indigestion through improper feeding, the presence of insects in the cage, or through the bird having been kept in a dry, over-heated temperature. Parrots should not have animal food in any form; you must, therefore, discontinue the butter. In addition to the boiled Maize, you may supply Canary-seed, Hemp, and a few Oats, together with some ripe fruit, as Grapes, Bananas, Pears, Nuts (with the exception of Almonds and Walnuts), may be added to the bill of fare. For medicine give a little carbonate of soda, putting 5 grains in two tablespoonfuls of drinking water. Do not fail to supply your bird with a good allowance of coarse grit sand to aid the pizzard in the digestion of the food. A piece of soft, non-splintering wood should be provided for which your parrot could exercise its powerful beak, and the occupation afforded

thereby would tend to divert its attention from the feather plucking habit. If there is any indication of the presence of parasites in the cage, paint it freely with paraffin after well scalding.—S. S. G.

LAW AND CUSTOM.

Lending money on mortgage.—I lent on mortgage £150 on a garden. After awhile the mortgagee leaves it on my hands, and it does not realise by sale more than £125. As the mortgagor has another field near, can I compel him to sell that field to make up the £25, or only be an ordinary creditor?—Devon.

[Most mortgage deeds contain provision making the borrower personally liable in such cases. But you cannot seize the other field or make him sell it. Your course is to sue him for the balance, and you had best consult the solicitor who acted for you in the mortgages.]

A market gardener's position.—In March, 1887, I took a garden belonging to a private house on a seven years' lease, at an annual rental. When the lease expired by effluxion of time, I could not get another lease, as the owner was getting old, so had to take it on a yearly tenancy, on a verbal agreement, at the same rent as before. In 1891 the owner died, and the land had to be sold, and the new landlord let me remain at the same rent as I had been paying. Last March he sent me a notice, to expire next March, saying that he was going to sell the land before my term was up; he has done so, and the new landlord wants me out as soon as he can get me, so how do I stand for compensation? Can he compel me to go before March 19th, when the year of tenancy ends, without paying me? I have built and heated greenhouses on the land, potting sheds, stable, fowl-houses, and runs, and have got the ground planted with trees, shrubs, annual and perennial plants, fruit-trees, etc. I have got Vines planted in the houses, and Roses, as well as the usual pot plants, and a portion of the land is matured ready for shrubs again. If I remain to the end of my tenancy can I claim anything, as it will cost a good deal to move the houses, etc.? Beside, they will hardly pay to put up again.—Kex.

[It is probable that the Market Gardeners' Compensation Act applies. It will apply if, previous to January 1, 1896, you had planted and permanently set out any fruit-trees or fruit-bushes, or any Strawberry-beds, or any Asparagus or similar vegetable crop, or erected or enlarged any buildings for the purposes of your trade or business as a market gardener, and your landlord was, previous to January 1, 1896, aware that you had executed the improvement in question. If such was the case—that is, if you had executed one or more of these improvements and the landlord knew of it—the act applies to your holding, and you may claim compensation for any of the improvements executed since Dec. 31, 1895, but not for improvements executed previously. Your claim will be for the value of the improvement to an incoming tenant of the holding, and must be made upon the landlord not later than March 13, the last day of your tenancy. You may claim compensation for the greenhouses, potting-sheds, and fruit-trees and fruit-bushes, also for the stable, if the stable was really erected for the working of the business of a market gardener there. You cannot claim for the fowl-houses and runs, nor for any flowers, flowering shrubs, etc., although you may remove all such as were planted for sale and not for the sale of their produce. If, however, for the reasons indicated, the Market Gardeners' Act does not apply to the holding, you may, on giving a calendar month's previous notice in writing to the landlord, remove before your tenancy expires all the buildings and fixings erected by you, but none of the fruit-trees permanently set out, nor can any flowers, shrubs, etc., be removed. The reason why these erections can be removed is because, no matter whether the Market Gardeners' Act does or does not apply, the Agricultural Holdings Acts do apply. The question has so far been answered on the assumption that you will remain in occupation until March 19 next. Your landlord (who, I expect, is the purchaser) cannot compel you to leave before March 19, and if he wants you to go sooner he must buy you out, and you can insist upon any terms you choose, and refuse to go if your terms are not accepted. But you must take care that you have a definite contract in writing, stamped with a sixpenny stamp, and your best plan will be to have the whole matter settled before you give up possession, and to make it a part of the agreement that you shall give up possession when payment of your compensation is finally made.—K. C. T.]

CORRESPONDENCE.

Questions.—Queries and answers are inserted in GARDENING free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of GARDENING, 17, Furnival Street, Holborn, London, E.C. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages and sizes of the same kind greatly assist our determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Gamma-moth (C. W. D.).—The eggs on your Orinus are certainly those of a moth, and were laid by the common or Gamma-moth, or some nearly allied species. They are very beautiful objects under a microscope.—G. S. S.

Oil heating apparatus (Subscriber).—There are several different forms of oil heating apparatus advertised in the columns of GARDENING ILLUSTRATED, all of which are doubtless good. We cannot compare the merits of one kind with those of others.

Pentstemon (P. M.).—The seedling Pentstemon should have been transplanted. They are growing too freely. Cuttings of these beautiful autumn flowering plants are better than seedlings—at least, they blossom more freely. If you procure some of the best named sorts you can propagate your own by inserting a few cuttings each autumn under a cloche.

Roses against a wall (F. J.).—Your wall is not high enough for such a strong-growing Rose as *Blonde de Dijon*. A height of 20 feet suits it better. Instead of cutting back the strong shoots now, cannot you bring them down in a more horizontal direction? They will then flower more freely every year along the branch. If you cannot do this you must cut off the tops down to the height of the wall.

Hollyhocks—should lower leaves be removed? (Charlie Cubley).—We should advise you not to interfere with the natural growth of your Hollyhocks. Their habit is at all times both stately and beautiful, and to denude the plants of their lower leaves is to spoil their good effect in the garden. It is quite natural for the plants to flower at the bottom first, but if you will be careful to observe you will see that the blossoms develop in proper sequence right from the bottom of the plant to its apex.

Rose Beryl (Tea scented) (F. R.).—In the bud state there is no golden-yellow Rose more beautiful than the above. The buds are very long, produced freely on extremely slender shoots. The flowers are almost single when open, and are rather uninteresting, but the buds amply make amends for this. One cannot look upon this Rose without wishing it were a little larger and more full. There is a very refreshing fragrance also belonging to the variety. We can commend the Rose to all who appreciate beautiful buds, and, as the latter are so liberally produced, it would make a very useful garden Rose until we get something better.

Rose-rust fungus (Mrs. Broomhead).—Your Roses are attacked by a common fungus known as the "Rose-rust" (*Pragmidium sub-torturatum*). You should collect and burn all the infested leaves in the autumn, or as they fall. In the early spring, before the buds expand, very thoroughly wet all the shoots with the following solution: 2 oz. of sulphate of copper dissolved in 3 gallons of water. It would be as well to spray the soil round the plants with the same mixture. If the disease still shows itself, as soon as it is noticed spray the bushes with dilute "Bordeaux mixture." The light soil would not cause the disease, but anything that in any way causes the bushes not to grow as vigorously as they should renders the plant more liable to attacks by fungi and insects, and a light soil is not so suitable for Roses as a heavy one.—G. S. S.

Growing flowers for market (Madge).—You want to know whether you can make an inderete income from the cultivation of flowers for the early market in a large sheltered garden. Your question is as vague as it is possible to make it, and it is impossible to give any definite reply to it. First of all, what is the area of the "large sheltered garden?" Why not have stated it? Then what do you consider a "moderate income?" For all we know to the contrary, you may be one who would consider a pound a week affluence, or, on the other hand, you may consider your labour ill-repaid if rewarded with a couple of hundred a year. Further, you may say a word as to your knowledge of gardening, your business training, or give us any information on which to base an opinion as to your chances. All we can say is that some good gardeners with business aptitude can make a reasonable profit from such work, but there is much competition nowadays, and prices obtained are often disappointing.

Plants for pool-side (D.).—You would find London Pride (*Saxifraga umbrosa*) excellent for growing among the stones overhanging the water. It gives a beautiful effect when in blossom, and is never unattractive. The common *Mimulus*, yellow and red, would also grow in great luxuriance, and only needs to be kept in check. The Water Forget-me-not (*Myosotis palustris*) is a beautiful water-side perennial. The three plants mentioned will grow and flower year after year by the water, and the trailing *Mitella* complexa may be planted to hang over the bank. The large-flowered *Saxifraga* will also

flowers well in positions overhanging the water, and the bright scarlet *Mimulus cardinalis* is a very distinct effect. As for a flowering plant to grow in the centre of the pool, one or two of Marjorie's Water Lilies might be planted. The only other "free-flowering plant" that might succeed in 2 feet or 3 feet of water would be the Arum Lily (*Richardia thibetica*), but this will live only in the most favoured spots in England out-of-doors. See article on "A Yorkshire Water Garden," on page 347, August 30.

Roses for east and west aspects (Rose).—"Haeley," free-growing, with close flowers and fragrance, are conditions that considerably limit the selection. Although the collection of Tea and Hybrid Tea Roses now cultivated is exceedingly numerous, there are but few which one can term "fragrant." We take it for granted you mean Roses of the La France type. For such one must select from the Hybrid Perpetuals. There are a few Tea nearly as sweet, but then they are not quite hard, and there that are fairly hard and sweet are not what you term "close flowers." We think the following six kinds would be best for the eastern border—Standards: Prince C. de Rohan, Senateur Vaisse, Mrs. John Laing. Bushes: Caroline Testout, Fisher Holmes, Gladly Harriet. And for west border—Standards: La France, Earl of Dufferin, W. A. Richardson. Bushes: Mme. Abel Chateau, Liberty, Mme. Jules Grozet. Good yellow and apricot coloured Roses are: Mme. Charles, Mme. Moreau, Billard and Barre, Bouquet d'Or, Belle Lyonaise, Alliance Franco-Busse, Souvenir de Wm. Robinson.

Roses for various purposes (E. M. E. F.).—Of the flats you submit, the majority of them will succeed well either as standards, dwarf or seedling Brier, or on own roots. The kinds which will make the best standards are Marie Van Houthe, Anna Olivier, La France, White Maman Cochet, Mme. Falcot, Mme. Berard, Caroline Testout, L'Idéal, Viscountess Folkestone, Gloire Lyonaise, Mrs. John Laing, and Prince C. de Rohan. If you desired any of these to be raised from your own plants rather on the Brier or own roots; the latter preferred if the plants are strong. The other thirteen varieties would be strongest plants on the seedling Brier, as you could doubtless procure some of them on their own roots. As your list consists mainly of Teas and Hybrid Teas, and as these are usually only procurable, as our roots, in pots, we should advise you to obtain dwarfs on the seedling Brier, unless you care to plant own roots immediately or late next spring. Mme. Berard and L'Idéal are considered climbers, but they make grand spreading heads on standards.

Tuberous-rooted Begonias (A. T. M. F.).—If the tubers are large, Begonias can be readily increased by division into as many pieces as there are separate stems. To succeed in this the tubers should at the proper season be placed under conditions favourable to growth, and as soon as the young stems are from 1 inch to 2 inches high take a sharp knife and divide the tubers according to the shape of the plants, taking care to leave a good quantity of tuber to each stem. Then repeat in the ordinary way, keeping the piece of tuber at the base of the young shoot well below the surface of the soil, and treat just as growing tubers that have not been thus operated upon. Tuberous Begonias may also be increased by cuttings of the shoots first pushed up in the spring, which should be cut off at a joint, put into small pots of light sandy soil, and placed in a close propagating case till rooted. In taking these cuttings leave one good eye remaining on the old plant, in order to allow a shoot to be produced therefrom.

Chrysanthemums—when to lift plants for flowering indoors (Charlie Cubley).—The fifteen varieties in your collection embrace some of the very best large Japanese flowers, and on this account they should be disallowed. In reply to your question as to when the plants should be lifted from the open ground and potted up, no given date can be laid down for operation to be carried out. A good rule for you to follow will be to place the respective plants in their flowering pots when the buds of each one are nearly developed. As a preliminary to this operation, we advise you to ease the soil on one side of the plant on one day, and after the lapse of a day or two to observe the same rule on the other side. In this way the plants may be potted up with less ill effects than would otherwise be the case. Should the weather be warm at the time of potting up, stand the plants in a cool position until they are recovered from the shock of being lifted from the open ground, and soaked with clear water. After a time, and when there are prospects of a frost, remove the plants indoors.

Plants for bazaar in February (Ladybird).—There are none of the showy summer annuals at all likely to prove satisfactory under the conditions you name, and to obtain flowering plants for next February you will be compelled to fall back on bulbs such as *Hyalocallis*, Tulips, Narcissus, *Scilla sibirica*, *Chionodoxa Lucilia*, Snowdrops, etc. All the bulbs should be potted by the middle of October, placed out-of-doors, given a good watering, and covered with Cocoa-nut refuse and coal-ashes for a month or six weeks before taking them into the greenhouse. By this treatment plenty of roots will be pushed out, a very important matter whenever bulbs are to be forced, however slightly. In this way they should be ready at about the time you need them, but the vagaries of our climate must also be taken into consideration, so that it may be necessary to remove some to the cooler and other to the warmer end of the structure, but that must be left to your own discrimination when the new year sets in.

Roses on north-east coast (A. W.).—I, Yes, Mme. Perle Ducher will be sure to thrive with you. Its blossoms are not nearly so fine as those of Kaiserin Augusta Victoria, but the variety possesses a sturdier nature. When the right position and soil are found for K. A. Victoria, no Rose is more beautiful. It seems to require a warm, perfectly drained soil, and the bed sheltered from north and east. 2. We place the five Roses in order of merit as follows: Mme. Falcot, Mme. Guinoisseau, Medea, Beauté Inconsciente, and Berli. We should prefer Mme. Charles to Mme. Beauté Inconsciente and Souvenir de Catherine Guillot instead of Berli. 3. Yes, Beryl is a lovely bud, but we consider it overrated. Mrs. Perle Ducher, Belle Lyonaise, and William Robinson, or George Schwartz, Comtesse Festiva Hamilton is superior to the other, but not quite such a good

grower. There is not sufficient difference in growth to give General Schablikino the preference. We have a very high opinion of Comtesse Festetics, and believe it will be largely grown.

Teas and Hybrid Teas for Scotland (Tea Major).—You would find the twelve undermentioned Tea Roses would thrive well in your district, supposing you well prepare the soil for them by digging deeply and providing ample drainage for the beds: Mme. Laingard, Mme. Falot, Mme. Hoste, Maman Cochet, White Maman Cochet, Marie Van Houtte, Marie d'Orleans, Encantement, G. W. Robinson, Souvenir de S. A. Prince, Souvenir de Wm. Robinson, Mrs. Edward Mawley. And the following twelve Hybrid Teas always give satisfaction and grow well: La France, Caroline Testout, Mrs. W. J. Grant, Yvonne, Mme. Abel Chatenay, Mme. Pernet Ducher, Chiffonney, Mme. Jules Grolez, Gruss an Tepitz, Clara Watson, Viscountess Folkestone, Billiard and Barré. If you are careful to well earth up the plants from November to April you will have no difficulty in getting them through the winter. The soil used to mould up with should be free from large lumps. Burnt earth is equally as useful as ordinary earth. Cover the base of the plants for 6 inches with one of these materials.

FRUIT.

Planting Peach-trees in a house (John W.).—In a house but 25 feet long you can plant only two flat-topped Peach-trees. When they do well they fill such a space in a few years. You must, of course, plant inside the house; but it will not do to plant in a border, with trees beneath, as the dry heat from those would do great harm to the roots. You must have a border fully 4 feet wide and 2 feet deep. In the bottom should be a little rough material to make drainage, on that turves, Grass weeds, and then filled up with good burly loam one inch, good garden soil one half, with some old mortar which, riddled, and fine crushed bone, well mixed. The border should be trodden firm before you plant, and then in it to fresh animal manure. Plant shallow, and as early in October as you can. You should ask for trees on pot stems, to bring them up to the eaves. After planting them, then place a layer of manure thinly over the soil. Let the border settle well before you begin to water the branches.

Making fruit-rooms (Lindens).—The description of a room suitable for the winter storing of Apples and Pears, in which the air should be a little humid, will not do for Grapes. These when cut, and the long wood stems with them, are inserted into bottles nearly filled with water, the bottles being stood on racks so that the mouths of the bottles hang downwards, from which the bunches of Grapes will hang; they must be in a dry air, where on dry days ample ventilation can be given. An Apple and Pear store should be built on a level, with a walk of brick or concrete to exclude frost, and a roof of straw or reed that will exclude cold and warmth also. The temperature should be very equable, and range from 40 degs. to 50 degs. Such a shed built on a gravel base or where it is well drained may be 10 feet wide, be either lean-to or gable-roof, have a centre alley 2 feet wide, and three or four rows of open trellis wood shelves on each side, and double doors at each end. If partly shaded by trees, so much the better. Let it run north by south.

SHORT REPLIES.

Mr. P. Abraham.—We cannot insert queries of this kind. The replies will of necessity be advertisements. — **Mr. E.**—The plant is probably *Magnolia grandiflora*, a tree requiring years before flowering well. We use the word "freely," and in lieu of "freely," as the frequency of this species is a rarity in this country. In a "south aspect" the wood should get well ripened each year, and for the rest it is merely a question of waiting for the tree to flower; the plant produces—huge creamy white flowers 6 or 8 inches across, and highly fragrant. The best of the rooting area of the plant is best open to the sun's influence, and not, as we often see it, crowded with such overhanging with coarse, shrub growth and like.

NAMES OF PLANTS AND FRUITS.

Any communications respecting plants or fruits to name should always accompany the parcel, and should be addressed to the EDITOR of GARDENING ILLUSTRATED, 17, FURNIVAL-STREET, HOLBORN, LONDON, E.C. The name should also be firmly affixed to each specimen of leaves or fruit sent for naming. No more than four names of fruits or flowers for naming should be sent at one time. — **Names of plants.**—*Philomathea*.—1, *Agrostis caudata*; 2, *Aira flexuosa*; 3, *Aira caespitosa* (Trifolium *sp.*).—**W. Apled.**—We do not undertake to name plants, as they are so numerous and in many cases resemble each other so closely that the habit of the plant and other features which are not shown in a small illustration require to be taken into consideration. We have, however, compared the *Fuchsias* sent with a large collection, and consider them to be as follows: 1, *Display*; 2, *Castile*; 3, *Phenomena*; 4, *Charming*.—**Mr. R.**—*Scilla cornuta*; small flower is *Galeopsis ladanum*.—**Mr. A. S.**—*Mimulus* or *Diplacis glutinosus*.—**Mr. J. S.**—*Meadow Sweet* (*Spiraea Ulmaria*).—**S. M.**—*Asclepias tuberosa*; 2, *Variegated Maple* (*Acer variegatum variegatum*).—**Marshall**.—1, *Sedum Sledboi*; 2, *Veronica salicifolia*.—**Tockington**.—Yes, *Campanula*, and, if you send a fine specimen with its own name, we may possibly name it. We may give you the name of height, etc.—**Frank Harvey**.—Large head *Hydrangea paniculata grandiflora*; the other is *Hydrangea grandiflora alba*. Specimens should always be accompanied for reference.—**L. C. M.**—Nos. 1 and 2, *Phlox*; 3, *Phlox*; 4, *Phlox*.—**Wm. Spickett**.—No, the *Fuchsias* have distinct points of difference; but we do not undertake to name florists' flowers, as this can only be done after careful comparison in a large collection. — **W. S.**—*Sedum album*.—**J. P. M.**—Scrap of leaf *Erigeron* for naming. A good *Erigeron* is *E. celestinum*. — **W. J.**—*Potentilla fruticosa*.—**Drunkilla**.—Specimens should always be in flower. 1, 2, and 3, We cannot name in form as sent; No. 4 may be *Mulinotheca*. — **Mr. A. C. Croydun**.—1, *Chrysanthemum*

coronarium; 2, Quite impossible. Dry cotton-wool is the worst thing in which to wrap such diminutive bits.— **Ayrshire**.—Large flower, apparently *Scabiosa caucasica*; Dark flower, *Linaria reticulata aurea-purpurea*.— **Miss King**.—1, *Veronica Andersoni*, probably (no flower remained when received); 2, *Rubus deliciosus*; 3, *Sedum oppositifolium*.—**Botanist**.—*Cistus ladaniferus*, or *Gum Cistus*.—**Chas. Good**.—Your delightful little coloured photograph was duly received, and the queries were answered in the number of GARDENING ILLUSTRATED for July 19, page 267. The name is *Hemanthus Katherinae*. It is a native of Natal, from which it was first sent to Kew in 1877. As the reply was a fairly lengthy one, we are unable to reproduce it, but must refer you to the page in question.

Names of fruits.—**W. J. Brown**.—We cannot name from single immature fruit.—**Deven**.—1, Devonshire Quarrenden; 2, Lord Sutherland; 3, Worcester Pearmain; 4, Hawthornden.

Photographs of Gardens, Plants, of Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

The Prize Winners this week are: 1, Mr. Arthur A. Jones, 135, St. Stephen's Green, Dublin, for *Cordylino australis* in Penick's Delgany Nursery; 2, Mr. B. Phillips, Watverle, Olton, Warwick, for *Iberis sempervirens*.

Making Lavender water.—Can any reader kindly tell me the process of making lavender water sent from English grown lavender?—**SYDNEY HOAR**.

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GARDENING ILLUSTRATED.

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Founded by W. Robinson, Author of "The English Flower Garden."

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FRUIT.

FRUIT CROPS AND RAIN.

As everyone has been lamenting the continual downpour of rain, the fruit-trees have greatly benefited by it. If we had only a more genial night temperature in May and June, this would have been a record year for hardy fruits of all kinds, for where the seasons escaped the destructive frosts of May and continual low temperature until midsummer the fruits have swelled up a good size, although much later than usual. Even where a good crop is on the trees, they are extremely well budded for other years. This is solely owing to their being kept continually moist, both at the roots and on the foliage, for, as a rule, fruit-trees do not get nearly enough water at the roots, and one of the best things to repay a rickety grower, in order to get heavy and continuous crops of fruit, is an abundant water supply, so that he can run it on with a niggard hand. One of the fruits that I have noticed as being especially benefited by plenty of water, and the soonest to suffer in drought, is the Pear, and this has been an ideal season in every respect, except in regard to lack of warmth in the early part of summer. Even as it is, many of our trees, such as Williams' Bon Chrétien, Pitmaston Duchess, and Beurré d'Amanlis are loaded with exceptionally fine fruit, have made good growth, and are well set with bloom-buds for next year. Water enters so largely into the formation of fruit, it follows that any lack of it in the autumn when the fruit is swelling will result in small or malformed specimens.

JAMES GROOM.

NOTES AND REPLIES.

Mildew Grapes (M. F.).—Your grapes are undoubtedly badly infested with mildew. The attack is no doubt due to the cold, wet summer and, probably, exposing the vines to cold draughts of air. If the roots of the vine be outside, very likely they have had far too much moisture. If that be so, it would be well to cover the border at once with sheets of corrugated iron or boards to throw off the rains for a time—certainly until the leaves have fallen and the pruning is done. Burn all leaves and wood when cut off. Then your best course will be to make up a solution of soft soap, sulphur, and clay, and have the whole of the vine well painted over with it. The woodwork and glass should be scrubbed with hot soda-water and soap, and the brick-work washed with hot lime-white. Such remedies should kill the mildew.

Cracked Pears (W. J. B.).—Your Pears are affected with the *Dendrocitum* fungus, which causes cracking of skins and black spots on the fruits. The roots are chiefly at fault. If you could open a trench round the trees a few feet from the stems, would cut off all roots, and grab under with a broad chisel on a long handle and sever all downward roots, then

refill the trenches, using some fresh soil, would remove several inches of the top soil over the roots, and replace it with fresh soil and some manure and lime rubbish, you may in a year or two get the trees to produce fine clean fruit. If the trees are not too large it may be better to lift and replant them. When this work and pruning (the trimmings being burnt) is done, give the trees a gentle syringing with a solution of caustic soda 1 lb., potash 1 lb., and 2 lb. of soft-soap, dissolved in 10 gallons of water.

Fruitless Apricots (M. T.).—You will do well to lift your Apricot-trees so soon as the leaves have fallen, doing so carefully, so as to preserve all the finer roots. If there be found any long ones, partially shorten them back, as the object of lifting and replanting is to induce more small or fibrous roots to form. Before replanting have the ground to a width of 4 feet from the wall trenched 2 foot deep, and as it is sandy, add some clay or other firm soil, some wood-ashes, and old lime rubbish, as Apricots are very fond of lime in this form. Failing that add some broken fresh lime or fine chalk. A little bone-dust also will do good. Avoid adding animal manure, but in the winter give a top-dressing of long manure to exclude frost from the roots, and add a fresh mulching in May next, after removing the winter dressing in April, to allow the sun to warm the soil.

Diseased Vine-leaf (H. K.).—It is not usual for outdoor Vines to suffer from any leaf disease except mildew, and that not often now. But the season has been so exceptional in relation to low temperature and rainfall that troubles may have occurred to Vines that are not common. Your Vine seems to have been attacked with a warty fungus. Your best course will be to collect all leaves as they fall and to burn them. Also burn all prunings, which should be done early in the winter. Then gently syringe or spray the Vine with a solution of caustic soda 1 lb., commercial potash 1 lb., and soft-soap 1 lb., dissolved in boiling water 1 gallon, 9 other gallons being added, and when used to be quite warm. Or, if you prefer, add to the 1 gallon some clay, and make a paint. Coat over the whole of the Vine-stems with it, and leave for the winter. That may kill the fungus.

Mildew on Vines (H. W. Mason).—That your Vines and Grapes are suffering from a bad attack of the mildew *Oidium Tuckerii* there can be no doubt. Both Grapes and leaf sent are coated with the white mould of the fungus. It is very easy to conceive that in a house of small glass panes, the Vines too near the glass to enable air to circulate over the leaves, and the rods and laterals far too thick, especially in a wet, cold season, mildew would result. The Vine-rods should be fully 10 inches from the glass, and the upward rods 3 feet apart, being each winter hard-spurred back to one strong bud. Cut off all Grapes now; then make up a solution of sulphate of copper 1 lb. and fresh lime 1 lb., dissolved separately, the first in 10 gallons of water, the lime in a pail; add 2 lb. soft-soap, then well spray or gently syringe the whole house and Vines with it, following it, whilst damp, with a dusting of sulphur. Collect all leaves as

they fall and burn them. Give the Vines later in the winter a second syringing. Well wash and paint all woodwork and glass with hot soda-water, and well lime-white all brick-work. Even then it may be found needful to lift the roots and replant them, adding fresh soil. These attacks are difficult to overcome, except by drastic measures.

Scalded Grapes (H. W. N.).—The berries of both Alicante and Lady Downe's Grapes sent show distinct evidences of suffering from scald. They all have brown spots or scalds near the stems. This injury is due to sudden bursts of sunshine on the berries whilst they are still moist. It is sometimes due, also, to imperfect glass, which concentrates rather than disperses the sun's rays. It is possible, also, that roots are at fault, and have gone out of the prepared border into sour soil. In any case, it will be well to alorton back the Vines rather hard so soon as the leaves fall, to lift the roots, and replant them more shallow, adding to the border some fresh turfy loam, wood-ashes, and bone-dust. Use animal-manure only for top-dressing. The excessive rains of the season may have promoted damp in the house materially. Lifting and replanting the roots will help to correct that another year.

Fig-trees not fruiting (H. N. G., Bath).—We have been greatly interested, although, we fear, not instructed, in reading your suggestion as to the sexuality of Figs, as it is the first time we ever heard of it. We can assure you at once that your theory is entirely wrong, that there is no sex in Figs, and that fruitlessness is due to other causes than these you so confidently propound. Possibly some of your trees may have been raised from seed taken from dried, imported Figs, and seedling trees often have been barren for many years. They have been fruited only when grafted on to some old tree. Then Figs are often barren because they have far too much root run, and then produce shoots that are gross, soft, and fail to ripen. Such shoots never carry fruit. Again, the soil may be very deficient in phosphates and potash, and that would cause barrenness. You do not tell us how your trees are growing. Are they bush trees in the open, or are they on walls outdoors, or are they under glass? However they may be grown, it seems certain that they have far too much root room. In the gardens of the Royal Horticultural Society is a collection of every known variety, some eighty in number, all in pots of diverse sizes, and many of them large bushes, yet every one fruits well two or three times each year, as they are started early in heat. But that fruitfulness is due first to the very limited area allowed the roots, and, second, the feeding with manures they get from the surface. You had better in October open deep broad trenches just in front of or round your trees 2½ feet to 3 feet from the stems, cut off every root, refill the trenches, fork up the surface over the roots, and give to each tree ½ lb. of superphosphate, kainit, and sulphate of ammonia, forked in, and give two other dressings next spring and summer. Also, in October thin out the branches well and nail in only the best ripened shoots.

GARDEN WORK.

Conservatory.—I beg to thank the Rev. F. H. Law for his interesting note, enclosing cuttings of *Diosma ericoides*. I happened to say in a previous issue I had lost sight of this useful and interesting old plant, and this led to the reverend gentleman very kindly sending samples of the shoots for identification, as he was in doubt about its name. Very often, when really good old things are turned out of the gardens of fashionable people, they find a home in the rectory garden, and so are not altogether lost to us. The demand for long, stiff-stalked flowers for cutting has driven out of cultivation many interesting and beautiful plants which do not come up to the fashionable standard. I am told by Belgian travellers that there is an increased demand for Camellias and that they are likely to come back to us again. They are among the brightest things we have in winter, but are not of much use for cutting. There was a time when ladies commonly wore them at balls and parties, but they are not seen now, though it will be an advantage to have a few good bushes in the modern conservatory. Of course, they are still found in old-fashioned places. The Acacias, too, are lovely as the days lengthen after Christmas. One or two may be had in flower before Christmas, but soon after they are plentiful. They are best grown in pots. When planted out they make very rapid growth—almost too rapid, if the house is not very large—but when in pots they can be placed outside in summer, and will come back better for the cutting. In fact, all greenhouse plants are better in the open-air for a month or two in summer. Attention must now be given to the reduction of the climbers. The light is wanted by the plants below, and they must have it or the growth will draw and become weakly. The early-flowering *Chrysanthemums* are coming in now and will help to brighten up the house. There are still plenty of late Lilies, as well as retarded bulbs of *Lilium longiflorum*, but there will be plenty of late lancifoliums which have been brought on outside. *Achimenes* in baskets have been lovely, and are now getting past their best, and may be moved to another house and have less water. Other baskets can be filled with winter-flowering *Begonias* and *Bouvardias* to be coming on. The old *Coronilla glauca* makes a pretty basket plant in winter. In regulating the growth the shoots can be tied to the rim of the basket, and permitted to grow down.

Stove.—Now that the plants are returning from other houses and pits, fires must be kept down so that the things from cool structures may settle down and not be unduly hurried. In country houses through the autumn and early winter there is usually a good deal of company for the shooting parties, and a very large demand is made upon the garden for plants for table and room decoration, and there must also be abundance of flowers for cutting. The stove has to supply most of the plants for table decoration and a good deal of the cut stuff required. *Asparagus plumosus* and *A. Sprengeri* are useful, as is also *Smilax*, and these things cannot be improvised. A few large *Crotons* that one can steal a few leaves from will be useful, and the foliage of *Cissus* discolor comes in well for flat decoration on the cloth. Very few ladies require the same arrangement more than once, so abundance of material will be required to give the necessary changes. The plants for table use will have to be in 5-inch pots chiefly, though occasionally small pot stuff can be used—*Crotons*, *Dracenas*, *Pandanus Veitchii*, small Palms, especially *Cocos Weddelliana*. All plants for this work should be light and graceful in habit. Small Maiden-hair Ferns and *Caladium argyrites* form a nice change at times. A good many years ago (I forget how many) the Royal Horticultural Society offered prizes for collections of plants for dinner-table decoration, and it was stipulated that the plants should be small standards of a clear stem of 18 inches to 20 inches in height. But, somehow, this kind of plant never became popular. The idea was that the guests could see across the table under the foliage. Now plants of low growth are chosen that can be seen over, and the effect is much better; besides, it is not

every plant that will form a nice, evenly-balanced head as a standard, and they take time to produce. The idea was well enough forty or fifty years ago, when the small Box-leaved and Myrtle-leaved Oranges were common and were full of ripe fruit in winter. Some of these little Oranges would be a nice change now, just for once, but they would be voted too stiff for general use, though they might come occasionally to form a contrast and as a sort of link with the old days. There were strong men before Agamemnon, and there was good gardening in Louton's time and earlier. Night temperature for stove now, 60 degs. to 65 degs., with rather free ventilation during the day.

Cold-frames.—These are now full of *Primulas*, *Cinerarias*, and *Cyclamens*; but the time is near when a clearance will have to be made, especially as regards the early-flowering *Cyclamens*, which are now coming full of buds, and require a drier atmosphere. All the early-flowering bulbs should now be potted. Some, such as Roman *Hyacinths*, *Freesias*, and double *Daffodils*, are now making roots. The earlier these are potted the sooner they flower, and they will not bear much heat; therefore, to flower at Christmas or New Year's Day, early potting is necessary. *Hyacinths* after potting should be buried in Cocoa-fibre or ashes while they are making roots, which is generally about six weeks or so; they may then be taken to a cool-house for a time, and moved later to a little warmth. Cold-frames during autumn and winter are wanted for many purposes; they are often filled with Lettuces and Endives for winter use, and Cauliflowers for setting out in spring, and later will be required for forcing vegetables of various kinds on hot-beds. No gardener has too many light, movable frames, as so much can be done with them.

Ripe Grapes.—It is pretty well understood that it is better for all Grapes to be ripe before the sun has lost its power; but this has been a difficult season, as the weather has been often bad and the sun hidden under the clouds. Therefore, there are a good many Grapes this season that will have to be finished off with fire-heat. There have been a good many green Muscats at the recent shows that will take time and warmth to finish, and this should be seen to now. Lady Downe's and Gros Colmar also may require a little help. Black Hamburg and the Sweetwater will do with plenty of ventilation, though there may be cases where the wood may require a little help to ripen, even if the Grapes do not, though something may depend upon the weather during the latter half of September.

Window gardening.—The beauty of window-boxes may be prolonged by careful picking over and a little stimulant in the water. Take all succulents, such as *Cactuses* and the choicer kinds of *Aloes* and *Mesembryanthemums* indoors, or place under cover. Pot up *Solanums*, *Arum Lilies*, *Eupatoriums*, and *Salvias*, and place in the shade for a time.

Outdoor garden.—Look over the early-budded *Roses*, and loosen ties and rub off young shoots from the stems of standard Briers. Buds which remain dormant through the winter make the best heads. Every grower who wishes for plenty of *Roses* through the summer should bud a few *Roses* annually. It is a necessity for those who wish to attain any position at the *Rose* exhibitions. There is a demand for *Teas* and *Hybrid Tea Roses*, and this demand will increase, for it is found that the *Tea Rose* of the present day is more hardy than its predecessor was thought to be; at any rate, we do not hear so much about the tenderness of the *Tea Rose* now. Some of this may be due to the altered conditions of culture. Formerly, *Tea Roses* were planted under similar conditions to other *Roses*; now, those who wish to grow *Tea Roses* well group them together, drain the sites, and deepen and improve the soil, and, where necessary, raise the soil above the natural level. Some of the best beds of *Tea Roses* I have seen lately have been in the shape of sloping banks, backed with shrubs. Plant out *Narcissus* intended to produce flowers for cutting. I have always found *Madonna* or old white Lilies do best in rather gritty soil, and not too deeply planted. Cuttings of choice evergreens will strike now in

shady site under handlights or frames. Sow Grass seeds to form new lawns this month, and commence planting evergreen trees and shrubs.

Fruit garden.—Apples and Pears have grown rapidly since the rains set in. Lord Suffield is still one of the best early cooking Apples, but it bears so freely that the trees never got large. Mank's Codlin is an old Apple, but takes some beating as an early culinary fruit, and it is one of the few Apples which may be easily propagated from cuttings. If good-sized branches are cut off and planted firmly in a shady border for the first year, there will be well-rooted bearing trees in a couple of years. I think everybody with a couple of lawns should plant a Mulberry-tree. Apart from its fruiting capacity the tree is an interesting one, and it may be planted in the town garden. It takes some time to work up a bearing tree, as the Mulberry will not bear much in a young state. If one could save off a branch from an old fruiting tree and plant it firmly, a bearing tree would then be soon obtained. Royal Sovereign Strawberry is still being planted largely. It is hardy and reliable. Leader also is receiving attention. Strong plants set out this month will soon get established, and will bear heavy crops of fine fruit next season. The Duke Cherries as pyramids on the Mahaleb-stock make very fertile trees in a short time, but the White Heart Cherries grow too freely on this stock, and when they flower the trees are generally fruitless as pyramids. There appears to be a good deal of American-hlight in town gardens. A clear should now be made to clear this out with paraffin and a brush.

Vegetable garden.—Vegetables are now plentiful and good. There is a little disease among Potatoes in some districts, but bright, sunny weather will check it, and the crop is better than might have been expected from the drought of the early season of growth. Outside Tomatoes are a poor crop generally, but with bright weather they will ripen, and they realise fairly well, though there is not much money in Tomato growing. The culture is understood by all who have gardens, and many people grow enough for their own use. Thin the foliage and get the fruits ripe before the frost comes. Fruits will ripen on the plants when fully grown, but the flavour is not so good as when they ripen on the plants fully exposed to the air and sunshine. Make up Mushroom-beds in buildings as fast as manure suitable for the purpose accumulates. Outside beds should bear freely till the temperature falls considerably. The seed-sowing is over for the season now, but Mustard will be sown under glass now in succession as required. Cabbage-plants can be set out for spring use, and apere frames filled with Lettuces and Endives with the lights off for the time being. Continue to earth up Celery in succession, and draw earth up to Leeks. Hay-bands should be wrapped round Cardoons as preliminary to earthing up for complete blanching later. Use the hoe as freely as possible among growing crops, and do not permit a weed to seed.

E. HORDAT.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

September 15th.—Spare bulbs of Snowdrops have been planted in good-sized irregular patches round the margins of lawns. Spare *Narcissus* will follow in the same way immediately. Bulbs which have been forced a little under glass are used in the same way, and we hope in time to brighten up the places immensely. More bulbs of various kinds have been potted, and in some instances boxed, to make roots ready for forcing. Tulips are in boxes covered with litter.

September 16th.—*Salvias* planted out last year been cut round with a spade ready for lifting. Other things which are planted out, such as *Eupatoriums*, *Solanums*, etc., have been, or will shortly be, lifted and placed in suitable sized pots in a shady position. We find the north house very suitable for this kind of work just now till the roots get to work again. Then they can be moved into the sunshine. Newly-planted Strawberries are watered occasionally when required.

September 17th.—Foliage has been thinned on outdoor Tomatoes to hasten the ripening. We are still gathering a few good Red Warrington Gooseberries, which have been protected by hexagon netting. We are thinking of planting a north border of this Gooseberry and Red Currants, to be easily netted up and kept for winter. Belle de Fontenay is a good autumn-bearing Raspberry, the fruits being large and nice. Late Grapes ripening are still supplied with liquid-manure.

September 18th.—During the autumn and early winter we intend altering and extending the beds and borders for hardy plants and shrubs. Roses also, especially Teas and the Rambler, will have attention. This is a season of programmes, which we hope to carry out if possible. At any rate, we never as a season without making some change in the permanent features of the place, mainly in the view of introducing new features and plants.

PLANTS AND FLOWERS.

ROSES.

DARK HYBRID PERPETUAL ROSES.

A PESSIMISTIC grower said to me a few years ago that the Hybrid Perpetuals had had their day. My reply was a decided negative, for, much as I love the exquisite Teas and Hybrid Teas, I could not forget the superb colours, the bold, thick-petalled blossoms, and, above all, the powerful fragrance of the majority of the dark Hybrid Perpetuals. The illustration of Ulrich Brunner is one of the most beautiful of a Rose I have ever seen, and portrays that fine variety to the life. It is one of the best light red Roses grown. I think if I could only grow one red Rose it would be Ulrich Brunner. There are Roses more perfect in colour, but I know of none so good in growth or more useful in the garden. Alfred Colomb is another

grown I do not consider one requires Duke of Wellington excepting for show—then there is ample room for both. Dr. Andry, Duke of Edinburgh, Duchess of Bedford, Duke of Albany, Eclair, and Earl of Pembroke are all thoroughly good crimson Roses, and quite distinct from each other.

Of the rich velvety crimson Roses, a type of colour so much sought after, Charles Lefebvre is certainly the best. It is a fine, bold, semi-imblicated flower, the growths strong and sturdy, foliage handsome, and it is a kind that pays for liberal feeding and free disbudding. Another grand variety that everyone may succeed with is Eugene Furst. The petals are deep, not very smooth edged, but colour and also growth are so good that there is no dwindling of the plants as is too frequent among dark Roses. Triomphe de Caen or Prince Arthur is a Rose everyone should grow. It is of darker colour than General Jacqueminot, but no doubt is a seedling from this, as it



Rose Ulrich Brunner. From a photograph by F. Mason Good.

September 19th.—Chrysanthemums are checked daily, and several times a day, to kill twigs and do other routine work. The buds incurves are being taken. I confess to a weakness to these formal flowers. There is plenty of variety among them, and now even the Queen of England is not lacking, but the Queen of England is disappearing mainly through the pruning required to produce a good bloom. Apples and Pears are gathered before they are quite ripe to use.

September 20th.—Fine days are given up to working up Celery and battling with weeds, which have grown fast since the rains came. More Lettuces and Endives have been planted in the south borders. Potted a lot of double Pansies for forcing. They will not stand much heat, but will rise up well in a night temperature of 55 degs. to 60 degs. We have been obliged to begin fires again. Store plants, Cucumbers, late Melons, and late Grapes want to be in touch of the warm pipes occasionally.

medium red of first-class quality, one of the best for autumn blooming, of perfect high-centred form, good in growth, and very fragrant. Marie Baumann much resembles the last-named, but is, perhaps, on maiden plants the better flower. As a cut-back, however, it is not nearly so good. In a small collection both are not wanted, and I prefer Alfred Colomb. Beauty of Waltham is a good light red. Of rich crimsons, Alfred K. Williams takes premier position as a show bloom, but I should prefer General Jacqueminot for general culture. Taken all round, there is even now no better red Rose. On the Manetti this grand old kind is not happy, but on own roots it is a great success. Comte de Raimbaud is a crimson Rose worthy of more extended culture; it is so very reliable and a good grower. So also is Fisher Holmes; one of the best early and late, its handsome if small blossoms are of a very glowing colour, and if not disbudded will give a quantity of lovely buttonhole flowers. Although not identical, if Fisher Holmes be

possesses all its good points. Maurice Bernardin, which passes under various aliases, such as Exposition de Bruc, Ferdinand de Lesseps, and Sir G. Wolseley, is a variety of much merit, distinct from other crimsons, always grows well, and is an all-round good Rose. Horaco Vernet and Louis Van Houtte would claim a place in the best six crimson Roses did they but possess a better constitution. If these are grown, a point worth remembering is to bud a few each year on the Brier. The resulting blossoms are worth this and even greater trouble and expense, for two more lovely Roses we do not possess. Earl of Dufferin, Duke of Fife, and Duke of Connaught are also of more than ordinary merit, the last a lovely buttonhole kind. Victor Hugo I have left until last—not because it is least. In our large collection no Rose claims more attention than Victor Hugo, principally owing to its gorgeous colour. It is not a strong grower, but is a better cut-back than Xavier Olibo. It is not a strong grower, but is a better cut-back than Xavier Olibo. It is not a strong grower, but is a better cut-back than Xavier Olibo.

our leading dark crimsons, and perhaps super-seede Victor Hugo, for it is certainly a better grower.

There is yet another group of dark H.P. Roses, and they are of the blackish-crimson or maroon shade, of which Prince Camille de Rohan is the representative. La Rosiere and Jubilee, if not identical, are certainly too much like the Prince, so that all three are not wanted. Unless highly cultivated, this Rose is apt to come red in colour, and is not then of any great merit. Good phosphatic manures are required to develop this Rose to its best capabilities. Abel Carriere is a well-known kind, and a Rose of more than ordinary merit, seen better, however, as a standard than a bush. At times the flowers are almost coal black. Black Prince is rather too near Pierre Notting, but occasionally it justifies its name.

With the exception of Duke of Edinburgh, all the kinds named above are very fragrant and worthy of culture on that score alone. Where space is available I would recommend that they be grown, for if some approach each other rather closely in colour, they each have their own special season, and by growing all, some good dark H.P. Roses are secured each year.

NOTES AND REPLIES.

Rose Niphete in Banffshire.—I have seen many letters in your paper describing Niphete as a Rose only fit for greenhouse

can be afforded the cuttings during a spell of severe weather, and here, again, sand should be incorporated with the soil. The practice of inserting some coarse sharp sand in each hole before placing the cutting therein is a good one, and does a good deal to assist in root formation. Another plan worthy of imitation is to put a few cuttings in a jar or bottle of water, and pot off when roots have formed.—TOWNSMAN.

Rose Eugene Furst.—The shape of this Rose does not fit it for the snowboard, but its rich velvety colour is so well maintained and its growth so vigorous that it may be regarded as a really good dark variety for the amateur. Several of the very dark Roses are much too full to be beautiful, but Eugene Furst, although the colour is not so intense as in Baron de Bonstetten, I consider a more useful variety for the garden. As with the majority of deep red Roses, it possesses a sweet fragrance, an attribute far too rare in our modern kinds.—ROSA.

Replanting old Rose-bushes (N. E. J.)—We do not think anything is gained in replanting very old bushes of Hybrid Perpetuals, seeing that good yearling plants of best sorts can be procured so cheaply. If you decide to replant it is well to shorten all growths to about 2 feet to prevent swaying by the wind after planting, then in March cut back almost to the ground to induce new growths. The following year the pruning must be regulated according to the vigour of

shoots. Any plants that are "a regular mat" of dead shoots very clearly prove long continued neglect. It is, however, a very common thing with amateurs that they will not allow their Rose-trees to be cut; indeed, we know an instance where a professional gardener to assist a gentleman interested in Rose-growing pruned all his dwarf H.P. Rose-trees, while the gentleman himself looked on and asked as many questions as he thought fit as to "why" and "wherefore." The trees had long been neglected, but they flowered remarkably well, and it was hoped and believed the object lesson had done much good. The following year the gentleman began his own pruning again, and, in spite of the evidences the trees gave as to the need for hard pruning and equally the beneficial results of it, he had merely cut off an inch or two from the tip of a growth nearly 4 feet long. It is in these circumstances that so many good plants are spoiled. Tea Roses and all small-wooded kinds may all be well thinned now of the small pieces and any old wood, but we cannot recommend a general pruning or trimming at this season.

Rose Albert Stopford (H.T.)—This fine Rose has been remarkably good this year and I have formed a high opinion of its merit. I do not know of any Rose with petals of such substance, no mean quality in a wet season and in a dry one the flowers stand well. The variety is reputedly a cross between General Schablikino and Papa Gontier, and, of course, one expects something good from two excellent parents. The growth of Albert Stopford is strong and stout, superior to Papa Gontier. The colour is coppery-rose, deepening in centre of flower; the outer petals are deep carmine. The buds are of a splendid long shape, the open flowers bold, short, and fragrant.—ROSA.

Roses on house-walls (Beginner)—With regard to climbing Roses you must exercise considerable patience, as until you obtain plenty of growth you cannot expect much blossom. Most of the new growths of this year, if well ripened, should blossom next summer, and it would be well to nail these in order to assist thorough ripening. Climbing Roses often appear at a standstill when reality they are making roots, and the subsequent growths will be all the finer. As the soil in the border is somewhat porous, a washing of peat-Moss-litter after its rejection into the stable would be excellent, or other well rotted manure would answer the same purpose. The Rambler Roses on arches will give you much blossom until they have been established about three years. Encourage the growth possible, and do not prune away unless the shoots become too crowded. You will then be rewarded with beautiful masses of blossom from the two kinds named.

Mildew-proof Rosee (N. E. J.)—Unfortunately, varieties that may be considered really mildew-proof are in a very small minority. We have noted the following being as near our ideal as possible: Amie Teas, G. Nabonnard, Mme. C. P. Strassburg, Corallina, Sulphurea, Sylph, Marie d'Orléans, Anna Olivier, Marie Van Houtte. From the Hybrid Teas we select Papa Gontier and the striped sport Rainbow, Clara Watson, Liberty, Marquise Litta, Grace Darling, all the France race, also Caroline Testout and the sport Admiral Dewey, Mme. Wagram, Madame Cadeau Ramey, Mons. Brunel. From the Hybrid Perpetuals, Mrs. George Dickson, Mlle. Clemence Joigneaux, Mrs. Ramey, Wm. Warden. And from the Climbing Teas and Noisettes, Mme. Alfred Carrière, Bouquet d'Or, Longworth Rambler, Aimée Vibert, Billiard and Barre, and Janne Desprez. Most of the Monthly Roses, also the dwarf Polyanthus, are exempt from this troublesome fungus. Roses that are pale yellow or deep yellow in colour without white or pink shadings are, Maréchal Niel, Perle des Jardins, Henri de Beauveau, Mme. Barthelemy Levet, Mme. Eugène Verdier, Duchesse d'Anerstadt, Anaczone, Etoile de Lyon, Georges Schwartz, Souvenir de Mme. Loret, Goldquelle, Mme. Chedanne Guinoisseau, Comtesse de Frigères, and Mme. Honoré Defresne; and from the Austrian Briers Harrisoni, Lutea, Persa-



Irises under Laurels. From a photograph by Miss Wakefield, Nutwood, Grange-over-Sands. (See page 357.)

cultivation. I therefore send you a couple of blossoms, grown in the open bed, without any protection, in Banffshire. It has been planted three years, and is making good, sturdy growth. This last winter was the most bitter for several years, the spring cold and severe winds—10 degs. of frost on June 18th killing all the Beech-leaves even and leaving the trees brown, but not harming the Rose.—M. CLAY, Rothiemay, N. B.

Rosee from cuttings.—One may have a great measure of success with cuttings if only the right sort are selected at the proper time. Talking to a friend a few weeks ago on this subject, he said: "See that plant? That is a William Allen Richardson, struck from a cutting last November, put in a pot, and kept in a frame." The plant in question was carrying several nice blooms, and was making promising shoots. Towards the end of October is the best time to take cuttings, and these should be procured from shoots that have borne flowers, if possible, 6 inches or 8 inches long, the ripest being selected. Young shoots from late growths are useless. In taking the cuttings, too, it is well to remember that the nearer they are cut off to old wood the better, all leaves but one or two at the extreme points being removed. Whether it is intended to pot them from the beginning or make up a bed in the frame, the soil should be of a sandy nature, and should be made fairly firm, proper drainage being insured from the start. In the open border it is best to choose a position where the

variety. Those sending up shoots 4 feet to 5 feet long are usually pruned back to 1½ feet to 2 feet of the ground, whereas such kinds as flower freely are pruned closer, even to within 4 inches or 5 inches. We think 1 foot 6 inches about the right distance to place the plants from each other. The time of year you name is right, but it will be well to heel the plants in for a day or two while you have the bed well trenched. You can remove the foliage and shorten growths before heeling in, which will prevent them shrivelling, and at same time prune roots a little, smooth over jagged ends, and rub off any suckers met with.

Rosee (Swede).—In the case of the Malmaison Rose, all the dead wood should be removed quite down to the head, using pruning scissors or small saw to enable you to cut quite close. This may be done at once. No actual pruning should be done at this time, but small, blind, and flowerless pieces of growth may be cut clean away in every type of Rose, leaving the stronger shoots, such as you describe, to do the work of flowering. With this and many other Roses, the best plan to secure good blooms is to leave no small, thin wood, but to endeavour to promote good, vigorous shoots of the size of a lead pencil. By letting these flower and merely removing the seed-pod afterwards, a good shoot is left for next year. All such shoots should, however, be hard pruned in spring, for it is by these means that the vigour is maintained and the plant furnished with a few really worthy

OUTDOOR PLANTS.

IRISES.

Few appreciate to the fullest extent the German Irises, many, I venture to say, still thinking of them as June flowers, suitable for gardens alone. We forget, possibly, how long before these brightened our borders, the netted Iris reticulata and I. r. purpurea flowered amid the snow and sleet of January, timidly at first, perhaps, but showing in the fitful gleams of winter sunlight the loveliness of their gold and purple blossom. Charming, too, also for early blooming are the Persian Irises, mingling their petals of white, blue, and purple amid their bright green foliage in the first days of February. But when we think of summer and its flowers, it is then that Irises appeal to us, some with blossoms quaintly marked and blotched, some preferring the shelter and the sunshine of a warm border, and rivaling the Orchids in beauty. It is not, however, merely as border flowers that they are interesting. Happy is he who can grow the water or Flag Irises. Any one who has cruised on the Norfolk Broads will tell you

I. Bakeriana which follow. I. germanica is the commonest of the genus, the Flag Irises of the town garden, growing where one would least expect to find them, amid the dust and impure atmosphere, often flourishing most where other plants fail, and giving us blooms diversified in colour. Where the soil, too, is dry the Iberian Iris (I. iberica) will serve us well: the flowers are large, flecked, and spotted, with standards white, falls veined with blue and purple over a yellow background, blossoms singularly beautiful and elegant when cut with some of their flag-like foliage. One of the choicest of the Flag Irises is Monnierii, well fitted for a border where the soil is moist and rich, a late blooming, sweet-scented sort with yellow flowers margined with white. I. Pseudo-acorus has already been alluded to, it is the commonest of all, the yellow water Flag, and will grow in any moist and damp situation. I. pallida loves a moist, deep root-run, but does well even when planted on a dry soil; the blooms, however, are not so fine nor do they last so long as when planted under cooler conditions. A spring blooming dwarf Iris is to be found in pumila, seldom attaining more than a height of 7 inches or 8 inches, flowers blue and purple. English

warm and sheltered borders many weeks, often until the later days of December. LEAUFERST.

The illustration on page 386 shows a very successful Iris bed, grown in the driest possible position, virtually under Laurels. It is difficult to know what to grow in such a place, and this might be a useful suggestion to others.

A. M. WAKEFIELD.

Natbrook, Grange-over-Sands.

BEDS FOR HARDY FLOWERS.

(REPLY TO "A. M. G.")

In our opinion, judging by the size of the whole series of beds, we regard them as small for well displaying good hardy perennials. In other words, the number of beds is too great for the limited area. If, however, you are leaving them as now arranged, we would suggest as follows: Nos. 4, 8, 10 to be planted with Hydrangea paniculata grandiflora, with Aubrietia as a carpet and Crown Imperials to flower in March and April. Nos. 2 and 6 may be filled with Crimson Glove Carnations and Narcissus poeticus ornatus, with a margin, say, 9 inches wide, of Muscari conicum. Nos. 9 and 11 may be planted with Delphinium con-



Irises in shade. From a photograph by Miss Mabel Gaisford, The Grove, Dunboyne.

that in June their bright yellow blooms, which fringe the water-ways and fill up the entrance to the dykes and narrow channels, add beauty to the landscape, however much they may impede the progress of the yachtsman. These are the flowers that blossom with Water Lily and Forget-me-not, with Meadow Sweet, Marsh Orchis, and Crowfoot--

"Dwelling by still rivers,
Or solitary mere,
Or where the sluggish meadow brook delivers
Its waters to the weir."

There is a charm about the Iris of our streams and low-lying meadow lands, but with garden plants we most of all have to do, and grown on borders, or adjacent to lawns, partly in the shade, so that their blossoms are gradually developed, they continue longer with us, having maybe, as in the illustrations, a background of foliage, which only serves to heighten the wealth of their gorgeous tints.

Let us then consider what varieties are best for providing us with hosts of flowers for our vases and epergnes, as well as giving us blossoms over the longest period. As already mentioned, there are the Netted Irises which are fragrant and bloom early. Similar in colour and sweet scented also are the flowers of

Irises again belong to a distinct class, blooming a little later than the German, tall and stately, possessing many self colours, having rush-like foliage. I. orchoides is extremely beautiful, differing entirely from any other, and preferring a warm, sheltered situation. I. asiatica closely resembles the German, but the blossoms are finer. But it is doubtful whether any of those mentioned have ever been so popular as the Spanish Irises are to-day. To say that they are extremely light and graceful, and, therefore, particularly adapted to table decoration, will grow in any open situation in a free, well drained soil, flower freely, are possessed of delicate colour, and that bulbs are cheap, is only giving expression to facts that are now well known. Not many, however, when planting the bulbs in beds in September remember to pot up a few for early spring blooming in the house. Not the Spanish alone lend themselves to forcing, but many of the other sorts, if lifted from the open and brought under glass in spring, will bloom freely. Irises to be effective should be grouped together, as here depicted, and in planting one should remember those that bloom late as well as at midsummer, kinds like alata, whose lilac blossoms flecked with yellow remain with us on

spicum, D. Lavender, D. Lifeguardsman, and D. Celestial for the central portion, with Liliun candidum in clusters around, and, again, a belt of such Phloxes as Etia, Coquelicot, Embusement, Lothair, all red shades, and Sylphide, Mrs. E. H. Jenkins, Avalancher, Panama, all pure white, arranged at will. Outside these a few Pyrethrums may appear, Mrs. Bateman Brown, crimson carmine, Hamlet, pink, Sherlock, carmine, coccinea, fiery red, to be interspersed with Aster Amellus, A. acris, A. laevigatus, etc., and bordered with a few clumps of Daffodils, as Emperor, Empress, Sir Watkin, Golden Spur, and princeps, with such plants as Aster alpinus, Phlox divaricata, Arnebia echioides, Armeria cephalotes rubra, and Phlox setacea in variety at the margin proper. The remaining four beds, Nos. 1, 3, 5, 7, could be occupied with Japanese Anemones in three shades, Liliun tigrinum, Galtonia candicans, Gaillardias, such double Pyrethrums as J. N. Twerdy, Capt. Nares, Aphrodite, Ne Plus Ultra, with Iris pallida, Queen of May, L'Innocence, Darius, Mrs. Darwin, Chelles, Dr. Bernice, etc., hybrid Columbines, Delphiniums, Belladonna, Lupines, Coreopsis, and the small Day Lilies, as Hemerocallis flava, H. Thunbergi, etc., Dornicum,

Scabiosa caucasica and alba, a few select Michaelmas Daisies, as *N. B. densus*, *cordifolius* and *elegans*, *turbinellus*, *Lindloyanus*, *Esme*, *N. A. Mrs. Rayner*, *N. A. roseus*, etc. The above are 3 feet high or more, and dwarfier things to complete the beds may consist of good Self Carnations, double Pinks, *Heuchera sanguinea*, *Dianthus barbatus magnificus*, *Campanula Hendersoni*, *C. carpatica* and *alba*, *C. turbinata*, *C. glomerata speciosa*, *Iris nudicaule*, *Primula denticulata*, *P. Cashmorianae*, *P. rosea*, the new double whits *Arabis*, *Anemone apennina*, *A. Pulsatilla*, *A. sylvestris*, with *Aubricitias*, etc. Tufts of *Moerhousias*, groups of *Lilics*, of *Daffodils*, and of *Gladiolus*, particularly the *Lemoinei* section of the latter, may also be added for filling in small places and the like, and thus provide a sort of *mutum in parvo* style of grouping wherein variety and a long season of flowering would be the leading features.

TUFTED PANSIES—PREPARATIONS FOR AUTUMN PROPAGATION.

A WELL-GROWN lot of Tufted Pansies will blossom from March until October, and even later when the position and soil are suitable, and to take cuttings from plants blossoming freely means spoiling the display for sometime at least. Readers who desire to grow these plants largely, and who also wish to propagate annually by cuttings, would find planting a few old stools in any out-of-the-way place in the garden, where, of course, they obtain a certain amount of sunshine each day, answer their purpose. These stock plants can be kept cut back from time to time, and as a result they will form veritable tufts of beautiful, sturdy, short-jointed growths. If some light and gritty soil can be worked into the crowns of these old stock plants during the late summer, many of the pieces will quickly emit roots, which may be detached and planted out in a bed specially prepared for them, and, if need be, again planted out in their permanent quarters before the hard weather sets in. Another method of dealing with old stock plants of this description is lifting them when their shoots are of the desired length and dividing them. By these means quite a large stock can be raised very quickly. This method of increasing the stock of new and choice sorts is followed by one of our leading trade growers. When the pieces just referred to have become established they soon form new growths, and in a short time they in turn may be divided. By this method of raising plants there is very little cutting about of the divided portions of the stock plants likely to take place. Here and there an unwieldy piece of coarse growth may have to be cut back, but in almost every instance the shoots will have roots adhering. In warm weather it is well to shade the cutting beds or cold-frames into which these fresh pieces are put, and in the early evening to sprinkle them with water from a fine-rosed can, as green-fly and red-spider are encouraged by dry conditions.

In the case of those who do not wish to spoil their display by robbing the plants of their young growths at this season, it would be better to cut back a plant here and there among the more crowded of those in the beds and borders. With ordinary care the beauty of the display may be scarcely interfered with. Cut back the coarse growths, as well as those which are weak and elongated, to within an inch or two of the crown of the plant, and have ready a quantity of light, gritty soil to work into and around the cut-back specimens. Equal parts of loam, leaf-mould, and coarse sand or road-grit, passed through a sieve with a coarse mesh, is an ideal compost with which to mulch the plants. It is also a good plan to slightly loosen the soil round the cut-back plants. In dry weather copious supplies of clear water should be given. It is astonishing how quickly the plants regain their vigour, and, in consequence, cuttings of a desirable kind and in goodly numbers may be detached, and in some cases with roots freely omitted from their base.

Where only a limited number of plants is required, the reader may get these from the plants in flower. One or two cuttings from each plant will, no doubt, meet the requirements of some growers, and by carefully

detaching these with a sharp knife the plants will not be interfered with. Only those shoots of recent growth should be taken, and if they be made into cuttings of about 3 inches in length, no better material could be chosen. The cutting-bed should receive some consideration, and although some put the cuttings into cold-frames, I prefer to give them quite hardy treatment, making up a bed outside for their reception. At this time the cutting-bed should be arranged in a nicely protected quarter of the garden, with a warm aspect. Make up the soil some few inches above the ordinary garden level, seeing that this is of a light and gritty character. The surface should be made as even and level as possible, and slightly firmed. An hour or two before the cuttings are to be inserted give the cutting-bed a good soaking with clear water from a fine-rosed can, and all is then ready for inserting the cuttings.

D. B. C.

WHITE FLOWERS.

If you will allow me, I think I can add to the list of white flowers for "S. E. P." Earliest of all come double white Primroses, Snowdrops, double white Violets, and single *Acaerulea* The Bride, closely followed by double white Stocks. All of these are good cut flowers for little bowls or troughs. In addition to *Narcissus poeticus*, *N. p. ornatus*, and *N. p. fl.-pl.*, there are several good white flowering bulbs: double and single Tulips (early and late), *Allium neapolitanum*, *Anthericum Liliastrum*, *A. L. majus* and *A. Liliago*, *Brodiaea capitata*, *B. congesta*, *Camassia esculenta alba*, *Snowflakes* (both spring and summer), *Lilium candidum* (the lovely Virgin Lily), *Gladiolus The Bride*, *Ornithogalum*, the best being *arabicum* and *pyramidalis*, *Trillium grandiflorum*, *Triteleia biflora* and *T. uniflora alba*, *Scilla natanis alba*, *Ranunculus*, English and Spanish *Iris*, Dutch *Hyacinths*, several varieties of *Anemones* and *Grape Hyacinths*. To your list of plants I add German *Iris*, single and double *Paeonies*, *Aquilegia* (the best being *Munstead White*), *Canterbury Bells*, *Phloxes*, *Lupins*, *Christmas Roses* (I should have put these as January flowers), *Agapanthus umbellatus albus*, *Spireas*, *Cimicifuga*, *Dahlias*, *Snapsdragons*, *Saxifraga trifurcata* (the Stag's-horn S.), *Pinks*, *Carnations*, white *Ice-land Poppy*, *Scabiosa caucasica alba*, white *Tree Lupin*, white *Perennial Cornflowers*. The whole of these are good, hardy, inexpensive, and, I can vouch from personal experience, good for cutting. The *Canterbury Belle* are properly biennials, but they last for several years in our hot, dry soil. A few annuals should be added: *White Sweet Peas*, white *German Scabious*, white *Gypsophila elegans*, and white *Jap. Asters*. *White Tufted Pansies* make a most exquisite table arrangement in shallow troughs with their own sprays. *Lily of the Valley* should also be grown. Finally, to carry on till the *Christmas Roses* are in flower, there must be *Chrysanthemums*. My list, in addition to the Editor's, will, at any rate in the west country, give flowers all the year round with the help of *Roses*, *Clematis*, *Mock Orange*, *Lilac*, white *Weigela*, double white *Cherry*, *Deutzia*, *Hydrangea*, *Magnolias*, *Viburnum*, *Laurustinus*, *Exochorda Alberti*, and *Jasminum*.

A. BAYLON.

Dartish, S. Devon.

NOTES AND REPLIES.

A rose-coloured border.—Being overrun with rabbits I am obliged to have most of my flowers in a walled kitchen garden, and this year, quite by chance, my border which runs on each side of the middle path has been all shades of rose colour with *Shirley Poppies*, *Salmon Queen Clarkia*, *Phlox dentata* shades, *Malope grandiflora*, *Pink Lavatera*, and *Snapsdragons*. At the end of the walk the colour scheme is completed by a *Crimson Rambler Rose*, which is being trained to cover an arch over the entrance gate. Had I planned it the effect could not be more successful. I find that the *Salmon Queen Clarkia* is one of the most useful annuals, not only for massing in the border but also for cutting. I did the dinner-table not long ago with long sprays of the *Clarkia* and *Shirley Poppies* of exactly the same shade. I also have a long bed in the same garden with *Sweet*

Peas (in separate colours) in a zigzag ribbon pattern, and Cactus Dahlias in the spaces. I wonder if the *Sweet Peas* are as fine everywhere as they are here this year. A great many of the flowers have four blooms, and I have even found five.—A CONSTANT READER.

Pentstemons, propagating.—The end of September and early part of October is the best time of the year in which to increase *Pentstemons*, all that is required being a cold-frame and a bed made up of loam and leaf-mould, with an addition of coarse sharp sand placed on the surface. After making the bed solid, the cuttings should be dibbled in, giving 2 inches or 3 inches between each, and shading from sunshine, when necessary, for a time, admitting a little air in the frame each day by tilting the lights. In a hard winter *Pentstemons* will survive in a cold-frame, and they are so showy in beds and borders as to warrant one giving them the careful attention now. On a warm, sheltered border, if cuttings are placed in now, a handlight will suffice for covering them.—W. F. D.

Lifting bulbs (*Scotticus Plenus*).—You may lift and replant any of the bulbs named at option, or you may leave all alone as they are. If you decide to lift, it is better than now, in fact, it were better done in July than now, as some, at least, will very quickly be rooting afresh. Those that are best lifted each year are certain *Polyanthus Narcissus*, *Tulips*, and *Anemones*. This, however, entirely depends upon what they are and the class of soil in which they are growing—an important item, concerning which you give no information. Some *Anemones* are best left alone, other kinds are better in certain soils if lifted each year. You give us no information as to what kinds you refer to, and the genus is very large one indeed. *Chionodoxa*, *Scillas*, *Winter Aconites*, *Crocus*, *Snowdrops*, if the common kinds, may go on in the same soil for years, while *Narcissus*, *Tulips*, and *Iris* require in a measure periodical lifting in July. All the bulbs you name succeed quite well in the usual sandy loams, though some kinds are found to do quite well in the more clayey soils. Some *Narcissus*—*c.g.*, *poeticus* kind, *incomparabilis* in variety generally, *maximus*, *principes* and *Emperor*—are quite a success when grown in strong or heavy loam, and in particular where such soils are well-drained, a most important item generally.

Sweet Peas 9 feet high.—With growers in specially moist and favoured situations *Sweet Peas* frequently attain a height of 7 feet to 9 feet, more or less, and as they always present a fine appearance, and also make an effective display in the garden when attaining such a height, with its accompanying broad proportions, a result such as this is always worth striving for. Plants of these extraordinary dimensions are not confined to the gardens of those in favoured situations, for this year, at any rate. Ours have never been so grand, nor have they remained in good form for so long a time in all our experience with these flowers. Our collection is grown on the side of a hill with a north-western aspect, and, as a rule, watering occupies the greater share of our time all through the flowering season. The display with us usually ends by mid-August, with an occasional spasmodic interval of bloom in cooler and moister weather. During the present season, except for a few brief experiences of warm weather in late June and July, very little watering has been done. We have now and then in the showery weather treated the plants to a liberal supply of a well-known patent manure, and to this treatment the plants have given a liberal response in the form of blooms of extra excellence. In a normal season, through being on the hillside, unless copious supplies of water are always given, and these persistently, comparatively little growth is made. The water so quickly runs away that the work of watering is made so much the harder thereby. At the time of writing (September 3rd) our plants vary between 7 feet and 9 feet in height, and they are very handsome indeed. Never has there been so prolific a display and the quality of the blooms so fine. These facts go to prove how abnormal is the season we are passing through, and also how extraordinary are its results. The stronger growing kinds in our collection

are: Lovely, Hon. Mrs. Kenyon, Mars, Duke of Westminster, Black Knight, Prince of Wales, Miss Willmot, Prima Donna, and Salopian.—D. B. C.

Walled-in gardens.—There are many people, I imagine, who, in consequence of the bleakness of the locality in which they reside, are hindered to some extent in growing certain subjects in their gardens, and instead of planting what they like, are obliged to be content with what will thrive. This is so very often in many parts of Scotland and the north of England, where tender things like Tea Roses, and Crinums, Clematises, Tritomas, Passifloras, Lilies, etc., die off during a hard winter, despite the temporary measures that may be adopted for their protection. I knew a man who lived in Cumberland, in a cold, exposed part, who tried Roses for several seasons, but had eventually to give up the idea, owing to the adverse conditions he had to encounter in his garden, which was open on all sides, and I doubt not that his experience is only that of others similarly situated. But in a walled-in garden what a deal one may do, and to what use walls may be put for the culture of fruit-trees, climbing plants, etc. In the matter of

ent flowers. *Coreopsis grandiflora* is one of the most free flowering plants that it is possible to grow, and must be replaced with young stock every year. Canterbury Bells in all shades of colour, Sweet Williams, Antirrhinums, and Carnations of the Grenadin type, also the always welcome Cornflowers, and many plants that are really annuals, if sown in spring are equally effective. Sown late in summer and treated as biennials, many a waste corner may be rendered very pretty by scattering any spare seed over it at this time of year and leaving the plants to flower. Many kinds of Poppies, too, make splendid masses of colour treated in this way.—J. G., Gosport.

Exhibiting hardy flowers.—This is a matter which has never yet received the consideration it deserves. The indifferent manner in which many delightful flowers are staged is not confined to the local shows throughout the United Kingdom. It is quite distressing sometimes to see bunches of our best hardy flowers jumbled up together, with little or no effect, and often with about twice as many sprays of blossoms in the bunch as are really needed to display the subject properly. The idea in the minds of those making the exhibit appears to

tightly packed together, with stems altogether out of proportion to the subject exhibited.—W. V. T.

TREES AND SHRUBS.

FLOWERING CLIMBERS.

Roses are amongst the loveliest of our climbing plants, but there are many others excellently adapted for covering porches, verandahs, pergolas, summer-houses, and trellises that are most attractive in their flowering seasons. Of these the Clematis family occupies a foremost position. The large flowered Clematises of the Jackmani, patens, florida, and lanuginosa sections, with their great blossoms, double and single, ranging in colour from deepest purple, through varied tints of mauve and lavender to white, are deservedly favourites, so striking is the picture they present when at the zenith of their display. These, however, are of less vigorous growth than many of the species, which, though producing smaller and less deeply-coloured flowers, are equally effective. *C. balerica* or *calycina* is valuable on account of its early flowering, bearing its white, purple-spotted flowers in February. Towards the end of May and in the beginning of June the beautiful *C. montana* perfects its masses of ivory-white star flowers, while early in September the Virgii's Bower (*C. flammula*) is shrouded in a veil of small, sweetly perfumed white blossoms, followed later by the very similar *C. paniculata*, whose flowers are Hawthorn-scented.

The yellow-flowered *C. graveolens* is also an attractive plant and a rapid grower. Honey-suckles, with their trails of odorous blossoms, are well fitted for the porch, as is the white Jaemino, on account of the sweet scent that is wafted by the breeze into the house through open doors and windows. The Trumpet Honeysuckle (*Lonicera sempervirens*), with its scarlet and yellow flowers, is the handsomest of its family; but others are well worth growing, such as *L. japonica* and its golden-leaved variety, *L. confusa*, *L. flexuosa*, and the native *L. periclymenum*. The white Jasmine (*J. officinale*), beloved of cottagers, is ever-welcome for its white perfumed flower-clusters, and soon covers porch or archway. The Wistaria is a noble climber, large specimens draping walls for a length of 100 feet with their drooping, lavender flower-clusters. It is, however, enjoyed to best advantage where the walker may pass beneath its drooping, fragrant flower fringe as when used for covering a flat, horizontal trellis. Its one fault is that in its earlier stages it sometimes makes but very little growth, but, when it once starts, it increases rapidly. The Passion-flower is a very vigorous grower, and is practically ever-green, only losing its old leaves as the young ones are pushed out in the spring. Both the old so-called blue Passion-flower and its white variety Constance Elliot are handsome, and provide a second period of attractiveness in the autumn and early winter when hung with their golden-orange fruits. Of the Tropaeolums, the Flame Nasturtium (*T. speciosum*) is a brilliant sight when in flower, but in the south it requires a position where its roots are in constant shade. *T. tuberosum* enjoys, on the contrary, the sunniest site available, where it will produce a profusion of its crimson and orange flowers. *Bignonia radicans* is a brilliant-flowered climber, being a blaze of orange-scarlet in August. The proper title for this plant is Tecoma, but it is better known by the title of Bignonia. The great Bindweed (*Calystegia*) is scarcely a plant to introduce into the border on account of its wandering and aggressive habit, but it is a beautiful sight when covered with its large white flowers. The double Biodweed (*C.*



A cottage entrance. From a photograph by F. Mason Good, Winchfield, Hants.

vegetable produce also it makes very often a difference of several weeks to the bringing of them to table, when grown under a warm wall and protected from north and east. Salads, too, may be had many weeks in good condition, a state of things not always obtainable in exposed gardens in winter and early spring. Anyone who has grown Tomatoes out-of-doors will admit that to plant largely is a risky business, owing to the absence of sun, and in dull, cold periods, as we have experienced lately, but when planted and trained under a south wall there is a much better chance of a crop.—W. F. D.

Sowing biennials.—Biennials include some of the most useful of garden flowers, both for decoration and cutting, and if the seed has not been sown, no time must be lost in getting it done, or there will not be time to get the plants well established before the cold weather sets in. Wallflowers are probably the most extensively grown of all biennials. Then the Stocks of the Brompton and Queen types should also be sown at once. *Myosotis*, one of the old favourites that never seems to lack admirers, and *Pansies* should also receive attention. *Gaillardias* have of late come much to the front, and are invaluable for supplying

be that of creating a dense mass rather than to show off the charms of each individual subject. While this is so the cultivation of hardy plants will never be taken up so readily by would-be growers as would be the case if the flowers of each kind were more pleasingly and naturally set up. Fragrant instances of the kind here referred to are met with at the great show of the R.H.S. at the Temple, and not infrequently do these remarks apply with equal force to the fortnightly displays at the Drill Hall. There appears to be an idea that the stems of many flowers, no matter what their height and characteristics may be, should be cut at about the same length, and in consequence visitors are completely at a loss to know what are the points of merit of the respective subjects. We sometimes find, also bunched together in a glorious mass of colour, subjects which the well-informed know full well are somewhat unattractive or meagre in their display in the hardy border, and which by their representation at the shows are distinctly misleading. There are so many excellent hardy flowers now in commerce that the indifferent things can easily be spared. The fault in exhibiting hardy flowers at local shows generally lies in staging rather small bunches,

pubescens fl. pl.) is, however, not so rampant a grower, and has pretty flesh-coloured flowers. *Polygonum bulbocucurbitum* is a very pretty sight when covered with its large drooping clusters of small lavender flowers. It is of rapid growth, and will soon cover a small tree. Two rarely seen and pretty, but not strikingly beautiful, climbers are *Menispermum canadense* and *Periploca græca*, though the latter is not to be recommended for the neighbourhood of the house, on account of the rather unpleasant odour emitted by its small red-brown flowers. The *Menispermum* has handsome Vine shaped leaves and feathery clusters of yellow-white flowers. S. W. F.

INDOOR PLANTS.

RAISING FUCHSIAS FROM SEED.

Will you kindly let me know whether I can raise Fuchsias from seed, and how to do it, as I have some very fine Fuchsias that have berries on like Cherries?—S. HALL.

[Even if no particularly striking results in the way of new varieties occur in raising Fuchsias from seed, still it is worth doing, because the peculiar enjoyment obtained from growing and blooming seedling plants is of such a nature as to constitute what may be safely termed one of the chief pleasures of gardening. Some care is necessary in order to secure as far as possible good varieties of Fuchsia from which to save seed. Not only should good varieties be selected for seeding, but the flowers must be fertilised so as to obtain the certain qualifications or characteristics of a desired order. Having, therefore, selected the plants from which it is intended to take seed, they should be carefully watched as the flowers expand, and all imperfect blossoms removed, those alone being retained which are quite true to character. From the flower intended to bear seed all the anthers should be cut away; then, by means of a fine camel-hair brush, the pollen should be collected from the flowers to be used for fertilising purposes and laid on the stigma of the parent, tying a piece of thread or some such mark about the flowers to identify those which have been fertilised. A bag made of thin muslin or some such material should be used to cover the fertilised flowers, or bees and other insects will spoil the work of the operator. The seed will ripen just as well outdoors as indoors, but unless means be taken to protect the seed-pods the birds are apt to take them. Like other fruits, the seed-pods of the Fuchsia will fall off the branches when ripe—sometimes before they are ripe—and we remember it was the practice of a good raiser of Fuchsias when a pod fell immediately to press it in the palm of his hand and carefully pick all the seeds out of the pulp with the point of a penknife, and then spread them out on a clean sheet of writing-paper, leaving each seed at a little distance apart from its fellows. Then for an hour or two the seeds were placed on a shelf in the sun, and covered with a piece of glass to keep them from being blown away. After they were dry the seeds were placed in a wooden or paper box, with a little dry silver sand about them to preserve them till wanted for sowing. It is not difficult to obtain Fuchsia-seed, but it is much better to sow twenty seeds obtained from carefully fertilised flowers than three hundred selected indiscriminately.]

TIME TO SOW.—This will vary according to the means of protection at command; if it be a mild, open winter the beginning of January is a good time, or if then the weather be wintry and ungenial it may be delayed until February; but, generally speaking, the earlier in the year it is sown the better. The seed germinates best when grown in a propagating house, heated on the tank system, using for the seed shallow pans filled with a light, well-drained soil, which should be flattened down to a smooth surface about $\frac{3}{4}$ inch from the top of the pan, and on this level surface the seeds require to be placed thinly, and these should then be covered with $\frac{1}{2}$ inch thickness of fine light soil—sifted leaf-mould and silver sand will answer admirably. The pans should then be plunged in the hot-bed up to their rims, after which water should be applied with a fine syringe to slightly moisten the surface of the soil. Those who have not a propagating-house should delay the sowing for a few weeks until they have a

frame heated by manure, plunging the seed-pans in the same way; but in the case of a manure-bed great care is required in covering at night, in giving air, etc., for if there has been any carelessness in making the bed, or the pans containing seeds have been put into the frame before the bed was properly ready, the seeds will germinate quickly, but will dump off as fast as they appear above the surface of the soil in which they are sown. For three weeks or a month, under the most favourable conditions, the best plan is to keep the surface of the seed-pans just moist, not wet, and frequent examination should be made to see that no insect pests are at them. When the plants have put forth a second pair of leaves above the seed-leaves the strongest should be pricked out into small 60-sized pots, using a light compost for the roots. This gives room for the plants remaining in the seed-pans to grow, and some Fuchsia cultivators are of opinion that this is the time when the seedlings least feel the check of removal. When the seedlings are potted the pots should be plunged in a moist bed, as it tends to keep the roots damp and dispenses with the necessity of giving much water overhead, from the excessive use of which the young plants frequently dump off at the surface of the soil. Heat, moisture, and shade are required at this stage of the young seedlings' growth, and on no account should they be allowed to receive a check, for their early and successful blooming entirely depends upon their treatment at this stage. As the plants make growth the leading shoot should be neatly tied to a stake, and when the small pots become filled with roots they should be shifted into 48-sized pots, and in them the plants may be flowered.

There is a wonderful charm in watching the opening blossoms of seedling plants, even if they do not exhibit qualities above mediocrity, but they frequently show characteristics of much value, particularly if due care has been taken to select proper parents. Seedling Fuchsias, if of a good strain, generally grow freely and flower profusely.]

PLANTS TO GROW UNDER STAGING.

(REPLY TO "RUBBING.")

FOR your house No. 1, the following plants would be available for the purpose you name: *Begonias*, the more vigorous varieties of the *Rex* section, do well under such conditions if there is no heavy drip on the foliage. *Cyrtolera* (*Episcia*) *chontalensis*, *fulgida*, and *melanica*: These are all creeping plants with prettily-marked velvety leaves and bright red flowers. *Pilea repens* and *minima*: Both of these are good climbing plants for a lamp wall, to which they attach themselves without trouble, whilst they will also clothe the ground or pillars used for supporting the stage. *Fittonia argyrea* and *Pearcei*, pretty creeping plants with handsomely-marked leaves. *Panicum variegatum*, a Grass-like plant with striped leaves that grows freely. *Pellionia Dayana* and *pulchra*, free-growing creepers with dark olive-green leaves more or less mottled. *Pilea muscosa*, a Fern-like subject that will grow in a warm house, and also in a cool one. *Tralescandia zebrina*: The quick growth of this combined with its prettily-striped leaves renders it a general favourite for clothing the ground beneath stages and for similar purposes.

Of Ferns likely to suit you may be especially mentioned:—*Adiantum cuneatum*, *Blechnum occidentale*, *Davallia bullata*, *Nephrodium molle corymbiferum*, *Niphololus lingua*, *Pteris cretica*, *Pteris cretica albo-lineata*; and of the Moss-like *Selaginellas* there are:—*S. caesia*, *S. Emeliana*, *S. Kraussiana* (*S. denticulata* of gardens), and *S. Kraussiana aurea*. Next along the edge that is free from drip you may, if you like, plant a row of seedling *Streptocarpus*, which will do fairly well in such a position, and their flowers serve to lighten up the other subjects.

In house No. 2 much the same plants will be available, except that the drip will be detrimental to the *Streptocarpus*.

For house No. 3 a hardier class of plants is needed, and of these the following should suit you:—*Farfugium grande*, a plant with Colts-foot like leaves, rich green, spotted yellow; *Ficus repens* above mentioned

Isolepis gracilis, forms a tuft of beautiful green Grass-like leaves; *Stenotaphrum glabrum variegatum*, a rapid creeping Grass, rooting at every joint, with white striped leaves. Of Ferns, *Cyrtomium falcatum*, *Doodia aspera*, *Lastrea decomposita*, *Lastrea lepida*, *Lastrea varia*, *Platyloma rotundifolia*, *Polystichum setosum*, *Pteris serrulata*, *Pteris serrulata cristata*, *Pteris umbrosa*, and *Pteris Wimsetti*. The creeping *Selaginella Kraussiana* above referred to will also do well in the greenhouse.

NOTES AND REPLIES.

Nerines and Vallotas (C. S.).—I

your *Vallotas* and *Nerines* are going to flower this season they should be by now showing their spikes. The *Vallotas* never need drying to the extent of the *Nerines*, hence you may safely water them; but we scarcely know what to say about the *Nerines*, for, as a rule, the safer way is to wait till their flower-spikes appear before giving any water. Briefly summed up, the treatment *Nerines* need is this: They flower in the autumn, and then start into growth, after which they must be placed in a good light position in the greenhouse and kept watered, for they continue to grow throughout the winter and spring months. They need no shade whatever, and directly the leaves turn yellow and show signs of going to rest—generally in May or June—less water must be given, and finally discontinued altogether. The best spot for them then is in a sunny frame with plenty of air, but lights to keep off the rain, or on a shelf in a glass structure, fully exposed to the sun. Directly the spikes make an appearance the soil must be watered, when the flowers will develop rapidly. If shaded when in flower, the blooms will last much longer than would otherwise be the case. If yours show signs of the leaves starting without any flower-spikes, it is very probable you will not get any blooms this year; but another season, if you proceed on the lines detailed above, you may reasonably anticipate a good display. If no spikes or young leaves appear, we should advise you to wait till the end of September before watering your *Nerines*.

Plants for small unheated greenhouse (*Miss E. K.*).—If you need as early a display of flowers as possible in your unheated greenhouse, the principal things you can obtain are hardy bulbs, for such things as *Hyalocallis*, *Tulips*, *Scilla sibirica*, *Narcissus* of different sorts, and similar subjects will all flower well in such a structure, and anticipate the usual season of blooming out-of-doors by a sufficiently long period to make yours thoroughly appreciated. Again, a few other hardy plants (not actually bulbs) that are often grown for forcing readily lend themselves for flowering under glass, particularly *Spiraea japonica*, *compacta multiflora*, and *astilboidea*. *Dielisya spectabilis*, and *Lily of the Valley*. Small shrubs, too, can be recommended, such as *Ilex gracilis* and *D. Lemouinei*. Hardy Azaleas of different kinds, *Prunus sinensis flore-pleno*, and *Spiraea confusa*. Of hardy foliage plants you have but little choice, unless it be a few of the hardy Ferns. Throughout the summer you could keep your greenhouse gay at very little expense by consulting the advertising columns of *GARDENING*, for many collections are sent out at a cheap rate, and if these are carefully attended to in the matter of potting, watering, and tying they will flower throughout the season. *Lilium longiflorum*, too, grown in such a structure will, about the end of May, unfold its silvery trumpets, and later on you may have *L. auratum*, while *L. speciosum* bridges over the time between some of the summer plants and the *Chrysanthemums*. A few of the last with the scarlet *Salvia splendens*, the blue *Salvia azurea grandiflora*, and the latest *Cannas* will flower as long as you can reasonably expect any in an unheated structure.

Freessias for winter.—In considering bulbs suited for indoor growing for supplying blossoms in winter and spring, it seems only natural that one should regard *Hyalocallis*, *Tulips*, *Narcissus*, etc., as indispensable where brightness and variety are wanted; but too often, I apprehend, we forget such useful subjects as *Freessias*, which are not the tender, heat-loving things many suppose. Their fragrance and beauty are admitted by all, but few

really understand that the conditions of a house where Zonals, Salvias, Primulas, etc., are bloomed in winter will meet all that these charming bulbs need. From the middle of July to the end of August is really the best time to pot them, and a compost of loam and leaf-soil, with peat and sharp sand, will suit. Drainage must be ample, as they cannot bear removal, and consequently must be grown from the commencement in the pots in which they are intended to flower. Two bulbs will suffice for a 3½-inch pot, and a cold-frame until the middle of September should be reserved for them, covering with ashes until foliage pushes through, after which their removal to a house should be arranged. In the matter of watering one must be guided by circumstances as to heat of house, etc., as too much moisture will soon turn the foliage yellow. On no account should repotting take place, as the roots, being very brittle, quickly break. Stimulants may be given, and weak liquid-manure will help them. In spring after flowering watering should be discontinued gradually until it may be withheld altogether, and the bulbs left in the pots until started again next autumn. — WOODBASTWICK.

CORDYLINA AUSTRALIS IN FLOWER.

This stately, almost tropical-looking plant has been in cultivation in the milder parts of Great Britain and Ireland for many years, and, when strong and old enough, it frequently blooms, bearing one or more large, densely-branched panicles of small whitish flowers, as shown in the annexed illustration. It is nearly hardy, but a severe frost will damage the half-developed leaves, the very young ones, which are enclosed in the cone of older ones, usually escaping. This can, however, be easily prevented by tying all the leaves up into a bunch, the outer ones protecting all the rest.

AN EXCELLENT COUNTRY EXHIBITION.

The horticultural world will always be indebted to its enthusiasts, as it is by their persistent overcoming of obstacles that many of the greatest successes have been achieved. It is astonishing what one man may accomplish for a neighbourhood, and instances of this kind are frequently in evidence. A notable instance is that in connection with the establishing of an annual exhibition at Charlbury, in Oxfordshire. Two years since Mr. H. W. G. Morris, an enthusiastic amateur gardener, who has made for himself quite an enviable notoriety at Thame, in the same county, migrated to Charlbury, and chiefly owing to his indefatigable efforts a show of flowers, fruits, and vegetables was instituted, and repeated on Thursday, 28th August last. Increased accommodation was provided, and all available space occupied with an excellent representative display. Cut flowers were staged in good form and excellent condition—much better, in fact, than one might expect considering the peculiarities of the present season. Annals are generally well done at country shows, and at Charlbury they make the most of them. Asters were staged in profusion, classes for each type being provided. Sweet Peas were much better than they are usually seen so late in the season. Zinnias, and collections of six and eight bunches respectively of annals distinct, show how highly these densely-grown

flowers are regarded. The bunches were large and handsome, and contained French and African Marigolds, Godetias, Sweet Peas, Nasturtiums, Petunias, Spiral Candytuft (very fine), Ten-week Stocks, annual Chrysanthomums, Nigellas, China Asters, and other subjects. Fruit was well shown. Plums, Pears, and Apples, each judged for flavour, were a praiseworthy feature, as were also those for culinary purposes too. One large tent was almost exclusively devoted to the display of vegetables, and these were of a high order of merit and thoroughly representative. At Charlbury, like many other places in the country, the Potato disease was very prevalent, and a large proportion of the best tubers in the garden could not be used for exhibition purposes. The large gardens of the neighbourhood contributed their quota of interest to the exhibition. Their display of fruit was very fine, Grapes, Peaches, Nectarines, Apricots, Plums, Melons, Figs, Pears, and Apples being largely in evidence, giving their less favoured competitors a standard to which they might

which one may propagate. Many of these growths can be pulled off, and, as some of them have roots attached, they will go ahead and make nice sized plants before winter sets in. It is of little use to expect Pansies to furnish cuttings whilst they are full of blooms, and it is almost worse than useless to utilise stems carrying blooms as cuttings, for in most instances it will be found that they are hollow. The best plan, therefore, is to stop them from blooming, pinch out the leaders, which will at once cause shoots to spring from the base. If the weather should prove at all dry, the plants should be kept well watered. Cuttings got in by September will make well established plants by November, and bloom well another year. A bed made up in the garden should have some sharp sand or road-scrappings dug in before the cuttings are put in, and then a hand-light placed over all to prevent flagging. —TOWNSMAN.

CHRYSANTHEMUMS.

EARLY-FLOWERING CHRYSANTHEMUMS.

By mid-September at the very latest the plants in this section should be housed, and if many are grown the house should receive a thorough clean-out, by scrubbing woodwork, glass, etc., with hot water and soap, not forgetting to go into all the corners, where insect life is invariably found. The pots also should be cleaned before taking them inside, and any decayed foliage removed. These little attentions go a long way in making a house of 'Mums a credit to the grower. I think a good batch of these plants should always be grown, because there is a lull at this time of the year, the Geraniums, Fuchsias, Begonias, etc., being on their last legs, and therefore the early Chrysanthemums are almost indispensable, being both useful and offering also a distinct change in the house. There is a great deal of beauty about these plants when allowed to grow naturally; they require no staking and bloom most abundantly. There are now a great many new varieties on the market, some of which I have tried, but I always stick to a few old sorts, such as G. Wernig, Mrs. Hawkins, A. Dufour, Lady Fitzwygram, Mme. Marie Masse, and last, but by no means least, Mme. Desgrange. The Pompon section of this class are also very pretty and useful, and good varieties, such as the following, do extremely well, requiring just the same treatment as the foregoing:—Alice Butcher, red, shaded orange; Miss Davis, pink sport from Mrs. Cullingford; Toreador, crimson; La Vierge, pure white, large; California, bright yellow; and Mrs. Cullingford, pure white, and an exceedingly fine bloom. There are many others equally as good, names of which may be found in any Chrysanthemum catalogue. D. G. McL. *Bridge of Weir, N.B.*



Cordylina australis in bloom. From a photograph sent by Mr. J. A. Jones, 135, St. Stephen's Green, Dublin.

attain. The table decorations were particularly charming and simple. The first prize was awarded to a display of the pretty little blue Harebell, with just a few plumes of some of the finer Grasses. The whole thing was very simple, yet distinctly dainty. The second prize combined Sweet Peas in a pleasing blend of colours. A very large and totally unsuited display of La France Roses was put out of court, as the idea in its arrangement precluded its use on the dinner-table. For a sideboard decoration, however, it would have been superb. The only adjuncts to the flowers were long and graceful sprays of Rose foliage, which was a very handsome accompaniment. Farm produce, in the form of Turnips, Swedes, and Mangold Wurzels, was arranged on the Grass outside the tent, and these were freely staged and splendidly represented.

An effort such as this proves what one enthusiast can do in an out-of-the-way place in the country. D. B. C.

Pansies.—No time should be lost in cutting back Pansies in order to induce them to throw up short growths from the base, from

Japanese Chrysanthemums.—If exhibiting is a point to consider, it is wise to place the Japanese varieties in a house by themselves, so that more fire-heat can be given them during the time the blooms are developing, as these better develop the florets under the influence of a little artificial heat. In all cases place the plants as near to the glass as possible, so that they may have the full benefit of the light. The colours of each are by this means brought out in truer character than they can be where the light is diffused. The flower-stems also do not become drawn up weakly as when the plants are far from the glass. If the peduncles are weak it is an indication that the flowers will not be good, except, of course, where the variety is characteristic in this respect.

Chrysanthemums—staking and tying.—We have just experienced a serious gale which lasted two days, and which tried these plants exceedingly. I had, therefore, a good opportunity of noting how the various plants fared, and how much damage was done in the way of stems snapping off. Where a large number are grown there are sometimes two or three at the tying process, and each man has his own way of doing so. In looking over some hundreds I find that where plants had four stakes inserted round the edge of the glass with a piece of Raffia round the stakes at intervals, and the stems in no way

ted, but encased between the four stakes and allowed play, there is not a single case where the shoots have been damaged. It is therefore easily seen that support in the manner described seems to be the best preventive of damage to the shoots by storms of wind.—D. G. McL., *B. of W., N.B.*

Annual Chrysanthemums.—Though we have entered upon the season when the most popular sorts of Chrysanthemums bloom, it is pleasant to record, in a summer in which dullness has predominated very much, and we have had a deal of wet weather, that the annual Chrysanthemums have again helped to make borders very gay and supplied quantities of flowers for cutting. Prominent amongst them is the Corn Marigold (*Chrysanthemum segetum*), whose golden-yellow blossoms are useful for vases, and the tri-coloured sorts like Lord Beauconsfield (crimson, edged yellow), W. E. Gladstone (rich crimson). Coronarium aureum and album, double yellow and white-flowered sorts respectively, are well adapted for cutting. All these will grow in the poorest soils, and may be sown in the open.—WOODBRISTWICK.

GARDEN PESTS AND FRIENDS.

Ants (*Thomas Harris*).—You ask for a remedy to get rid of these pests, but we are not sure we can accommodate you. Powdered arsenic with white sugar (castor) is good, as they eat it and are destroyed quickly and in large numbers. Such a thing would require to be so placed as to form a trap and yet be where it would remain dry. A little could be placed in a flower-pot, covering the top and just giving admittance by the bottom hole to the ants. Large numbers are to be attracted to one spot by placing an inverted flower-pot over or near the run. They will be sure to congregate inside, and a kettle of boiling water will dispose of hundreds. A few such traps will quickly diminish their numbers. The nests are often found at the side of a lawn. This year the pest has been unusually troublesome, as we know full well. We usually adopt some of the above ways of lessening their numbers, and when constantly hunted they not infrequently depart. The soot, etc., used in a neighbouring garden must have been intended for another purpose.

The Codlin-moth.—In your issue of 30th August, 1902, p. 338, an answer is given to F. G. Dutton, recommending greasy hands to be put round fruit-trees as a protection against the attacks of the Codlin-moth, as they prevent the females from getting on to the branches. There is some mistake about this. The females of the Winter-moth (*Chimotobia brumata*) may be deterred in this manner, as they are wingless, but the females of the Codlin-moth (*Carpocapsa pomonella*) cannot be caught in this way, as they have wings and fly well. The caterpillars of this insect, when they leave the Apples, at once endeavour to find a sheltered place where they can become chrysalides, and for this purpose frequently creep up the stems of the trees until they find a suitable place in the bark. In order to assist them in these endeavours, bands of hay or straw, or strips of sucking, etc., 8 inches or 10 inches wide and long enough to go round the tree, should be folded lengthwise, and then again, so as to make the second fold about 1½ inches wide. It should be tied round the trunk with the folds uppermost, about 6 inches or a foot above the ground. The caterpillars in crawling up the stems find these very convenient shelters all ready for them, and become chrysalides in them. The bands may be examined from time to time, and any caterpillars or chrysalides found in them destroyed. The bands should be placed in position as soon as any "windfalls" begin to fall, and should be kept in position until the crop is gathered, and the "windfalls" should be collected as soon as they drop, and if stored should be put in a place from which the moths cannot escape.—G. S. S.

As many of the most interesting notes and articles in "GARDENING" from the very beginning have come from its readers, we offer each week a copy of the latest edition of either "STOVE and GREENHOUSE PLANTS," or "THE ESCALON FLOWER GARDEN," to the sender of the most useful or interesting letter or short article published in the current week's issue, which will be marked thus *.

VEGETABLES.

GIANT ONIONS.

The frequent heavy rains and cloudy weather, causing the soil to become cold, are not this season favouring the swelling of Giant Onions raised from seed in the winter and planted out at the end of April. That the bulbs like ample warmth, especially sun-heat, allied to liberal manure waterings, there can be no doubt. They swell more rapidly, they are firmer and keep better, and become less thick necked. There is one feature of Giant Onion culture which has impressed me this season. It is that anyone having a fine stock and planting the best bulbs annually to produce seed, may yet be wrong to continue sowing from such strain for more than two or three years, and find it wisest to obtain seed of a good stock grown elsewhere for a change. Naturally, those who have a fine stock are loth to lose it or to trust to the getting of one equally good elsewhere. But it is wise to do so to some extent all the same—risking something, yet at the same time growing some bulbs from one's own strain. It would be a good plan to co-operate with a good grower at some distance who has diverse soil and exchange seed yearly with him. If that be not practicable, purchase from a good seed firm, but stipulating that the seed supplied be grown remote from yourself. Really fine Ailsa Creig, Cranston's Excelsior, A 1, and other superb Onions can be had if sowing be made on fairly good ground during the last week in August, plants being dibbled out 12 inches apart on rich soil in April. A few may bolt, but the bulk will bulb well, and such ones are at summer exhibitions very superior to any of the Rocca or Tripoli section. The finest bulbs if later and good keepers are those of the same fine varieties sown in shallow pans or boxes under glass early in January, then dibbled outdoors into good ground in April. A. D.

NOTES AND REPLIES.

Blind Cabbage-plants (*G. W. J.*).—Blindness amongst Cabbage-plants has been very uncommon this year, because abundant rains have caused quick growth. Whilst it is difficult to define the real cause, as sometimes it is thought to be due to insects, sometimes to a fungus, sometimes to cold, and other causes, we are disposed to think in your case the primary cause is too thick sowing, as we observe the plants sent are unduly water-logged and drawn, evidently having been too crowded in the seed-beds. Crowding is best avoided by sowing thinly in shallow drills, from 10 inches to 12 inches apart, as in that way the plants get ample room. They should not be allowed to become dry or meet with any check. You would, no doubt, find that free dustings with soot over night and good overhead waterings next morning would check any insect attack. Do that twice a week, till the plants are pulled for planting out.

Asparagus.—How seldom is Asparagus seen grown in cottage gardens or on allotments, except on elevated beds and in a very small way. If small growers could but see the very fine growth now found on beds that are comparatively flat, as is the rule to grow Asparagus in large gardens, they would note how relatively unsuitable is the raised bed system. Recently I saw growths on plants but two years from seed that were 6 feet in height and proportionately stout of stem. These plants were growing where sown in rows 2½ feet apart, and thinned out in the rows to 2 feet apart. The gain found in sowing where to remain permanently is very great, as the plants get so well established early, and are usually a full year in advance of those transplanted. The ground, before it is sown, should be deeply trenched, heavily manured low down, and also mixed with the top spit; also should have forked in the following year bone-dust and guano, and get during the summer liberal soakings of liquid-manure.—A. D.

Pea Gladstone.—Autocret, hitherto regarded as one of our very best late Peas for exhibition, seems now to have been displaced by the long, sword-shaped Gladstone, which, in a fine sample, contains ten Peas in a pod. That is, I believe, the maximum number found

in the pods of any variety so far. The pods and Peas are green, and, when cooked, of delicious quality. It is odd, but no one seems able to state who was the raiser of this fine variety. In the great competition at Shrewsbury Gladstone took the highest positions. Some of the leading vegetable exhibitors, in their collections, had included large pods of tall Peas of the Duke of Albany type, but these were all rather puffed, and when pressed on the sides were found to be soft, also opening badly. Free or easy shelling is a feature in Pea judging that should have due weight, as it is most annoying to find pods break in the hand rather than open freely. Gladstone Pea is of medium height, from 3 feet to 3½ feet, and is a heavy cropper. If sown early, it naturally succeeds the midseason varieties.—A. D.

Seed Potatoes.—Now that the work of lifting and storing this year's crop of Potatoes is one of the most pressing needs in the kitchen garden, it is a good time to make comparison of the returns in weight from home-saved seed and those that have been imported from fresh stock and different kind of soil. I am no advocate of buying everything that is new because it is well advertised, but I thoroughly believe that an entire change of one's seed Potatoes is rooney well laid out. In this locality we have some large growers of Potatoes who supply the barracks and the Fleet with many hundreds of tons, and I find that if there is one point on which they are unanimous, it is as regards a change of seed being of more importance than any other item of culture. On the South Coast the seed that is most largely used is that which comes direct from Scotland or the northern English counties. I need hardly say that amongst early Potatoes there are few that have held their ground so long as the Beauty of Hebron or American Rose, for it yields a heavier weight of tubers in June than any kind of Kidneys, but there are some excellent new kinds that are likely to supersede all these old favourites, and amongst long-keeping sorts I do not think any kind has been so largely or satisfactorily grown to yield heavy crops of handsome tubers equal to Up-to-Date. But in all probability the march of improvement will go on as long as Potatoes are required for food, and whether it be market growers or the smallest cottage gardener in the land, it is as well to discard at once the notion that any kind of tuber not fit for cooking is good enough for seed, for a good deal of the success of one's work depends on the kind of seed used.—J. G.

LAW AND CUSTOM.

Tenant's right on removal.—Can the tenant on a yearly agreement of a private garden legally remove trees planted by himself on the completion of his tenancy?—*Enox.*

[No, he cannot. This is evidently a question on which much misconception exists, for it is one we are very frequently called upon to answer.]

Tenant removing plants (*H. H.*).—The occupier of a private garden may not remove any plants, neither can he claim compensation for them. This may be a very hard thing, but it is law. Usually, a landlord allows an outgoing tenant to take some of the choice plants away, and you should ask your landlord to extend the same courtesy to you; but he may refuse if he chooses.

Claim to a vinery (*B. T. T.*).—According to your letter, you held some property on a lease and erected a vinery there. Subsequently you sub-let or assigned your lease, with the assent of your lessor, to a third person, who agreed to pay you a specific sum for the vinery and for other improvements. The landlord joined in the transfer of the lease, and you gave up possession, and also, it appears, received a part of the sum arranged to be paid for the vinery. Subsequently the lessor, you say, claimed the vinery to be his own because it is attached to the freehold, and your assignee refuses to pay the balance of the agreed sum, and you ask if you cannot now remove the vinery. You cannot do this, as you have parted with your interest in the property, but you may sue your assignee or transferee for the balance due on the contract between you. It is somewhat doubtful whether your lease was not actually surrendered to your landlord, but, as the assistance of a solicitor will be necessary in any proceedings you may

take against your successor, the solicitor will advise as to the precise form your action should take.—K. C. T.

A partnership question (A. B. C.).—Seven months since you entered into a contract with your employer to serve him as head gardener and to share (apparently equally) in the profits of the garden. A written agreement was entered into, securing to you, in addition to a share in the profits of the business, a weekly sum of wages, a house, coals, firewood, and vegetables, your employer also contracting to feed you in each year one fat pig weighing not less than 25 stones. The business was carried on in your name, and printed circulars were sent out, and business memoranda used upon which your name only appeared. Your employer now wishes you to give notice to determine the contract, and you ask if it would be wise for you to give such a notice; but this is a question I certainly cannot answer. If the business is profitable I suppose it will not be wise for you to give it up, and you should let your employer give you notice. It will then depend upon the terms of the agreement whether the notice given be good or not, and it may be a moot question whether you are a servant or a partner, although I think you are not a partner.—K. C. T.

A gardener's notice.—I engaged a gardener, single handed, without any stipulation as to notice to determine the contract. He commenced work on Tuesday, August 19th, and on Saturday, the 24th, asked for payment of wages, and I told him I would pay him on Tuesday, when his week would expire, and that in future I should pay him fortnightly. As, however, he explained he was in need of money, I paid him five days' wages. He did not suit me, and on Friday, the 15th of August, I told him I wished him to leave on Tuesday, the 19th, at the end of his fortnight, but he said he would have a week's notice. On Saturday, the 16th, I gave him written notice to leave that day week, and he replied in writing, "Your notice of 6 days is not necessary. I have already taken your notice yesterday to leave to-day, claiming a week's wages; if you object to that I shall proceed against you." I had said nothing to him about leaving on the Saturday. I had said him to go on the Tuesday following. On the Saturday night he asked me for a week's wages, which I paid him. He came on the Monday between 10 o'clock and 11 o'clock, and asked for a week's wages, but I did not see him. He left word that if I did not pay him within seven days he should take proceedings. What is my position?—AN ANXIOUS ENQUIRER.

Presumably the man was engaged at a weekly wage, and, if so, his wages were payable at the end of the week of service, and not before. You might, therefore, have refused to pay him until Tuesday, but, to oblige him, you gave him five days' pay on the Saturday. You could not, in the absence of an express stipulation or arrangement, pay him fortnightly, and if you wished the week of service to continue to end on Tuesday you should have paid him two days' (or one day's) pay on Tuesday, the 12th. But I do not see how you could expect the week to end on Tuesday if the man commenced work on Tuesday, for in that event his week ended on the Monday night. Let this be as it may, you did not pay him again until Saturday, the 16th, when you paid him a week's wages, and so it is evident that, formally or informally, the duration of the week was varied so as to expire on Saturday night. In the absence of any stipulation as to notice, a week's notice was at the least necessary, and the man was quite at liberty on Friday, the 15th, to refuse to leave on Tuesday, the 19th, and he was entitled to demand a week's notice, as he did do. You gave him a week's notice on Saturday, the 16th, to determine his service on Saturday, the 23rd, and you were perfectly right in so doing. The man's contract expired on the 23rd, and, as he left on the 16th without giving you proper notice, you can recover from him a week's wages for leaving without proper notice. His contention that he was entitled to accept your desire that he should leave on the 19th as a dismissal for the 16th, and that he would then be paid a week's wages in lieu of notice, is simply ridiculous, and I am surprised that you should have found it necessary to ask advice as to your position. Evidently you and your man have both of you peculiar views as to your powers and responsibilities. If I were in your place I should not wait for your late gardener to sue you, but I should sue him for a week's wages for leaving without first giving proper notice. You may, of course, think yourself well rid of him, and so may not trouble about him, but if he does sue you, you must certainly sue him.—K. C. T.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in *GARDENING* free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of *GARDENING*, 17, Finsbury-street, Holborn, London, E.C. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as *GARDENING* has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being warped and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Roses for boarded fence (J. Park).—A good crimson variety would be *Ards Rover* or *Forth Brunner*, and for a white one you could not plant a more beautiful Rose than *Mrs. Alfred Carrière*. The best time to plant is early in November.

Insects on Fern (S. B.).—The insect with which the fronds of the Fern you sent are infested is the brown scale, which can only be cleaned by hand. No insecticide strong enough to get rid of it can be used without at the same time killing your plant. Patience and careful attention only can keep your plant clean of such pests.

Gypsophila elegans (M. H.).—The *Gypsophila*, when established, though hardy, but small seedlings just above ground will be all the safer if wintered in a frame or cool-house, as an excess of rain is just as injurious to them as actual frost. Next spring they may be planted out, and the following winter will need no protection whatever.

Alostromerias in pots (Della).—Your seedling *Alostromerias* may be wintered in a cool-house or in an ordinary garden frame, as all they need is just protection from frost and from excessive moisture. At the same time they must not be dried up when dormant, but given just sufficient water to keep the soil slightly moist. It will be greatly to their advantage to protect in the winter and plant out in the forthcoming spring.

Asparagus Sprengeri (M. H.).—This is a native of South Africa, and like all plants from that region, it needs the protection of a greenhouse; indeed, where ground for sale more heat is generally given in order to obtain effective-sized plants in as short a time as possible. A suitable soil consists of two-thirds loam to one-third sand, with a little sand and some liquid manure or one of the many concentrated stimulants may be given when the pots get full of roots.

Carnations bursting (Norma).—The cause is chiefly with the variety, and is due in some measure to the shortness of calyx, the more or less bluntness of the calyx at the apex, and the great number of petals in the flower. Varieties with fewer petals and a longer, more uniformly-sized calyx are much more free from this bursting of the calyx. No culture can remedy it, but it is made worse by disbudbing, which naturally gives greater force to the flower-buds that remain.

Asparagus Sprengeri seeds (Northlands).—Gather the seed-berries on your *Asparagus Sprengeri* as soon as they part freely from the shoots, but not till then. Whether the seeds in the berries be fertile or otherwise will depend on their maturation, towards which a little warmth would help materially. Generally seeds grow very well here when ripe. Put the seeds into a box and well mix with quite dry sand. Keep in this condition all the winter, then in March mix with some loam, and sow in shallow pots or pans in fine soil, standing them in gentle heat in a greenhouse or frame.

Sweet Peas (A. T. Simpson).—There has been much trouble with the Sweet Peas this year by reason of their unevenness in various districts. It is, we believe, mainly due to the exceeding activity of the humble-bee last season in cross fertilizing the different varieties. Whether this is so or not, it is a very true that in a large number of instances this sportive character has been felt. At first it was regarded as want of care in the seed saving or some careless mixing up at harvest time. The many instances, however, that have come to light are far too numerous to admit of this being the only possible explanation.

Liliums (S. B.).—Bulbs of *Lilium speciosum*, *araucatum*, and *Harrisii* will, if properly treated, flower well next season again, but not longiformer. After they have done flowering this season, and the stalks have died down, the bulbs should be turned out of the pots and plunged outside in either loose sandy soil, or better still, in ashes or Cocoa-nut-fibre, and covered over with about 4 inches of the same material. They should be protected by mats or dew cloths against hard frosts in winter. To flower about mid-August they should be started about the middle of May, so as to let them grow naturally. It is best to start them in a frame or cold-pit.

Rose Crimson Rambler on a south wall (K. C. T.).—This is about the worst place one could plant this Rose, unless it is a low wall and there is a trellis above it. *Crimson Rambler* is a moisture-loving variety, and is very prone to attacks of red-spider, so that it should always be planted where abundance of air can circulate among its foliage, and its roots be supplied with plenty of moisture and good drainage. A trellis, pillar, gateway, stump of old tree, or any position in that line is the best manner of disposing of this brilliant Rose. A hedge of it makes a beautiful object if some Oak posts are let into the ground and some wires stretched at intervals and supported for a year or two.

Wallflowers (Suede).—It would appear that you made the first stop very early, or that in this instance, by reason of circumstances, a second pinching was necessary. When the flowering is desired in winter special means have to be taken, and the actual pinching of the shoots can only be determined by the progress of the plants and by the season. In the present instance a second stopping should have been made early in July. If you stop the shoots now the chances are there will be no flowering till late spring. You could, however, experiment with a plant, and presently lift and repot the batch, which may help to keep them in check. Taking notes of the progress of the plants is the best way of obtaining the requisite information in a special case like this.

Budded standard Briars (P.).—Supposing always the germ has not been removed from the bud, one can usually tell from the plump appearance of the eyes peeping through the binding that it has "taken," but to reduce the risk of unbudding too early, you should after three weeks unite the buds to prevent injury to the shoot, and re-tie them again immediately, but not quite so tightly as at first. The second tie may remain on all winter, and be a certain amount of protection to the buds. The first tie will not need a second tie, unless budded Briars, the first season unless really necessary. On referring to our back numbers you will learn exactly how to proceed with such Briars the first season. You can replant in November of the following year after budding.

Potting a plant (A.).—When a plant requires re-potting into a larger pot the old soil should not be shaken away from the roots, but merely the old drainage material be taken away, and a very little of the old soil removed from the top of ball of roots. The plant is held in position in the centre of the pot by the left hand, whilst the soil is placed round its roots by the right hand. The pot should, of course, be drained first, and a little rough material be placed over the drainage before the plant is put into the pot. The soil should, generally speaking, be pressed down rather firmly around the roots, and sufficient space—say an inch—should be left below the rim of the pot to hold water when required.

Climbers for a small stove (B.).—We should imagine the place in question does not require a very large growing plant, and few things better suited to the lovely small-flowered and neat-growing *Aristolochia elegans*. This is small-flowered for one of this genus. Its blossoms are produced freely and continuously, and they are quite destitute of the disagreeable odour peculiar to many of the species. The flowers are very beautiful, the ground colour being creamy-white, which is nearly covered with rich velvety dark purple, the throat being golden-yellow, round which is a continuous band of deep velvety purple. It is a showy plant, growing well potted in rich loam, peat, and leaf-mould, made tolerably gritty with sand, the pots being well drained, and a liberal supply of water given.

Sample of garden soil (Spade).—The soil is of fairly good quality, but the results obtainable depend very materially also upon the amount of it at the disposal of the roots, and particularly the depth. If the latter is of an average of 2 feet, you may, with good culture, grow many things quite well. The first thing to do is to have the entire set of borders trenched without delay, and give a heavy dressing either of cow-manure or of well-rotted horse-manure that has been some time in the heap. In digging in the manure, take the precaution of keeping it down, say, 12 inches below the surface. In this way the lower soil is enriched, and the roots are encouraged away from the surface. For Roses and many herbaceous plants a rich—i.e., more or less heavily-manured—soil is necessary.

Fuchsia fulgens (E. F. H.).—The leaves of your *Fuchsia* were much shrivelled on reaching us, but they appear to have suffered severely from the attacks of small yellow thrips, quite a microscopic insect, which was comparatively unknown till a few years ago, since when it has greatly increased, but, owing to the close and proper summer care it has not, in most gardens, at least made so much headway this year as it did during the last two or three preceding ones. The mischief is done while the leaves and stems are very young, so that by the time the condition of the plant is evident it is often impossible to find any thrips thereon. The most effectual remedy for these pests is vaporising with the XL All Vaporiser, but even then it needs to be done two or three times at intervals of about a week in order to destroy the eggs as well as the perfect insects. Syringing with any of the numerous insecticides will also accomplish the same end, while the best of the home-made remedies is strong soap and water, applied wetly with a syringe, taking great care to thoroughly wet the undersides of the leaves.

Sanchezias (Sumeret).—*Sanchezia nobilis variegata* is a native of Brazil, and in this country needs the temperature of a stove for its successful culture. Indeed, the conditions suitable for *Crotons*, except that it does not need so much direct sunshine, will suit it well. Given proper facilities, it is not at all difficult to propagate from cuttings of the young growing shoots in the spring. They should be about 4 inches long, taken off at a joint, the bottom pair of leaves removed, and then inserted singly into small, well-drained pots, filled with light sandy soil, such as equal parts of peat, loam, and sand. Then plunge the pots in a close propagating-case in the stove, where there is a gentle bottom-heat, when the cuttings will soon root, and must then be hardened off to the ordinary atmosphere of the stove. During the summer months this Sanchezia may be kept in a greenhouse, provided it is shaded and gets but little direct draught. A mixture of equal parts of loam, peat, and leaf-mould, with a good dash of sand, is a very suitable potting compost for it.

Redning growths of Rose Polyantha grandiflora (W. M. Cooper).—This is probably one of the most vigorous of ramblers, and is a fine variety where unlimited space is at one's disposal. But, as you say, its tremendous exuberance of growth will quickly smother other good things. Your best plan will be to cut away at once about half of the number of growths, retaining those well matured, and, if possible, having some laterals. We had a plant of this Rose last season growing in the open border, and one large growth being allowed to arch over produced a number of laterals that yielded fine trusses of blossoms. This one growth alone was a perfect picture, so that you may even reduce the number of growths to one or two, provided they are well

hardened. Each season, as the numerous sucker-like shoots appear, reduce them to about two in their earliest stages. Such growths as you leave for flowering should be left unpruned beyond shortening back each of the laterals to about 3 inches or 4 inches. These main growths, by suppressing the laterals, will be induced to lengthen, supposing they pass through the winter safely, for we have found this Rose somewhat tender, which proves it to be not a variety of *R. multiflora*, or, at least, it is making of the Tea or Noisette blood in it.

Making Carnations and Stocks flower about same period (*Charlie Cubley*).—This query is somewhat difficult for us to understand—at least, in the way you put it. You say your plants never have many flowers at one time. In the case of the Carnations, the leading bud on each plant opens first, and this is followed subsequently, and in proper order, by the buds on the side shoots or lateral growths. You cannot get the whole of the blossoms to open at one time. Varieties of Carnations also differ in their period of flowering; some are early or mid-season, and some are late in their blooming. The only thing you can do is to obtain varieties which blossom about the same time. The same rule also applies to the Stocks referred to by you. The largest head of blossoms on the main growth usually opens first, and this is followed by the lateral shoots developing around it. In this case, however, you may achieve your object by pinching out the point of each of your plants when they are some 6 inches or more in height. This manipulation of the growth will cause the plants to break out into quite a number of vigorous side shoots, which in a normal season should come into flower at the same time. If you pinch your plants in this way they should make good sturdy specimens. We very much doubt whether you could do nearly as well with plants of a weak or spindly character.

TREES AND SHRUBS.

Wistarias (*G. B. Scott*).—If lifted from the ground and late planted, the Wistaria often behaves in the manner stated, the stems retaining some signs of life, yet the plants remaining inactive. It will be best to plant fresh, and to be content with young growing plants 3 feet high or so. Plant any time in September if possible, or leave it until the end of next March. Try to obtain your plants established in pots. Ask request their delivery in this way. It is a plant not suited to endure undue exposure or rough treatment.

Shrub (*H. M. Stanceley*).—There are several species of *Elaeagnus*, but *E. longipes* is certainly deciduous, not evergreen. *E. macrophylla* is a good Irish plant, and so also are *E. reflexa* and *E. glabra*. *E. angustata* is practically an evergreen. Any of these are worthy, and of course also there are variegated. Varieties of the *Weigela*s are good, and the Mock Orange (*Philadelphus*), but these are deciduous. If you can command a light, well-drained soil, *Garrya elliptica*, when loaded with its long, creeping catkins, is a most attractive plant and a good evergreen.

FRUIT.

Gathering Apples (*T.*).—It depends very much upon the season as to the time for gathering. If any Apple is gathered before reaching ripe the fruit shrivels. A good test of ripeness is to pick a fruit from the most shaded part of the tree, cut it open, and if the pips are brown all the crop may be safely gathered.

American-blight on Apple trees (*Postum*).—Your trees have been attacked by American-blight. Get a little paraffin and wash it in where the insects are. A little later wash them out with clean soapy water, then mix a little soap, clay, and paraffin into a paste, and well daub it into any of the cracks where the insects may be. If any appear later, treat them in the same way.

Falling Nectarines (*H. E. T.*).—You do not say how your Nectarine-tree is being grown. Is it inside a house or on a wall, and, if the latter, on a south wall? Possibly in County Cork, because of the prevailing dampness, the flowers were imperfectly fertilised. Perhaps some fungus or mildew has affected the tree; there is no evidence in the soil, nearly rotten fruit sent of such mildew, but there may be on the leaves. Probably your best course would be to open the soil down to the roots, and to replace it with fresh loam, adding a good proportion of old mortar, lime, wood-ashes, bone-dust, and just a little old hot-bed manure. It is difficult to prescribe a remedy on such slender information.

Forcing Vines (*J. C. Cork*).—It is perfectly safe for you to force the whole of your Vines in your house at the same time, it does not matter whether the roots be inside or outside. But before you begin to force cover over the outside border with dry leaves, 3 inches or 4 inches thick, to keep out frost, or with Fern or long straw litter. Also specially be careful to put your hands over the stems of the Vines that are outside, so that frost does them no harm while being forced. Of course, you may lift those outside Vines and bring them inside if you can; but how would you get the rods through the holes in the wall? If you do succeed you must cut them back hard and allow them to carry new rods only the first year. They would not be fit to put so soon after being lifted and repanted.

Figs in pots (*G. E. K.*).—As your Figs in pots are doing so badly, probably they need repotting. Your course would be to get pots fully 2 inches broader than those the Figs are now in; also some good turfy loam, adding one-fourth of well-decayed hot-bed manure, some bone-dust and soot. When you turn the plants out of the pots remove some of the old soil and the drainage, then put them into the fresh pots, which must have been well crocked or drained first. Pot very hard. Figs under glass need frequent syringings and occasional dampings of the floor of the house. It is quite easy to understand that your plants are suffering both from poorness of soil and root dryness. Repot as soon as the leaves fall.

Grapes splitting (*Wyndhamham*).—We presume that the roots of your Vines in an unheated greenhouse are in an outside border, and necessarily have this season been more than usually moistened by the heavy rains that have fallen. That alone would suffice to cause coloured Grapes to split as yours have. The border needed some cover to partially throw off the heavy rains as soon as the Grapes begin to colour. Then we have had so little of sun-heat, and as a consequence the kind of the berries grown without heat have been thin, and used as they are

more susceptible to injury when an excess of moisture at the roots created a sudden rush of sap into the berries. It is thus seen that the trouble you complain of arises from very commonplace causes; but, like those, though so simple, are often difficult for the amateur gardener to understand.

Fruit-trees on south fence (*M.*).—Your wood fence 6 feet in height that has been tarred is not a nice place to hope to grow fruit well. Trees do not like tar, and if the sun warmth should soften it on the boards at any time, it would be offensive. However, you may plant an Apricot, a Royal George Peach, an Elrige Nectarine, a Green Gage Plum, and a Marie Louise Pear. Six feet is a low height for training trees to. The lower branches should be kept well down, so as to fill the spaces. If in time the trees seem to make too gross growth, it might be needful to root prune the trees. They should be at least 10 feet apart.

Cordon Apple and Pear-trees (*H. M. S.*).—As no doubt, your galvanised iron fence is secured to stout uprights of wood, if you fix trellis, whether of wire or otherwise, to those uprights, the trees will be some 2 inches or 3 inches from the iron. There is no fear in such case they will be too hot. While it is always best to nail fruit-trees to walls, where the sun-heat and the stored heat is good for them, if close to galvanised iron fences the trees would be temporarily hot, but more often would suffer from great cold. Apples, as a rule, need to be in positions than Apples and Pears do, but they do not thrive well on iron fences.

Discoloured Vine leaves (*Puzzled Subscriber*).—The coloured marks seen on your Vine leaves are common enough on many varieties of Vines late in the summer, but especially so when so mild and unless as the past season has been. It is particularly easy to understand this discoloration showing itself on a Vine of the somewhat tender nature of Mrs. Pince's Black Muscat, which is evidently your variety. It needs a heated vinery to bring Grapes to perfection, and is always a difficult Grape for even the best growers to do. You should have in your cold-house either a Black Hamburgh or an Alicante Grape, as these will do well in such a house.

Gourds (*Uppermill*).—If you refer to the innumerable species of the Gourd family when you speak of "Gore," we can only say that there is no limit to either size or weight, and all depends on the grossness of the supplies of food and its amount; indeed, it is on the principle of cramming a turkey or a goose, in which the larger framed bird has by far the best chance. In several of the south and south-west counties the Gourds may grow to a great size, the actual size depending greatly upon an early start, no check to growth, constant attention to water and stimulants, a sunny position, and a deep, well-enriched soil. In that case it is possible—and in a soil quite new to them—to grow the fruit to an almost incredible size.

Peach-trees in pots (*J. R. G.*).—It is not at all difficult to grow Peach-trees in pots under glass, but it may be very difficult to do so successfully if the trees be in a greenhouse containing other plants. Fruiting Peach-trees should be some three or four years waked, and be in pots from 10 to 14 inches over. They require for chiefly turfy loam, with which are mixed a little well-decayed manure, some lime-rubbish, wood-ashes, and bone-dust. The trees need pruning in the summer chiefly, shortening side shoots. After they have fruited, the trees should be stood outdoors in the sun, kept well watered, and the pots shaded to ripen wood. General Peach culture in pots is successfully done only by very experienced gardeners and in glasshouses specially devoted to them. They need ample light and air and the most constant attention, or they soon become eaten up with aphid.

Orchard in Brass (*R. E. P.*).—We fear, with the overhanging standard Apple and Pear-trees planted some years since at but 12 feet apart, that the plants must be very dense and shut out light and air. To hope to obtain a ground crop the trees should be thinned out and the heads of those left also. The trees in such an orchard should be fully 20 feet apart, and if larger ones, then 30 feet apart. As at present it would probably be too dark for Gooseberries and Currants or Strawberries, but Raspberries, Rhubarb may do fairly well; or of flowers, Daffodils in variety or Wallflowers. Grass land is apt to contain a good deal of wireworm. If you open a trench at one end of the orchard, first paring off the turf 3 inches thick, then, forking up the bottom, pare off the turf 3 inches thick from the next trench, throw it in up-side down, then on that a good dressing of gas-tine and soot, then on that other 12 inches of soil, doing all the orchard the same way, you should grow things well.

VEGETABLES.

Potato (*H. C. S.*).—Your Kidney Potato is without doubt an Ashleaf. There are, however, various selections in commerce, all very much alike, and yours is one of them. The Ashleaf is early, flesh slightly yellow, and exactly the shape of sample sent. Although over sixty years in commerce, it is still one of the very best flavoured. Yours is an extremely nice clean sample.

Mushrooms (*A.*).—Nothing is more common than for Mushrooms to suffer from attacks of the maggot; you refer to during hot summer weather; hence in private gardens Mushrooms are seldom made up and spawned to come in during July and August owing to the exceeding dryness of the atmosphere. No doubt your bed has suffered from this cause generally; hence the smallness of the produce. Practically there is no remedy. You will do better if you make up beds now from properly prepared manure, either ridge-shaped outdoors or flat in a shed or cellar. Much depends, too, on the proper preparation of the manure, and then the fresh, well-spawned nature of the cake purchased to fertilise the beds.

Growing Cucumbers (*C.*).—The best way to arrange the wires for the trellis would be to fix permanently a stout iron rod at both ends of the house, about 18 inches from the glass, and strain wires from end to end horizontally, and to these tie the Cucumbers with soft raffa or matting. Almost any kind of wire will do, provided it be strong enough to bear the strain. Copper wire, about the thickness of stout lead, will do; and it might be taken down when the Cucumbers season well over and be used away till the following year. The wires should be about 1 foot apart from each other, and

should it be necessary to support a heavy crop of fruit they could be looped up in the centre to the rafters. We are supposing that the Cucumbers will be a temporary crop, and that at other seasons the wires would be in the way.

Uses of a hot-bed frame (*R.*).—A great many things may be grown in such a frame, but, of course, not without labour. Chrysanthemum may be forced in it early, and the roots should be taken out. Asparagus will force very well in such a frame. An early crop of French Beans may be had by planting in March; also Strawberries, either in pots, or the plants may be carefully lifted from the open ground with balls of earth, planted in the frame, and brought on gently at first. Tomatoes may be planted along the front of the frame inside, and trained over stakes or any kind of rough trellis, thinning and stopping the growths as required. In all cases success will depend upon the intelligence and perseverance brought to bear.

SHORT REPLIES.

C. Smith.—What has your employer to do with your garden? Are you occupant of a house and garden belonging to him and supplied to you rent free while you continue in his service; or do you rent a house from him; or is the garden, which you refer to as "my garden," one of which you, as gardener, have charge? It is a pity that querists who want information do not try to put themselves in the place of those who receive their letters, and realize the fact that it is necessary to supply full particulars if the advice given is to be of any value. We fear you have no right to remove the tool-shed, and you had better make the best bargain you can with your employer. **Ignoramus**.—Hobday's "Villa Garden," published by Macmillan, would be useful for your purpose well. Of course, if you cared to buy several books dealing with flowers, fruit, and vegetables separately, you would get fuller information, and gardening is now such a big subject that it is not possible to treat it all comprehensively in one volume. The best book on hardy plants is "The English Flower Garden." "Greenhouse and Store Plants" is an excellent work on this branch of the subject, and there is no fuller book on vegetables than "The Vegetable Garden." Each of these is bigger than Mr. Hobday's work, which is, nevertheless, an excellent manual. **K. J. M.**—The Fern you sent is *Nephrolepis pulchella*, and the Insect on it is "brown scale." The only way to get rid of the scale is constant attention and removing the scale with a stick or the finger nail. No insecticide will act effectively unless strong enough to injure the plant at the same time.

NAMES OF PLANTS AND FRUITS.

Names of plants—*W. R. Tvo. 1*.—*Thalictrum aquilegifolium*; 2, *P. C.*—*Mimulus tigrinus*.—*Achillea*. 1 and 3, *Quile* dried up when examined; 2, *Lycanthus maximus*.—*G. M. S.*—1, *Echinops ruthenicus*; 2, *E. sphaerophyllus*; 3, *E. comutatus*.—*H. D. P.*—*Mine*, Alfred Carrière. —*S. L. B.*—We do not name varieties of Roses and other florists' flowers, as this can be done only when comparison with a large collection is possible. It would, in any case, have been impossible to compare yours, for the flowers dropped to pieces as they were taken from the box. *P. C. Harrop*.—The bottom of the board box appears to have been lost in transit, and the plant disappeared. —*G. G.*—Species or variety of *Althea*, but we could not name it, so much as we would like to. *W. L.*—Looks like species of *Blitweed*, but the specimen was quite decayed. —*S. H. Wright*.—1, *Sent* again, quite decayed; 2, *Polygonum* sp.; 3, the plant you sent is an annual weed, too far gone for identification; it is certainly not a Dodder, which is a parasitical plant.—*Mrs. E. Leeds*.—1, *Chrysanthemum setosum*; 2, *Callipais bicolor atro-sanguinea*; 3, *Helianthus multiflorus* (Soleil d'Or); 4, *H. m. plenus*; 5, *H. (Harpalum) rigidus*. —*T. V.*—1, *Lysimachia clethroides*; 2, *Chrysanthemum latifolium*; 3, *Pyrethrum nigrosimum*. —*Tent Loly*.—*Veratrum nigrum*. The plant is sometimes known as "Pulse Hellebore." Of vigorous habit, requiring a good strong loam, and in such will thrive for years if not disturbed. The plant is most showy when kept in culture upwards of three centuries. —*Leeds*.—Ornithogalum, white; 2, *Isophylla alba*.—*Ernest Ballard*.—1, *Solidago virgaurea*; 2, *Sent* in flower; 3, *Veronica spicata* and *alba* mixed; 4, *V. Andersonii* *alba*; 5, *Helianthus grandifolium striatum*; 6, *Polygonum orientale*; 7, *Solidago rigida*.

Names of fruits.—*Bloxham*.—Apparently Lord Selkield; but we do not undertake to name fruit from single bruised specimen.—*R. F. C.*—The numbers on your Plums had got displaced in transit. The large red (No. 1 or 4) is Pond's Seedling; the oval green Plum is Gishorn. Both are cooking Plums, and have little of favour. Nos. 2 and 3 were too much decayed to enable them to be recognised. Fruit should not be too ripe when sent for naming.—*D. J. M.*—The four Pears sent, if for naming, are still far too immature to be correctly named, and corrected names are of no use. All the fruits were in a bag, but three weeks longer in the box they would be in their true form. In the heat, for the seeds are yet quite white and the flesh is very hard. Send a month later, and wrap each fruit with number in paper; do not trust to pins.

Catalogues received.—*Barr and Sons*, 12 and 11, King-street, Covent-garden. —*Hyacinths, Tulips, etc., and List of Gold Medal Dahlias*.

Photographs of Gardens, Plants of Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

The Prize Winners this week are: 1. Mr. Geo. E. Low, Dublin, for Royal Fern in garden at Mount Usher; 2. Mr. J. Rose, Oxford, for Laburnum Waterer's variety.

GARDENING ILLUSTRATED.

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Founded by W. Robinson, Author of "The English Flower Garden."

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VEGETABLES.

CELERY.

There should be an abundance of good Celery during the coming winter. Whilst the plant does very well as a rule in hot weather, its growth is quite dependent on the moisture furnished to the roots. Still, Celery is a cooling plant, and generally quite hardy. It is best for consumption in a blanched state, when growth is quick, the stems being then solid and crisp. That condition cannot always be secured in hot weather, because any neglect tends to furnish ample moisture to the roots, and to the natural dryness of the atmosphere, soon promotes hardness of stem and materially checks growth. In the case of very early Celery it also often leads to bolting prematurely to flower. During the passing summer and autumn early and late-planted Celery like has had ample moisture and cool weather, so that the conditions of growth have been peculiarly favourable. There has been also a marked absence of leaf-mining maggot, and that has been good for the plants. The development of Celery is naturally due largely to the way in which the trenches for its reception have been prepared.

It is amusing to note the great depth to which some trenches are opened, the plants being put out into subsoil which, though manured and well broken up, is none the less poor and devoid of fitness for Celery growth. The better plan by far where good growing soils are shallow and subsoils are of clay, chalk, sand, or gravel, is to throw out from a trench 12 inches to 14 inches wide the top spit of good soil on to one side, and some 8 inches or 9 inches depth of the subsoil beneath on the other side. Then return the top soil to the trench, add and well mix with it a heavy dressing of half-decayed yard manure, and plant the Celery. Where soil is naturally good for one 21 inches to 24 inches deep, the ground being frequently trenched and manured, then his form of treatment is not required. However, if trenches when ready for the reception of plants be from 4 inches to 6 inches in depth, that is ample. The primary objects of planting in trenches are, first, to have a basin which will hold water or liquid-manure; and, second, to economise space between the rows when

MOUNDING UP. The first soil used in mounding should invariably be the forkings, well broken up, from the sides of the trenches. That allows ample scope for the later mounding. The soil should in all these operations be well broken and be fairly dry, doing it in treacherous weather on such dry days as can be found, as in some soils, especially in wet weather, small slugs are plentiful. It is well before adding fresh soil to give it on each side of the rows a liberal dusting with fresh slacked lime, as that helps to destroy the pests and to keep the Celery clean. Good cultivators make it a rule before commencing to earth up the plants to get them fairly strong first. That condition is readily helped prior to the earthing by having a trench which will retain water or liquid-manure. Once the mounding begins, such waterings are difficult, if not impracticable.

Then, every soil is added, all short, immature leafage and stems, and especially any suckers which may have formed at the bases of the plants, should be pulled away, as these often harbour slugs and hinder efficient blanching. Anyone anxious to have the blanching as perfect as possible will find it worth while to tie the stems of each plant with hast a little loosely, as that prevents soil from getting into the hearts, and greatly facilitates good earthing up.

A. D.

POTATOES IN KENT.

The remarks of "J. C.," on page 314, are, unfortunately, too true. Considering the lack of rain in Kent, the disease is very prevalent, and I have observed it, especially in the Maidstone district. Some varieties appear more liable to attacks than others, yet it is impossible to judge by this alone. My Potato ground is completely open, and is adjoined by numerous other plots. The only variety to show the disease to any extent is British Queen, and strangely enough it is confined solely to one half of that variety. Most of the plots around are in a deplorable state, although scarcely so bad as last season, when my own, with the exception of Up-to-Date, were a complete failure. The ground has been under culture five years, the first two producing good results. During the whole period I have made numerous experiments, growing in 1898 over fifty varieties, and testing numerous and various manures, the last two seasons depending upon artificial manure. The soil is sandy loam, with the birching tendency of clay. The soil was thoroughly basted trenched, a good coating of manure being placed on the lower spit after breaking up. The soil lay fallow throughout the winter, and was turned lightly in March. The furrows were made April 1st, a sprinkling of superphosphate, kainit, and nitrate added when they were completed. Seed was planted April 15th, Ringleader being the earliest to lift, mid-July, followed by Centonny. Both of these have given very fair results, but not equal to Ideal, which I am at present using. One thing that baffles me is the non-decay of many of the seed tubers planted. Such a seed may produce plenty of healthy haulm, yet when lifted only one or two small tubers are visible, whereas another plant in the same row may produce twenty to thirty tubers, the seed in this case being totally rotten. Potato scab, referred to by "T. Fowler Ward," page 316, has appeared for the first time this season. Sandy soil is considered to foster scab; but why has it not appeared before? That time, or want of it, is the cause, is scarcely creditable, as I dressed a part of my soil with lime after trenching. The soil contains no rough substances or anything liable to promote fungoid growth. However, compared with Potato disease, scab is a minor detail, and I consider my immunity from it due to thorough trenching, plenty of space between the rows, and well firming the soil when earthing, taking especial care to make the ridges as pointed as possible to prevent furrows on the ridges, which I am inclined to believe materially help the disease.

KENT

NOTES AND REPLIES.

Parsley.—We often find a dearth of this herb, especially from February onwards, when a little more forethought and attention given to it this month would have put matters right. Breadths of early spring sowing should be all cut back about the middle of this month, excepting the few centre leaves, then scatter a little soot or artificial manure between the rows, hoeing the same in, when fresh growth will soon push up, and by November the ground will again be covered with fine leaves that ought to carry the supply on until the new year. Sowings made at the end of June or middle of July should be thinned out 6 inches apart, and the thinnings transplanted to a warm south border or any sheltered nook where a two or three light frame can be placed over them as soon as hard weather threatens. Often plants put out at the foot of a south wall will pass the winter safely if during the severest weather a little straw or Bracken be scattered over the plants, or a few dozen plants may be set out on the border of an unheated orchard house, where they can be protected from the cold cutting winds, which do quite as much mischief as do hard frosts. In transplanting Parsley much better results follow if the taproot is kept intact, similar to Lettuce, Beetroot, etc. Slugs will at times play havoc with it in a young state, when apply lime and soot.

Seakale (M. T.).—The "gardener," so-called, who is no better informed on the subject of Seakale than is apparent by your letter, should obtain a few lessons in growing it. Seakale is only used as an article of food early in the year, and when subjected to forcing. What is known as forcing-crowns should be not less than 1 inch in diameter and 8 inches long. These crowns are set close in a bed of earth, generally supported by boards of nearly 1 foot deep, and, being of convenient size, are covered up with boards and then thickly covered with the long straw from stable manure. In this way a gentle warmth is generated, and the "Kale" growing quickly, is of a tender, succulent nature, and blanches like Celery, by reason of the darkness. When a few inches long, and prior to the flower appearing in the point, the Kale is cut, the growths then being from 5 inches to 8 inches long. It is cooked and served with white sauce. The same condition of growth is brought about by the use of Seakale pots—i.e., large earthen pots for covering up the crowns in the open beds, the pots again being covered with long litter from the stable, as before. This latter is the most convenient way for amateurs and others requiring a small quantity, the first-named method being that employed in market-gardens where this vegetable is grown largely. You surely must have seen the bundles of the Kale exposed for sale in the greengrocers' shops in spring. The purple leafage is not used, but should be encouraged to develop for the benefit of the crowns. Small quantities may be forced in a box kept dark under greenhouse stage or in a warm cellar, the principle being much the same as forcing Rhubarb early in the year.

KENT UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

PLANTS AND FLOWERS.

OUTDOOR PLANTS.

FLOWER BORDERS, COLOURS IN.

I SEE in a recent issue a letter from "Slow Coach," which interests me much, as I had just the same idea—i.e., to keep the colours in my flower borders distinct. I venture to think that my small efforts in this direction, and that a list of the flowers which I found made a good succession (and that is the difficulty, to keep up the supply without gaps) may be of some slight use. I began last autumn, and prepared the way by removing or eradicating until I nearly succeeded in keeping the colours apart. The blue bed has been the best one. I think, for certainly blue flowers do not contrast very well with other tints, but when massed together the many varying shades of the colour are most enchanting. In your reply to "Slow Coach," I understand you to speak of the Iris as suitable for the blue border. Now I must say I should never admit any Irises among the blues; their place surely is with the lilacs and purples. To begin, therefore, with the blue border. Earliest of all came the Scillas, a row edging the border (April), then a thick border of Forget-me-nots (May), followed by Veronica prostrata (June). These, of course, were planted the previous autumn. Also big clumps of Anchusa semperflorens and a low-growing Bugloss. I sowed a broad stretch of Nomophila late in March and at intervals during the following four or five weeks. This ensured a long period of flowering, and the result was a turquoise blue carpet for several weeks, which is only just over. Lobelias, planted in wherever a gap could be found in June, have taken its place. This border is five or six feet wide, in front of a brick wall about 50 feet long, and faces west. At the back, close to the wall, were planted two rows of Delphiniums, about thirty, in shades of true blue, from pale turquoise to deep French blue (all the purple and bronze metallic shades are in the purple border). These formed a good background, and were at their best in July. Between and in front of them are groups of the lovely Salvia patens (August) and of tall-growing Veronicas (July), two or three sorts, Commelina (August), Borege, and Bavarian Gentian (August). Phacelia campanularia (July) was a failure: only an odd plant or two came up and flowered. It is my despair; I cannot succeed, try as I can. Sown in pots or in the open ground, early or late, the result was the same. It would, indeed, be an addition to any blue border. I must not omit to mention the glorious giant Anchusa italica (July) which, when grown as I saw it this summer in a Gloucestershire garden, is such a glory in blue. The blue Lord Anson's Pea is still flowering, as it has done for nearly two months, and has taken the place of the Delphiniums. Then there are Gentians to be thought of. I have none, but they are the ideal edging for a blue border. I must not take up too much of your space, and will just run through the names of the flowers I have found useful in the other beds. In the pink one, for instance, Rhodanthe Mauglesii, Schizanthus, Pyrethrums (May); Sweet Peas (the pink ones must be selected according to taste, Lord Kenyon, Oriental, and Gorgeous are all good), Valerian, Shirley Poppies, Campanula calycanthema, Sweet William, pink Spiræas (June and July); Pontstemons, Linum, Phlox, annual Asters, single and double, Sedum (the giant one), Perennial Phloxes, Godetias, pink Geraniums, and Fuchsias, planted out *ad lib.* (August and September). Of course Roses must not be forgotten.

LILACS AND PURPLES.

Pansies, Aubrietias (April, May), English Iris (July), Erigeron speciosus, Campanulas of several sorts (June and July), Lupinus, single and double annual Asters, the lilac and purple Sweet Peas—such as Fascination, Countess of Cadogan, Lady Radnor, Lady Grizel Hamilton—Schizanthus, Galega, Aster Amellus bessarabicus, Lavender (all in August), Statice, and all the beautiful tribe of Michaelmas Daisies for September and October. In the pink and lilac borders there are many

white flowers admitted, but none among the blue and yellow. The yellow I found the easiest to manage; it is also very attractive, always gay, and the reds and oranges of Nasturtiums, Montbretias tone well with the pure yellows. Dornicum, Crocus, Daffodils (April, May), Spanish Iris (June), Iceland Poppies (June), Calceolarias, Coreopsis, both annual and perennial. Tagetes, Yellowstrife, Nasturtiums (August), Helium striatum, Montbretias, Rudbeckia, (Ecnothera, Eschscholtzias, Helichrysum, Mimulus. Then all the coarser Sunflowers and such-like yellow Daisy flowers could have a place here if desired.

E. A.

SWEET PEAS.

THE attention which the Sweet Pea has received in recent years, is largely responsible for its popularity at the present time. While one will always highly esteem these flowers, no matter whether they be grown in a mixed



Sweet Peas. From a photograph by Mr. W. A. Smith, 154, Hagley Road, Birmingham.

row, or whether they be grown in clumps of named sorts, it cannot be denied that greater satisfaction is derived when named varieties may be gathered separately. There is always a tendency with mixed seed to sow much more liberally than is desirable in the best interests of the flower, and this is one of the reasons why named sorts of distinct colours are to be preferred. Now that named collections can be acquired so cheaply, the need for sowing rows of mixed seed is considerably reduced. A collection of twenty-four sorts is quite large enough for even a large grower of these flowers, and there are now so many charming colours represented in the Sweet Peas, that one may, with little trouble, acquire those sorts for which a special liking exists. There are rich cream or primrose, bluish, pink, rose, purple, crimson, orange-crimson, orange-pink, lavender, blue, and white, besides many other intermediate shades of colour, to say nothing of the striped or flaked sorts. For five shillings it is possible to obtain a collection

of about forty varieties. It will thus be seen that named sorts, and these, too, of the very best, are now brought within the reach of all. For general effect in the garden, sowing the seed in rows has always been the more popular method of culture, and it must be admitted that while the plants have continued to blossom, their display has indeed been very pleasing. As was mentioned earlier, there is a tendency to sow too thickly, and as a consequence the plants have failed earlier and the flowers have never been so fine as they might have been under a different method of culture. The illustration to-day represents the Sweet Pea doing remarkably well in rows. It will be noticed that the growth of the plants is much taller than is usually seen under these conditions; but this can only have been achieved by liberally manuring the soil, paying careful attention to watering, and, most important of all, gathering the expanded blossoms. If spent blossoms are allowed to remain, they quickly develop seed-pods, and immediately begin to deteriorate. While admitting the glorious effect of a series of rows of Sweet Peas in the garden, this cannot be compared with a series of clumps of plants, each of a given variety or colour. I sow five or six seeds in each clump, after first having deeply dug the soil and given it a heavy dressing of good manure. The results from this method of culture are very fine indeed. Better results still may be obtained by sowing five or six seeds in pots in the early spring, utilising a cold greenhouse or cold-frame for the purpose of raising the seedlings. The flowering quarters are prepared by deeply digging the soil, and previous to planting outdoors in late April, taking out the ground to the depth of 18 inches to 2 feet for each clump, and filling this three parts full with good manure. The ordinary garden soil is then filled in to the level, and the pots of plants, which must, of course, be carefully hardened off previous to planting outdoors, transplanted whole. When once the plants start to grow their progress is marked. My clumps are planted 3 feet apart, and I give them stakes about 9 feet in height. At the moment the plants are between 5 feet and 8 feet high, and their blossoms are large and handsome.

W. V. T.

NOTES AND REPLIES.

Wintering Carnation layers.—Should I run much risk if I let these out all the winter? I have about a thousand, and, of course, potted them all up in sets of the question. I want to know what are safe conditions, supposing the soil is fairly light and raised? The varieties mostly are Duchess of Fife, Sweetheart, Miss Audrey Campbell, Nox, Mrs. A. Tate, Czarina, and many other Selfs and Fancies. Would short manure, put in round the plants, be of use? Sparrows in the spring are a great nuisance, but I should try and remedy this with cotton and netting.—SELBORNE.

[In your high and dry district the plants should winter quite safely. Indeed, at Claremont, near you, many are bedded out early in October to stand the winter, the losses being very few indeed. The fancy kinds and Miss A. Campbell are the least hardy, and any kinds of which you may have doubt could be lifted and replanted in shallow boxes. It is overhead wet and a low-lying district that are most harmful to the plants—much more so than actual dry frost.]

Late Phloxes.—In autumn few flowers are more showy than the herbaceous Phloxes, and there is this advantage about them, they will grow almost anywhere where the soil is moist and deep. It is well known that they may be easily increased by division of roots in autumn and spring, or from cuttings of young shoots inserted in pots of sandy soil and placed in cold-frames. Here is a list of rather late-blooming sorts, some of which as I write these notes are just commencing to show colour: Progress, crimson; Zouave, magenta-carmine; Sesostris, amaranth; Fantome, violet, white centre; David Syme, rose, magenta eye; Aurore, salmon, purple centre; Sybil, purple, tinted white; Tamsie, light blue; Aurantiac superbus, vermilion; Gloire de Messin, carmine, crimson eye; Vesuvius, crimson-scarlet; and Bernice, pure white.—W. F. D.

Tritomas.—One of the most conspicuous of plants that bloom in the autumn is the Tritoma. It is often alluded to as the Red-hot-poker flower, but it was not until the

other day that I heard it designated as the "Long Distance" blossom, from the fact that to see its full beauty one should plant it where if distance does not "lend enchantment," it softens somewhat its bright colour. A green background, as a creeper-covered fence, or planted near to conifers, or amongst bell-growing plants, is where it shows best. Late in the autumn one may plant this favourite. —W. F. D.

Growing Edelweiss.—I would like to know all particulars about growing Edelweiss? I have some plants brought from Switzerland, and would like to know how to cultivate it? What soil ought it to have? Must it be planted in an exposed or sheltered spot? I have a rock garden in an exposed part of the garden facing south. Would Edelweiss grow there? The soil there, of course, is not by any means rich. Would it be difficult to grow in this part of the world?—SUNNY SOUTH.

[If your plants are nicely rooted there should not be much difficulty. If not, they may merely dwindle and die. The soil best suited is a rather poor or stony, and very gritty loam without manure—a pasture loam that has been laid up a year or more, and freely mingled with limestone chippings. This last, however, is not essential, and if you provide a good depth, say 12 inches or 18 inches of very gritty loam, selecting a spot on the rockery where the plants can be gently wedged between the

autumn. In setting the seed rake out quite deep cavities and fill with soil. It is a good plan to mix the seeds with damp soil—a paste-like mixture—and if the cavities are very dry rake them out a few days previously, and soak with water.]

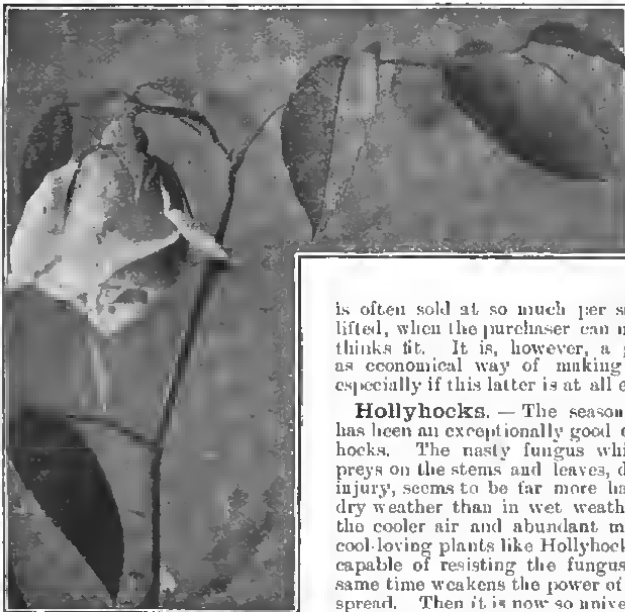
Making Lily of the Valley bed.—Will you please be good enough to let me know in your answer column of GARDENING: When is the best time to make a new Lily of the Valley bed, how to make it, the best aspect, and number of crowns required per square yard? If made this year, will it bloom next spring?—B. F.

[The best time of the year is October and November, the best position a partly-shaded and moist one, and failing this a more shady spot. The crowns, if the bed is desired quickly to form a mass, may be 4 inches apart each way, or 6 inches will do quite well. A deep bed of rich, loamy soil, with a heavy layer of manure, worked in 9 inches deep is necessary. If you plant three-year-old crowns, these will flower next year, and if you wish this you had best purchase flowering crowns. "Crowns" are not, however, generally used, and clumps may be procured of which a third may flower the first year. Such as these would require much more room, even if broken up for planting. Perhaps the best kind for outdoor beds is one called "Victoria," and this

but not least, their washed-out looking colour that I find fault with. There are also never sufficient flowers open at any one time to create a show, neither do they stand erect so that they can be examined, but, on the contrary, have a bad habit of drooping which seriously detracts from their appearance. In my estimation this variety of *Arctotis* does not come up to the description sent out with it, and it would be interesting if others would give their experience of it in the columns of this journal. —A. W.

Plants for beds (*Inquirer, Drogheda*). —We think you would get the best permanent return by planting large central groups of Hybrid Tea Roses in the beds. A few good kinds are Mrs. Grant, Grace Darling, Marquise Litta, Mildred Grant, Madame Abel Chatenay, Lady Mary Fitzwilliam, Lady Buttersea, L'Innocence, Captain Christy, Madame Pernet Ducher. These are free and vigorous, and produce a beautiful lot of flowers. The plants would require to be 2 feet or 2½ feet apart. In the centre of each bed plant six bulbs of *Lilium candidum*. Between the Roses plant clumps of Narcissi, such as Sir Watkin, Emperor, Horsfield, Princeps, ornatus, Stella. As a margin to the Roses, plant old Clove, Ruby Castle, Alice Ayres, or any good free Carnation, and finally border with any of the Tufted Pansies. If you have sufficient of the Anemones, these may take the place of some of the Narcissi, but you should reserve ornatus as a good thing in such a mixture. This arrangement would give you flowers over a long period, and in recommending them we have in mind the fact that the outlay is at the beginning, and that the plants increase in beauty each year. The Roses would cost about from 1s. 6d. to 2s. each, the Carnations about 5s. per dozen, and the bulbs, taken on the average, 5s. per 100. The other things are very cheap. Indeed, by consulting our advertising columns you will observe how the prices vary for the same article. At the same time it is not economy to plant little bits of plants, and a good plant is generally cheap and satisfactory because a time-saver.

Omphalodes linifolia.—This annual is rather uncommon in gardens, though why I am unable to say, because it is well worthy of cultivation, and is most effective when judiciously employed. Perhaps the fact of its being so easy to grow is one of the reasons why it meets with such scant recognition. Unlike some annuals it remains in flower over a long period. With me the plants commenced flowering at the end of June and have only just ceased, and would no doubt have lasted much longer were it not for the heavy rains experienced of late. I grow it in clumps about eighteen across in the front of the herbaceous borders, and these groups are very telling when in full bloom, the silvery foliage and the small pure white flowers rendering them objects of great beauty. I sowed the seed in April and thin out severely as soon as the best and strongest plants can be distinguished, leaving about nine in a clump. All the after attention they require is a few stakes—or, what is still better, some "spray" taken out of a birch broom—to support them, and to afford water during dry weather. This does not by any means exhaust all the good qualities of this beautiful annual, as I have put it to another use this season, and many will no doubt profit by the hint if they have not already proved its usefulness in this direction. This is to employ it as a setting for Sweet Peas, Shirley and Iceland Poppies for dinner table decorations. Nearly everybody I suppose is aware of the value of *Gypsophila* for this purpose, and when it is stated that *Omphalodes linifolia* rivals it, for the reason that when so employed it is equally as light and graceful, further commendation is unnecessary. So pleased am I with it when used in conjunction with the flowers alluded to, that I intend to grow a few rows of it specially for cutting another season. The plant seeds most freely, so that once a stock has been obtained there is no difficulty in securing an ample supply for each season, if the plants are drawn and dried after they cease flowering, when the seed can be rubbed out at any convenient opportunity. I had a difficulty in obtaining it, and as far as I am aware only one of our seedsmen list it. —A. W.



Bud of Rose Anna Ollivier. (See page 398.)

is often sold at so much per square yard as lifted, when the purchaser can utilise it as he thinks fit. It is, however, a good as well as economical way of making a new bed, especially if this latter is at all extensive.]

Hollyhocks.—The season now passing has been an exceptionally good one for Hollyhocks. The nasty fungus which habitually preys on the stems and leaves, doing so much injury, seems to be far more harmful in hot, dry weather than in wet weather. No doubt the cooler air and abundant moisture render cool-loving plants like Hollyhocks all the more capable of resisting the fungus, as it at the same time weakens the power of the fungus to spread. Then it is now so universally the rule to raise plants from seed rather than from cuttings or suckers that they have more vigour in them than plants have that have been raised by the latter methods. Still further, seed strains now are of such high excellence. Too often the plants are put out to flower in mixed borders where the soil is already eaten up by shrub and hardy plant roots, and under such conditions fine growth and flowers cannot be looked for. Before planting in such places holes 12 inches over should be opened, some half-decayed manure put in, then that well mixed with the ground. Then Hollyhocks have some chance. In all cases they well repay for good culture. Seed may be sown now in shallow pans or boxes and kept under glass. The seedlings will be strong to dibble out in March, and should then carry good stems and blooms in the following autumn. I have lately seen grand double Hollyhocks raised from seed sown in warmth the preceding February. But it is not possible for amateurs to treat them in that way, and the best course is to raise from seed now, and winter them. —A. D.

Arctotis grandis.—I do not know what experience other growers have met with in the cultivation of this hardy annual, but mine is certainly not a very encouraging one. I purchased a packet of seed in the spring and raised quite a nice lot of plants, which were planted out in due course in a mixed border. At the present time they are of considerable dimensions and produce plenty of flowers, but it is with the peculiar way they have of unfolding, the short time that they last, and last,

stones, planting quite firmly, we see no reason for failure. The plant is quite easily raised from seeds, and is most successful in those districts where sandstone rock prevails.]

Wall gardening.—I am planting the joints of an old stone wall, forming a kind of sunk fence, and wish to know if the autumn or spring is the best time for sowing the seeds of such things as the following: Alpine Poppies, dwarf Campanulas, *Frimus alpinus*, *Linaria alpina*, *Linaria Cymbalaria*, *Antirrhinum*, Maiden Pinks, Wallflowers, the Cheddar Pink, and the like? I sowed many of these last spring, but very few have come up.—C. M. W.

[Generally speaking, the autumn and winter months are best, simply because the amount of atmospheric moisture is then greater. Success or failure, however, is more largely dependent on the amount of moisture reaching the wall itself than on the time the work is performed. For example, a rough stone or brick wall, where ample crevices abound, may be successfully planted at any time, while a well-built wall that affords few opportunities for moisture getting into the joints, may be planted again and again without success. Again, a wall facing south-west, that catches somewhat of the besting rains, is far more quickly clothed than a north or north-east wall, and so on. In all probability the spring-sown seeds may germinate this autumn: we had an identical experience only last year, the seeds remaining dormant all the summer, and germinating like Cross in

ROSES.

ROSE BUDS.

It may be said with much truth that all Roses have pretty buds, but when the collection is searched for varieties yielding really handsome-shaped buds, the selection then becomes much modified. As a rule, an elongated bud, and

it will be grown by the acre presently) is Liberty. Imagine a bud or half-open flower of Alfred K. Williams, and we have a good idea of Liberty. This brilliancy of colour, combined with the ever-blooming quality of the best Hybrid Teas and also a sweet perfume, are excellent traits in a most charming Rose. Other brilliant reds, scarlets, and maroons, are: Fisher Holmes, General Jacqueminot,

what is more lovely than the old pink Moss: One is apt to obtain a poor conception of the beauty of this Rose from the faded branches hawked about the streets, but see it on the plant on a June morning and I doubt if a lovelier Rose could be gathered at the same time. All the Mosses are pretty in bud, the white Bath, with its paper-white petals and mossy encasement, and the Crested Moss, with the curious Parsley-like outer covering, being two good companions for the old pink. There are four pink Roses among the Hybrid Teas that deserve extensive culture as bud varieties. These are: Madame Abel Chatenay, Mrs. W. J. Grant, Killarney, and Madame Jules Grolez. The first-named is now cultivated in the fields as a market Rose, and I do not wonder at this, for a more exquisite bud is not to be found in the whole collection of cultivated kinds. The other three are so well known that I need not enlarge here on their merits. I might say, however, that if space is available, a row of the climbing form of Mrs. W. J. Grant will give untold pleasure to the cultivator. A trellis some 6 feet high would be the best support, or stout poles would do as well. Plant three feet apart. We have had as many as sixty buds on one plant at one time this season. In conclusion, I must not omit from pink Roses Mrs. John Laing, Madame Lambard, and Lady Battersea—the two latter border, perhaps, more on the reds, but their exquisite buds entitle them to mention in this article. ROSA.



Buds of Rose Alfred Carriere.

this, too, of moderate size, is preferred for a button-hole, but it is not unusual in the Rose season to see huge show blooms, such as Maman Cochet, worn as a coat flower. The ideal Rose-bud is unquestionably Catharino Mermet, the beautiful sports of this fine Rose, namely, The Bride and Bridesmaid, sharing the honours equally with their parent. Another exquisite Tea Rose is Non. Edith Gifford. It will be seen from the illustration (what handsome formed buds and blossoms this most useful variety will produce, and it has no compeer of its colour. The long pointed buds of the old favourite Niphotos are as yet unsurpassed for snowy purity. It is really surprising how successfully this somewhat tender Rose can be grown, as evidenced by the notes in GARDENING for July 19. Where a high, sunny wall is available what could be more useful than a covering of Climbing Niphotos? Or if an isolated standard be wanted, this climbing form is perfect for the purpose. I need not say how valuable this Rose is under glass, the dwarf form being, perhaps, the more useful, although to all who possess a lofty greenhouse I would commend the climber, either on the wall or roof or as a standard in a pot. The umbrella-like head of the latter when well developed is a perfect picture. A charming flesh-white, rampant grower has come much to the front lately. I allude to Mme. Alfred Carriere. Very pretty buds may be freely culled from this Rose, whether it be grown on a standard, which will half fill a cottager's front garden, as I saw it recently, or from a wall, which it will soon clothe with a beautiful refreshing green growth.

Perhaps it will be helpful if I group the various kinds in their colours, and before I leave the white and blush group I should mention the following as being in every way worthy of cultivation for their comely buds: Souvenir de la Malmaison, Kaiserin Augusta Victoria, and its rampant climbing form for a lofty south or west wall; Innocente Pirola, White Maman Cochet, Gloire Lyonnaise, Purity, and Souvenir du President Carnot. As a contrast to a bed of the white and flesh-tinted kinds what could be more effective than rich crimsons? One of the best (and I believe

Papa Gontier, Victor Hugo, Prince Camillo de Rohan, Prince Arthur, a rose identical with an older kind, Triomphe de Caen, Gloire de Margottin, Duchess of Bedford, Duke of Edinburgh, and Ulrich Brunner. For really good perpetual flowering qualities I should place Gruss an Teplitz next to Liberty as the most useful scarlet-crimson we have, although individually its buds will not compare with Victor Hugo. Yet another good contrasting bed to the last would be one of yellows of various shades. Of pale cream colours Madame Hoste and Marie Van Houtte are the best. A host yellow is found in Madame Chedaune Ginoisseau, and a variety not yet much known, Alliance Franco-Russe, gives handsome, double buds that surpass Perle des Jardins outdoors. One cannot exclude Marechal Niel, and in

some gardens it is a great success. To those who have hitherto failed with the variety I would recommend them to grow it in bush form in a long row. Prune back the new wood rather moderately and spur in small wood. Mulch the ground with lawn mowings or some clean material, as the buds hang underneath the foliage and nearly touch the ground. From a row of plants of this description a quantity of most beautiful buds may be cut. I would plant in the kitchen garden, for the bushes are not by any means decorative. Rich golden-yellows and apricot colours are: Madame Ravary, Billiard and Barré, Madame Pierre Cochet, Bouquet d'Or, W. A. Richardson, and Madame Berard—the two latter on a wall, the others as bushes—although these two may be grown in the latter form if provided with ample room.

Of pink Roses there are numerous kinds, and

NOTES AND REPLIES.

Climbing Roses for wood fence.—I wish to plant climbing Roses this autumn against a wood fence (strong match-boarding), 8 feet high, and about 15 feet long, aspect S.S.W. Sun on fence rather obscured by tree at one end, and by shadow of house, but has effect for about three hours (mid-day). What climbers would do best, and how many should I plant?—M. E. C. Ross.

[Although your fence is somewhat shaded, you should be able to grow very successfully the following beautiful kinds, these five being sufficient for the length at your disposal—Wm. Allen Richardson, Dr. Rouges, Mme. Berard, Climbing Belle Siebrecht, and Mme. Alfred Carriere. Be very careful to prepare the ground well by deep digging, and see that the plants do not suffer from want of water next season, but when you do water them let the amount given be ample.]

Hybrid Teas as standards (*T. nivalis*).—We can recommend the following as being all first-rate kinds—the first six are vigorous growers, the following ten are medium, and the last two rather diminutive and should only be grown as half standards: Admiral Dewey, a lovely blush white sport of Caroline Testout; Billiard and Barré, one of the best golden-yellow Roses grown; Gladys Harkness, like a high coloured Caroline Testout; Ferdinand d'Amn, rosy-carmine with salmon shading; Mme. Viger, pale rose, reverse of petals silvery-white; Mme. Wagram, satin rose, a bold,



Moss Rose bud.

handsome flower; Bessie Brown, growth as vigorous as in Viscountess Folkestone, colour creamy-white, large, but it has the bad habit of drooping; Killarney, flesh pink and white, lovely elongated flower; Liberty, brilliant crimson, perfect shape, medium size, sweetly fragrant; L'Innocence, pure white, beautiful

form; Mme. Eugénie Bouquet, yellow, shaded with carmine, exquisite colour; Mme. Jules Grégoire, satin rose, very bright and pleasing colour, and most shapely blossoms and buds, foliage of happy contrast; Mme. Ravary, golden-yellow, lovely buds produced on stiff shoots; Souvenir de Mme. E. Cauvin, rosy-flesh, shaded with yellow and orange; Souvenir du Président Carnot, rosy-flesh shaded, with very elegant buds; Violoniste Emile Leveque, rosy-flesh, shaded yellow; Tennyson, pearly white, exquisitely formed; Marie Louise Poirer, tender rose colour, a most fragrant Rose. There are some splendid new Roses of this year, but as we presume they would not be attainable in standard and half standard form, we omit to name them.

Roses for N.E. wall.—I am desirous of covering a wall, from 15 feet to 25 feet high, and facing N.E., with Climbing Roses (Hybrid Teas, Teas, and Noisettes). Would you be kind enough to mention in GARDENING the names of a dozen that would be hardy in such a situation?—*J. S. GROSE.*

(In your county (Devonshire) many Roses would flourish on such a wall that could not be planted in the colder counties. The following would afford satisfaction: Celine Forestier, M. Allen Richardson, Chesbunt Hybrid, Noire de Dijon, Climbing Captain Christy, Kaiserin Friedrich, Mme. Alfred Carriere, Mme. Gerard, Mme. Jules Siegfried, Reine Marie Marguerite, Noella Nabonnand, Revo d'Or. We have a high opinion of England's Glory, a large, pink flower in the way of Caroline Testout, of a good grower, but as it is new, probably only small plants are yet available; but next season it should be plentiful.]

Rambler Roses for bank (H. C. Johnston).—Nothing would look more beautiful than some of the Rambler Roses allowed to grow freely for planting in the large bed on bank. It is one of the prettiest sights of our country hedgerows to see a wild Brier sending out its long arching growths, all bespangled with the blush-pink, delicately fragrant blossoms, and so it is with the Crimson Rambler. I have often had growths upon this rose when bending over produce quite two dozen trusses of blossom. They require a lot of space to see them to the best advantage. Some pink or white or both should, I think, be mixed to tone down the garishness of the Crimson Rambler, and for this purpose good ones would be Flora and Queen Alexandra, the white, Félicité-Perpetue and Bennet's Wedding. These would all flower simultaneously. If you cared to lengthen the season on this bed would be in blossom, you might mix with varieties that blossom a week or two earlier than the kinds named, and for these select of Hybrid Sweet Briars Anne of Austria and Amy Robsart, also The Dawson Rose, Macrantha, Una, Electra, and Mrs. Anthony Waterer. Treat them all alike, giving their growths perfect freedom, only cutting away old wood, and you will have a charming display.—*ROSA.*

Rose Crimson Rambler on house walls.—The Crimson Rambler Rose growing up the house last year on a wire trellis. The Rose does not thrive on a wall and an expert informed me it would not grow well against the galvanised wire. Is this right, and would you, if so, obviate it? I should be obliged if you could give me the names of one or two strong growing, climbing Roses for a north-west aspect, a good one preferred? I notice you have mentioned Revo d'Or in one or two recent issues as a strong climber. Would you recommend that? This is a locality where the spring is late effect.—*TRAVAN'S BELL.*

[We have repeatedly advised our readers not to plant this Rose against hot walls. The variety objects to the position, and is badly affected with red spider when so grown, which gives the foliage the rusty appearance, so different from its true grass-green tint. We do not object if painting the galvanised wire would have any beneficial effect. What it requires is free circulation of air among its foliage, and unless you could provide this by placing the trellis a foot or so away from the wall, we should advise you to replant the Rambler against a pillar, either in the herbaceous border, for which it is admirably suited, or railing over arch, old tree stump, or some such position. If you desire a brilliant scarlet wall Rose try Climbing Cramoisie Supérieure, or, for a moderately high wall, Gruss an Teplitz. We should certainly recommend Revo d'Or for a yellow climber—it is the best we possess. For other good hardy wall Roses, see list recommended to "J. S. Grose."]]

CHRYSANTHEMUMS.

NOTES ON CHRYSANTHEMUMS.

During August and the beginning of September it will be found in most cases that a bud will appear at the point of the main shoots, and immediately under, a series of growths will make their appearance from the axils of the leaves. This is termed the crown bud, and is what most exhibitors retain, cutting off all the shoots below, thereby conserving all the energy in the bud selected, producing in time a magnificent bloom some 12 inches to 15 inches across, and of great depth. For decoration, however, let all the shoots which appear develop; these shoots when they have attained a certain length produce in their turn, this time a cluster of buds called terminals, because it is the termination of the plants' growth, all energy being now wholly confined to building up the flowers. If severe frost puts in an appearance,

tend to sour the soil, and probably destroy the plant in the end. When all the plants are under cover it is advisable to fumigate or vaporise the house thoroughly, it being always well to start with a clean bill of health. A disease pretty prevalent after housing is mildew, this making the plants sickly and weak, and looking anything but well if you are presenting a bunch of blooms to a friend. Careful ventilation and watering are good preventives, watering only when the plant requires it, and opening the ventilators on the lee sides only if the wind is high. No strong wind should be allowed to play among the foliage, so that ventilation has to be carefully watched. The disease known as "spot" affects the plants sometimes, and may be caused by the ventilation also, as well as giving stimulants too often and too strong. Mildew may be cared by dusting sulphur on the plants, but if only one plant is affected it is the better plan to remove it.

Bridge-of-Weir, N.B. D. G. McIVER.



Buds of Rose Edith Gifford.

the plants should be got under cover with the least possible delay. In some places they will need to be housed earlier, a great deal depending on the weather. It is always advisable to let them stay out as long as possible with safety, but on no account let the buds show colour before doing so. When housing, cleanliness should be the aim. The house intended to receive the plants should be well washed with soap and warm water, woodwork, glasswork, and ironwork alike receiving attention. All pots should be washed before taking them inside, arranging the Japanese varieties, if possible, at the warmer end of the house, as they will stand a few more degrees of heat than the incurved. Of course no heat, or very little, will be required at this stage. It is always well, as a rule, never to give plants stimulants for the first eight or ten days after housing, as, owing to the change from outside to inside, the roots are almost at a standstill. Stimulants, therefore, at this time would only

NOTES AND REPLIES.

A good early flowering Chrysanthemum.—Amongst early flowering Pompons we get many Chrysanthemums that are extremely dwarf, flower early, and are quite hardy. St. Croix belongs to this number. It is only 18 inches in height, is of a bushy habit, and bears numerous soft pink blossoms. I have it in bloom now (September 10), and as it is quite hardy, having been outdoors all last winter with only a covering of straw, I can say a good word for it where very dwarf plants are wanted. It is just the sort for a window-box or small pots.—*TOWNSMAN.*

Seasonable hints.—At this season readers are often in doubt regarding the question of bud selection. All types, no matter what the names of the different varieties, should have their buds retained. Some growers may raise the question of whether the buds should be first grown, second crown, or

terminal. The kind of bud to be retained at the present time and from this time forth need not be defined. Any bulb showing on the plant should be retained, no matter what their definition may be. When retaining the bud do not rub out or pinch off at one time all the shoots or smaller buds surrounding it. This is too great a check upon the plant. It is better to pinch off one shoot each day until in the end the retained bud is found to be quite alone at the apex of the shoot. It is then retained, and the grower's chief concern for the future should be to see to the bud's proper development. See that the shoots are secured in an upright position and are protected against damage from strong winds. Once the bud is nicely set and is moving, feeding may be followed with advantage. Soot-water, varied with occasional doses of reliable manure-water, should be given, increasing the strength of the latter very gradually. Many of the prepared concentrated manures are excellent for use by amateurs.—E. G.

Early-flowering Chrysanthemums.

—I have before me a list of Chrysanthemums, published in 1886, in which some two or three dozen early-flowering varieties were given prominence. The Japanese and Pompon kinds were about equally represented at that time, but of the former, not more than three or four sorts are to be met with to-day, and even then in a very limited degree. Mons. Pynaert van Geert, a yellow, striped red, was very highly thought of, and for some years was seen at the early show of the N.C.S. Another of the quartette is Madame Castex Desgranges, the early white Japanese, which has probably been more largely grown for market than any other white in commerce. It has not yet been ousted from the garden, but its days, or rather years, are numbered, in view of the many good things now being largely grown. Alexander Dufour, a bright rosy-purple, is another of the four Japanese sorts alluded to. For years Mr. Norman Davis used to grow a large group of this sort at Camberwell, and until quite recently it was very highly regarded. La Virgo is the remaining variety, and this is a pretty white kind, very dwarf and free-flowering. A certain section of growers is desirous of classing this flower as a Pompon, but it is a mistake to think of so doing. The newer race of early Chrysanthemums, of which a large batch came from France ten to twelve years ago, has almost eclipsed those introduced earlier, and now that English raisers are giving us many sorts of dainty form and beautiful habit, the change is becoming all the more complete. The near future will see our hardy flower-garden completely transformed in the autumn, by the aid of the increasingly augmented list of beautiful sorts.—E. G.

INDOOR PLANTS.

HEATING GREENHOUSE.

(REPLY TO "OLD SUBSCRIBER.")

We take some of the more pointed questions, and answer them offhand. Can you use a 4-inch flow and 3-inch return and expect to keep out frost? Yes. The action is always rendered sluggish thereby, however, simply because the larger amount of hot water, instead of coursing freely throughout the system as one uniform measure of circulation, becomes impeded or choked at the drop into return pipe, and causes semi-stagnation or a slow circulation generally. It is lessened or obviated altogether by a disproportionate fall in return pipe—i.e., a fall which inclines at a greater angle than that appearing in the rise in the flow pipe above. Hot-water pipes are infinitely better suited to heating when quite clear of the flow, 9 inches or so, as then all heat radiating from the pipes is employed to advantage within the house, and is not wasted, as must often ensue when the pipes are in close proximity to the floor. Not only is this the case, but, as a rule, there is, to bring this into effect, a sharp rise into flow not far from boiler, a fact alone that gives a good impetus to the general circulation. With these precautions and the pipes fixed high along the side, it is possible 3-inch pipes would keep out frost. Here, however, you must ever bear in mind that as you diminish the radiating sur-

face in the pipes, those remaining in the working will of necessity require to be heated to a much higher temperature to do the work. This alone has its drawbacks so far as plant culture is concerned, and the simplest and best system always is a fairly large number of pipes heated at a low temperature. Too many do exactly the opposite—viz., fix a minimum amount of piping, that must perforce be kept at a very high temperature to do the work. There is, of course, just as much in the management of fires and so on, and, indeed, the item of stoking is of very considerable import, and should be well studied by all who have greenhouses and the care of plants. In a case like yours, the best fuel is anthracite cobbles. No fuel provides so lasting and steady a heat, and, with discretion in the management of the fire and the time of making up for the night, it is easy to keep it going for ten or a dozen hours without attention. An essential in the use of this fuel, however, is a good brisk draught, which is easily arranged for if non-existent.

INCREASING DOUBLE BEGONIAS.

I HAVE a number of choice tuberous double Begonias grown under glass, which I am desirous of increasing. Would you kindly give me a few hints as to the method of procedure? 1st, by seed. Does this require fertilising—if so, how? 2nd, by cuttings. 3rd, by division of tubers. The proper season for each operation, with a few cultural directions, will be much appreciated.—H. J.

[Many of the finest double-flowered Begonias do not produce any pollen, hence, in order to obtain seed it is necessary to take the pollen from a semi-double flower and apply it to the female blooms of the best varieties, as all the female flowers are single, which you will see if you examine your plants. A camel's-hair brush is the best thing with which to transfer the pollen, and you will find it more plentiful on a bright day, after the sun has been shining for a couple of hours or so, than at any other time. To do this, however, it will be necessary to wait for another year, as even if the flowers are fertilised there will not be time for the seeds to ripen. Plants obtained in this way cannot all be depended upon to reproduce the very double flowers of their seed-bearing parent, hence, where double Begonias are raised in quantity from seed the young plants are all flowered in order to prove their worth before sending them out. Begonia seed should be sown in February, in a gentle heat—say, a temperature of 60 degs. to 70 degs. From its minute size more care is needed than in the case of many plants. The pots or pans for its reception should be quite clean and well drained, then filled to within half an inch of the rim with a mixture of two parts loam to two parts peat or leaf-mould and one part silver-sand, the whole well mixed together and passed through a sieve with a quarter-of-an-inch mesh. Being pressed down moderately firm and made level, this must be watered through a very fine rose, and while the soil is still moist the seed must be thinly sprinkled thereon. No covering of soil will be needed, but simply a pane of glass laid over the pot or pan till germination takes place, when it must be removed. Particular care is needed that the seed-pots do not get the direct rays of the sun. When the young plants are large enough to handle they must be pricked off into other pots, prepared the same as for sowing the seed. The next shift will be into small pots, and, after that, into larger ones, as required.

2, Begonias of this class can be propagated from cuttings; indeed, it is the method followed in nurseries for the increase of the finest forms. If a tuber when starting in the spring pushes up two or three shoots, all except one may be taken as cuttings. The best time is when they are about 2 inches long, and they should be taken off as close as possible to the tuber. Then insert singly into small, well-drained pots of sandy soil, and place in a close propagating case till rooted. Where there is only one shoot from a tuber the better way will be to leave it to get a little longer, so that in cutting it off one good eye may be allowed to remain for the future growth to spring from.

3, Division of tubers is carried out when the young shoots are from 1 inch to 2 inches long, as one can see exactly where to divide the tuber, which is best done with a sharp knife,

leaving, if possible, a good-sized piece of tuber to each stem. They are then potted in the ordinary way, keeping the piece of tuber at the base of the young shoot well below the surface of the soil, and treating just as growing tubers that have not been thus operated upon. This last method of propagation is, however, not much employed, as, in the first place, the majority of tubers only produce a single shoot, and, secondly, the cut portion of the tuber sometimes heals in an unsatisfactory manner.]

NOTES AND REPLIES.

Oleander flowers failing to open.—I should be obliged by your telling me what to do to my Oleander. It is growing in a tub and looks healthy, with three or four trusses of buds, but though these have been formed for some time no blossoms open. The plant is kept in a conservatory during the winter, and stood out-of-doors about the end of May. It is four years old.—B.

[Oleanders will occasionally behave as yours have done, some varieties being more liable to do so than others. The cause of it has given rise to a good deal of speculation, and it is generally considered to arise from the roots having received some check, particularly in being allowed to get too dry, for given thorough drainage the Oleander is quite a water-lover. In the case of some large old plants that had long been in the same pots, we advised giving a dose of weak liquid manure about once a fortnight, beginning just as the flower buds were seen, and the plants have given us a check of any kind.]

Ventilating a greenhouse.—I built a small greenhouse three months ago. It is 9 feet long, 5 feet wide, and 8 feet high. I have a 12-inch ventilator in the top, but no heating apparatus. The top windows draw steam during the night time. Could you kindly inform me, through the medium of your valuable paper, if the cause, also is it detrimental to the plants? If so, what remedy have I?—AMATEUR.

[The moisture that collects on the glass of your greenhouse is caused by the water used therein. Its density is to a certain extent regulated by the condition and temperature of the outside air. It is certainly not detrimental to the plants in the greenhouse; indeed, without atmospheric moisture they would be attacked by innumerable insect pests. Do you shut the ventilator of your house during the night? If so, it would, in an unheated structure, be much better to leave it always open till at least the end of September, so as to ensure the hardening off of the plants therein, the better to enable them to stand the coming winter.]

TREES AND SHRUBS.

Bignonia radicans does well on a south wall in the warmer parts of the country, and is this season flowering quite as freely as usual. Where the climate is suitable proper position can be accorded it. No chamber produces a more gorgeous effect during late August and early September.—A. W.

Lonicera hexocera.—This flowers towards the end of June, the blooms possessing the additional merit of being deliciously fragrant. This is also a good subject for training up the face of a wall, as it is a rapid grower and covers quickly. I had a specimen brought to me this season which covers a very large area of wall space and was, moreover, producing an abundance of flowers.

Jasminum humile.—This grows at a rapid rate and flowers abundantly on a wall having a south or western aspect, and is a charming companion to the common white Jasmine. It is not met with nearly so frequently as the latter and the naked-flowered Jasmine (*J. nudiflorum*), but why I cannot conceive, as it is hardy, for I have known it to survive frost of great severity in the west. The flowers are sweetly scented, and are produced during the summer months. It succeeds in ordinary garden soil.—W.

Spiraea Bumalda var. Anthony Waterer.—During the summer months the Spiraea gives a piece of colour quite its own in the shrub beds, and succeeds the many good spring and early blooming things, continuing in bloom over a long period. It has many merits, not the least is its dwarf habit, permitting it to be used in positions where taller growers cannot be admitted. I have it growing in the front of a mixed large shrub bed in which there are groups of herbaceous and tender plants. When this Spiraea is seen growing with Blue Delphiniums at the back, and has as its neighbours *Diplopappus chrysophyllus* and *Hydrangea paniculata*, the effect

is pleasing. Splendid results can be obtained by using this Spiræa and the other things named in beds alone, reserving places for Delphiniums, the best Michaelmas Daisies, Olearia Haasti, and things of a kindred nature, thereby giving more colour effect than is to be found in many of the arrangements produced by the use of tender plants.—J. CROOK.

FRUIT.

APRICOT MOORPARK.

This well-known Apricot is a great favourite where it succeeds, and may be classed as one of the best varieties grown owing to its size and excellent quality. The shoot illustrated shows how freely it crops in some localities. The fruits of the true Moorpark are large, very juicy, and richly coloured. It ripens on a south wall in August and on a west aspect early in September. The tree is a tree grower in its earlier stages. Gross wood should not be encouraged, as it often ends in canker if the knife is used too freely. Should the young trees make too much wood, lift in the early autumn in preference to pruning severely. In warm localities a south wall is not desirable, as it is too hot and often too dry for the Apricot. We have in warm soils seen splendid crops on an east wall; indeed, finer fruits than on the south wall. Old Apricot trees that have a hard border to root into do best. In soils deficient of lime it is well to give such aids as old mortar rubble or balk, making the border firm. The disease to which this variety is liable is difficult to combat, as the cankers die off suddenly when the tree is in a good condition, and these trees given ample attention suffer most, causing gaps at a time they cannot be made good. An old tree which escapes often lasts for many years. The only consolation is to keep a reserve of young trees to make good the losses. There are two distinct forms of Moorpark, one coming much earlier and with smaller fruit. This is the early Moorpark, an excellent Apricot, but lacking the size of the old variety. In this the fruits are rounder, more dotted with small crimson spots, and three weeks earlier.

and by that time most of the deep running roots should have been found, cut through, and the reserved parts taken care of. If this work is done in either bright weather or during the prevalence of cold drying winds, syringe the bared roots occasionally and keep them matted over as much as possible. All should be duly lightly pruned, the older ones, if very woody and bare of fibres, being also cut rather freely. Whether the same space as before shall be occupied with fresh soil should depend upon circumstances. The roots not being very long or worth preserving to a great length, then it may be possible to remake the border piecemeal. In any case renew the drainage if much clogged, and bring the roots up nearer the surface, distributing them thinly throughout the fresh soil. They will form fresh fibres more quickly, and most probably this autumn, if surrounded by a little of the best compost in a fine state, the burn-bake in particular coming into contact with them. The advice to make the new part of the border firm, especially adjoining the older part, is of vital importance. If the fresh compost is somewhat dry, give water in the course of three or four days, while in the case of outside borders pre-

some sharp sand. When shanking occurs, feeding rather promotes it, as, because roots are too deep, the feeding sours the soil. In any case you will probably find lifting and replanting, done just as the leaves fall, will correct the trouble.

Cracked Pears (Carnforth).—Your Williams' Bon Chrétien Pears are badly infected with the fungus, *Cladosporium dendriticum*. This comes chiefly when trees are old and the roots have gone deep into poor or sour subsoil. Your aim must be to either lift the tree, hard prune the deep-going roots, and replant it, or else, if the tree be too old, to open a deep trench round it, grub under, and cut off all the deep-going roots. Refill the trench, then fork off the top soil, replace with fresh, adding some well-decayed manure and bone-dust. So soon as you have gathered all the good Pears and destroyed the diseased ones, make up a solution of 1 lb. of copper sulphate dissolved in 25 gallons of water, and give the tree with that a good though gentle syringing. Also, so soon as possible, smother the tree, whilst damp, with freshly slacked lime. Only drastic treatment will produce a remedy.

Pears cracking.—I have lately taken a piece of ground in which there are several Pear-trees, and the majority of the fruit is cracked (and dropping), as per sample. Can you kindly inform me of the probable cause and cure?—J. W. M.

[Your Pear tree roots have, as is so commonly the case with old trees, gone deep into sour or poor subsoil, where they fail to find the requisite food with which to create sound fruit. That has led to the development of a fungus, *Cladosporium dendriticum*, which at once preys on imperfect fruit, causing cracks and black spots on them. If you could open deep, wide trenches round your trees 4 feet from the stems, cut off all roots clean at that distance, and find with a broad, sharp chisel on the end of a stout, long handle any downward roots, cutting them through, then filling in the trenches and well manuring the soil over the roots, the trees would soon greatly improve. Still, it would do them good if so soon as the leaves and fruits fall, all being collected and burnt, you could well spray the trees twice, at intervals of a fortnight, with the Bordeaux or sulphata of copper and lime mixture, the preparing of which we have so often previously described.]

Plum-trees falling.—I planted two dwarf-trained Plum-trees two years ago. I gave them a foundation of stones, then ashes, boxed them in with wood, giving them a little stable manure with the ordinary garden soil. This year there are a few Plums on each, but they are all cracked or bursting. Kindly tell me the reason, and state if I should lift them and replant them?—CARE.

[Your best course to bring good fruiting to your Victoria Plum-trees is to lift them so soon as the leaves fall. Trim the roots where any coarse ones have formed, and preserve all the small or fibrous roots, then cover them temporarily with soil until ready to replant. Take out all the stones and ashes below—wretched, starvation stuff—and the woodwork. Make holes 4 feet square and 18 inches deep. Throw the bottom soil on to one side, fill in with good top soil to within 6 inches of the top, tread it gently, then replant the trees, setting out the roots evenly. If with the good soil now placed on them you could mix some wood-ashes, old lime-refuse, and bone-dust, the results should be very helpful. You should then, in a year or two, get good fruit. A top-dressing of long manure laid over the roots so soon as planted till April and a fresh dressing in June will do great good.]

Twelve good Gooseberries (T. P. O.).—It is not possible to obtain a long season from Gooseberries naturally. Two or three ripen a few days earlier, but the bulk of varieties ripens all at once. The best way to have a fairly long season is to plant some flat-trained bushes against north walls, where, when the fruit ripen, if netted up, it will keep a long time. Failing that, if you cover up thickly with nets, or canvas, or mats, a few fall fruit-bushes, so as to exclude birds and rain, you can in that way have ripe fruits for some six weeks after all others are gathered. A good selection of dessert and cooking Gooseberries is: Early Sulphur, Early Red Hairy, Pitmaston Green Gage, Red Warrington, Langley Gage, and Whitesmith, of the first; and Whinham's Industry, Crown Bob, Lancashire Lad, Keep aske, Gunner, and Leader, of the latter. These are all nice to eat when ripe and are great



Apricot Moorpark.

PARTIALLY LIFTING VINES.

When the crops fail to ripen satisfactorily, shanking being very prevalent, and when also the wood ripens badly in spite of a free application of fire-heat, then it may safely be assumed that the root-action is much too deep and altogether faulty. Market growers who are not bound to have a full crop of Grapes every season in each house can afford to root out exhausted Vines and to form fresh borders at their rough and ready fashion for a fresh stock of young Vines. Private gardeners are differently situated, these leading it imperative to restore their old Vines to good health and a productive state without the loss of a season. As it happens, it is possible to do this effectively, the restored Vines sometimes fairly eclipsing much younger ones in wholly new borders. It is useless attempting these restorative measures without a good supply of fresh soil, not necessarily all turfy loam, though this is what most growers prefer. Failing a good heap of fresh loam, roughly chopped up, procure as much of this as possible and supplement it with the requisite quantity, of say to the extent of one-half of the bulk, or good garden soil. In either case add very little decayed manure, and "burn-bake" (the residue from a garden smother), wood-ashes, and half-inch bones freely. When this heap is ready, or at the same time that it is being prepared, commence searching out the roots of the Vines to be operated upon. Commence at the front of the border and gradually undermine till about two-thirds of the border has been forked over and wheeled away.

cautions will have to be taken against their becoming badly saturated later on. When Vines have been very roughly handled at the roots they are apt to flag badly when the sun shines. In extreme cases this should be prevented by shading them, but, as a rule, keeping the house rather close for a few days and syringing the foliage very frequently are all that is necessary. It is important that the old leaves be kept fresh as long as possible, root action being briskest in the autumn and while they last.

NOTES AND REPLIES.

Shanked Muscats (W. L.).—Your bunch of Muscat of Alexandria—if it be not Cannon Hill Muscat—shows shanking badly. It is noticeable that the small stems holding the berries to the bunch discolour, wither, and cause the berries either to fall or to discolour and become worthless. The trouble is generally due to root action. The roots have got into bad soil, remote from air and from food. Can you lift the roots? replanting them more shallow, and adding to the border fresh loam and a good proportion of good sifted lime-rubbish, and even

croppers. They are not classed as exhibition varieties, but the majority of those are mere bags of water.

Pot-Vines falling to fruit.—I bought six young fruiting Vine-canes last February—not one of them showed signs of bearing any fruit. They were all pruned and ready for starting when I bought them. I started them gradually about the 20th of February, and managed to keep a very moderate temperature all through. I would be much obliged if you will kindly point out to me why the fruit never appeared? I have an idea that the Vines received a check last year during the time they were ripening off. I may also add that mostly all the buds came very weakly, and a few of them never started at all.—G. S. E. B.

[We fear the fruiting canes or pot-Vines purchased by you last winter and placed in warmth in February last were too weak in growth to produce fruit. Good fruiting canes should be in 11-inch or 12-inch pots, and be as stout as a man's little finger to enable them to produce fruit. Then if cut back to about one fourth their length, stood on a shelf so as to bring the reds up near the glass, and be gently started until the heat is about 70 degs., they should each carry from six to eight bunches. A too common cause of failure in fruiting Vines is that they have been driven into growth in too great warmth, causing the formation of gross, soft roots rather than many hard fibrous roots. If yours were of that nature, then you were badly treated. We do not know what price you paid per Vine, but really good ones to fruit in the pots range from 7s. 6d. to 10s. 6d. each.]

Planting fruit-trees.—I went into occupation of new house in June last (own property), with garden at back, sloping gradually to south. Most of soil has been newly laid on, and house is a depth of several feet, all rich, black soil taken off. The subsoil is sandy. Will you kindly describe, through the medium of your interesting paper, all necessary preparation of ground for planting same with fruit-trees? The ground is at present planted with Winter Greens, which appear to be doing very well.—LONGRAMMA.

[Judging by the description you give as to the made up nature of the soil of your new garden, we conclude that it will not need trenching, but simply digging deep so as to well mix the surface. Before that is done, if you could give it a heavy dosing of lime or soot and also a dressing of wood ashes, great good would be done. But as you ought properly to plant all fruit trees in the autumn, or at the latest in November, it will be well to clear off the Winter Greens, as these will impoverish the soil. Don't add any fresh manure then, but apply a moderate top dressing about each tree or bush after planting to wash in. Always manure from the surface, later, as deep manuring attracts roots from the surface. Trees should be according to kind from 12 to 15 feet apart if standards, but much closer if dwarfs; Raspberries in rows 4 feet apart, and Gooseberries and Currants 6 feet apart each way. Don't plant anything too deep.]

Apple trees unhealthy.—I have an Apple tree in my orchard named "George Apple," which is apparently blighted or was struck by lightning. It is a valuable tree, and until this year has borne good crops. It threw out a good blossom last spring, but no fruit is on it now. The leaves are small, not up to usual size, and many of them are burnt at the end. The age of the tree is about forty or fifty years, but it showed no sign of decay until this year. The bark is shed almost completely round one of the principal boughs, but there is a small strip not yet dead on the part facing the ground. What is your opinion, and how will I treat it so as to save it if possible? On a good many young trees, some of them planted as long as five and seven years, there is a woolly growth, especially wherever a crack is to be found in the bark. Is it American-blight, and if so, what remedy do you suggest?—M. A. C.

[Your Apple-tree may have been struck by lightning, or it may be dying of old age or canker, but evidently it is dying fast, and so far as we gather from your description it is fast getting beyond saving. If, however, only a branch or two is dying, then have those cut off close to the main stem. So soon as the leaves fall coat over the surface cut with Stockholm tar to exclude rain. Very likely the decay is in the main stem, but has not yet made itself apparent. If that be so, grafting or any other operation will not save the tree from dying. Probably the best course would be to purchase another tree of a good variety, and plant it close by to take the place of the old one in time. The white woolly substance on your tree stems is American-blight. Get boiling water in which is infused a pound of soft-soap, and with the water as hot as possible well scrub out the insect. Then mix with clay some paraffin and soft-soap to make a paste, and paint that into the holes where the insects

GARDEN PESTS AND FRIENDS.

THE ASPARAGUS-BEETLE (CRIOCERIS ASPARAGI).

A PAMPHLET dealing with this pest has just been sent us by the Board of Agriculture, and, as we have received many inquiries about it lately, the following notes will, we trust, be useful to our readers:—

This beetle now and then does harm to Asparagus, especially in beds which have been established from one to three years, by eating and disfiguring the heads as they are formed, but chiefly later on by attacking the stems, of which they are particularly fond. In the larval and beetle stages the insects bite the tender Asparagus heads, making brown patches upon them, and cover them with a brown sticky fluid, emitted by the larvæ, defiling the heads also with masses of the sticky eggs, thus spoiling their appearance for market. Later on the beetles and larvæ eat the large round seeds, to which they are very partial. Plants may be completely hared of their foliage by a succession of broods of larvæ. The adult beetles now and then gnaw the shoots underground, and cause them to become bent and woody.

The Asparagus beetle is locally common in the southern and eastern parts of England; it is rarely found in the northern districts. Canon Fowler, in his *Coleoptera of the British Isles*, states that he does not know of a record from any locality further north than South Derbyshire. Enquiries made in 1899 failed to show its presence in the North of England or in Scotland. It is fairly widely distributed around London, and has been recorded as doing damage in Gloucestershire and Warwickshire. It is common in parts of Kent, but rare in Dorsetshire and the western counties. It is known in France, Germany, and Italy, and probably throughout Europe.

LIFE HISTORY.—The beetle is one-fifth to a quarter of an inch long. It is slender and graceful in form. Its body is shiny black, with a blue tinge; its head is black; its antennæ are dark brown; its thorax is red, with two or three black marks or lines upon it. The wing-cases have the outer margins of a pale yellow, and inner margins black, and there is a transverse bar of black across them; upon each wing-case there are three yellowish or lemon-yellowish spots or patches, which, with the transverse bar and the black margins, form the figure of a cross; hence the beetle is termed "Cross-bearer." These markings are very variable; sometimes the yellow spots are very small, at others very large. Eggs are laid from June onward, first upon the heads and shoots, and later upon the feathery foliage of the Asparagus-plants. The eggs are brown to dusky greenish-brown, and oval, being glued by their ends to the plants, usually in rows of three to five, but frequently they are placed singly, and occasionally in rows up to eight in number. They are usually covered with a thin, gummy coat, and are about one-sixteenth of an inch long. Larvæ come forth in from five to seven days, and immediately begin to feed upon the Asparagus. Chittenden says the egg stage lasts from three to eight days in America. The larval stage lasts ten to thirteen days. On reaching maturity the larvæ fall to the earth and undergo transformation just beneath its surface in a slight cocoon. The number of broods appears to depend upon the weather; in some seasons there are three, in others only two broods. Beetles and larvæ are frequently found upon the plants until the middle of October. The larvæ when full-fed is from two-fifths of an inch to nearly half an inch in length; in colour it varies from dirty greenish grey to dull slate; the skin is wrinkled, and each segment is provided with a pair of fleshy foot-like tubercles, except the first three, which are each provided with a pair of jointed feet; the head is black, and the tail segment has a distinct proleg. The colour varies very much, some grubs being almost yellow. They hold very firmly to the plant by means of the tubercles and anal proleg. They probably moult their skins three times, although only two moults have been observed. As soon as they have buried themselves under the soil they form a cocoon composed of frothy saliva, which hardens into a case of parchment-

like consistency of a dull yellow colour, which becomes covered externally with grains of earth. According to Lintner, some larvæ may conceal themselves beneath dead leaves or other material on the surface.

The pupa is pale yellowish in colour. Great Britain the pupal stage lasts from fifteen to twenty days. The beetle hatches three or four days before it makes its appearance above ground, so that the actual existence is shorter than it seems to be. Adults hibernate during winter. They are often found during the winter in the crevices under stones, bricks, and rubbish generally, also under the bark of trees and in the stalks.

EFFECT OF WEATHER ON THE EGGS, LARVÆ AND ADULTS.—In hot, dry weather many shrivel up, and the larvæ often fail to reach maturity. But during warm weather beetles breed more rapidly; nevertheless long period of hot, dry weather markedly affects their increase. Very cold weather affects the hibernating beetles, numbers are often being killed, particularly if warm cold spells of weather alternate.

NATURAL ENEMIES.—A few natural enemies help to keep down an excess of this beetle. The most important is the two-spotted ladybird (*Adalia bipunctata*), whose larvæ ("lady-birds") devour the eggs of the beetle. Adults have also been observed to eat the larvæ of the lace-wing-flies (*Chrysopa*), which are such ravenous green-fly eaters, attack the larvæ of the Asparagus-beetle.

AN ALLIED SPECIES.—A closely related one—the twelve-spotted Asparagus-beetle (*Crioceris duodecim punctata*, Linn.)—is also common upon Asparagus in Europe and America. Its larvæ living on the foliage and in the beds in colour it is orange red, each wing having six round black spots. It is apparently very rare, if not extinct, in Great Britain; it is more troublesome than the common Asparagus-beetle, a look-out should be kept for it by growers in this country.

MEANS OF PREVENTION AND REMEDY.—In the first stages of this attack—that is, when the beetles are feeding upon the juicy parts of the heads of the Asparagus as they are formed—it is difficult to deal with them, though during this period they do considerable harm, making the heads brown and spotty. It is desirable to leave a few heads uncut in the bed where there is infestation as traps for the beetles, which get up the feathery shoots and branches during the day for pairing and deposition of eggs. In the course of eight or nine days these plants should be cut off close to the ground and burnt. Another set of heads should be allowed to run to show which should also be similarly disposed of.

In America a method among prominent growers is to cut down all Asparagus plants in the spring so as to force the parent beetles to lay their eggs upon new shoots, which are then cut every few days before the eggs have time to hatch. Beds of young Asparagus plants are most liable to this attack in the first year or two, when only the strongest heads are cut for market, as the beetles like the succulent shoots of young plants. It would seriously injure the stocks in newly-made infested beds to cut off their shoots. In such cases it would be better to handpick the beds, killing the grubs and eggs between the fingers. Very finely powdered lime dusted on infested plants would also be efficacious, as it would adhere to the slimy bodies of the larvæ. The lime should be applied as soon as the larvæ are noticed, and the application repeated at intervals. In extensive beds the remedies to be employed are lining and trapping, as indicated above, by letting some heads grow into plants and brushing them off and burning them. Syringing can be adopted in gardens. Where Asparagus is grown upon a large scale this process is more difficult, as the plants are not set in rows, but it may be effected by means of knapsack spraying machines. Paraffin emulsion, consisting of 2 gallons of paraffin-oil and 1 lb. of soft-soap dissolved in a gallon of soft water, may be used for spraying purposes. The soap should be boiled, and while boiling the paraffin should be poured into it and churned up with the soap until it is thoroughly incorporated. The mixture should then be diluted with 1½ gallons to

gallons of soft water. Paris green is also a valuable remedy against these and other insects which feed upon foliage. It may be used at the rate of 1 lb. of Paris green to 20 gallons of water. Two pounds of fresh lime-stone be mixed with the Paris green. This mixture can also be put on with a knapsack machine. As this is poisonous, it should not be used till the Asparagus has all been cut. Laying should be carried out before the weather has become thick and strong. It may be necessary to repeat this operation, and it will be effective against both beetles and grubs. Poultry and ducks do not seem to eat Asparagus, but they readily devour grubs; and if kept in the garden, especially ducks, will probably do much good.

It would be desirable to examine the roots of Asparagus obtained for making new beds, as pupae or beetles may be conveyed in these. The United States infestation is extended widely in this way.

NOTES AND REPLIES.

Earwigs eating Nectarines (M. T.).—Would you not manage to fasten your muslin round the fruit so that the earwigs could not enter? If this be impossible the best thing you can do is to try and trap the earwigs by cutting the hollow stems of Beans or Sunflowers along the branches. Numbers may be caught sometimes by folding sackings, or some similar material, and laying it on the ground—in fact, just anything into which they can creep will hide make useful traps; they feed only at night, and generally try and hide themselves during the day.—G. S. S.

Lighted Celery.—My Celery is badly attacked by a bright (not Celery-fly). Is there any means of curing it?—H. M. A.

We assume that you mean to indicate that your Celery is attacked by aphids, which suck the sap from the stems and leaves. You should have no difficulty in getting rid of that pest if you will gently, when the weather is quiet, cut the infested parts with Tobacco powder, which you can purchase from a seedsman, and when rain washes it off, dust again. A couple of dustings should suffice to destroy the insects.

Geraniums injured.—Would you please be so kind to say what in your opinion has eaten the stems of the enclosed Geraniums?—A. S. L. C. A.

As far as I can see, the Geranium stems have not been attacked by any insect, but the injury has been caused by a fungus, which is not in a condition for me to name. It has in some places entirely destroyed the central tissues of the stems, leaving only the outer rind. This has caused them to wither and the bark to peel off in certain parts, giving the appearance of their having been eaten. Burn the infested stems.—G. S. S.]

Worms in manure.—I have about a ton of cow-manure, which has been kept about a year in a heap open to the weather. It now swarms with earthworms, and, as the manure is required for potting plants, I shall be glad if you can tell me how to destroy the worms before they get into the pots in the usual course?—B. L. N. O. R.

[The quantity of manure that you have is too great to treat with any liquid to destroy the worms. Could you spread it out anywhere where poultry or birds could pick it over? When using it for "pot work," could you not then pick the worms out, as it must then be handled in small quantities? If you wish to try some fluid, I should recommend lime-water.—G. S. S.]

Salvia injured.—I will be obliged if you will say in the next issue of paper what the insect is that devours my scarlet Salvia? I can see no caterpillar or grub, yet the Salvia planted by my herbaceous border are this year quite devoured.—M. E. D. R. L. H.

[I do not think the leaves of your Salvia have been attacked by any insect, but by a fungus. I do not speak very confidently on this point as I cannot find any direct trace of the pest, and some of the authorities on fungi deny that fungi are the cause of these holes and notches, but they are common on many leaves, and I have never been able to detect any insects, and feel certain they are not the culprits. Burn the infested leaves, and next year, if the disease appears again, at once spray with "Bordeaux-mixture" once a week as long as necessary.—G. S. S.]

Insect on Rose shoots.—On looking over my Rose-trees for likely shoots for cuttings I came across the enclosed insect, which was so perfect an imitation of the Rose shoot, to which it was firmly attached that I

actually took hold of it as a likely cutting. Please say what it is, and whether it is common, as I do not remember ever having seen it before?—R. V. L. C.

[This insect you found in your Rose-tree, which so resembled a dead twig, is the caterpillar of the Swallowtail-moth. These caterpillars are very common, but are comparatively seldom noticed on account of their extraordinary mimicry of dead twigs, the position which they assume when at rest, clinging to the branch merely by the legs at the extreme end of their bodies, and extending themselves at an angle to the branch, rendering them very difficult of detection.—G. S. S.]

Fungus on Rose-leaves.—I enclose some leaves of a climbing Rose which I have had for a long time against the south wall of the house. It is a fine pink Rose (I do not know the name), but it is of vigorous growth, and always flowers freely. During the last few years, immediately after flowering, the leaves have become yellow and spotted, like the enclosed specimens, and have fallen off, so that it looks very bare and ugly by the end of the season.—M. A. M.

[The leaves of your Rose are attacked by a fungus. Collect the diseased leaves and burn them. Next season, as soon as you see any signs of the fungus, spray the Rose with Bordeaux-mixture about once a week for three weeks.—G. S. S.]

Insect in garden.—I should be much obliged if you can tell me how to get rid of an insect which is destructive in my London garden. It is bright green, about a 1/2-inch long, and darts away so quickly that it escapes all applications of insecticide. It appears for a few weeks when the leaves are young, and ruins the tender shoots of Virginian Creeper, Jasmine, Ferns, etc., curling them up and stopping all growth. Is there any means of destroying the grubs in the winter?—M. S. C.

[From your description I imagine the insects infesting your plants are one of the "Frog-flies," "Cuckoo-flies," or "Jumpers." Some of the syringes which have a spray nozzle throw such a wide jet of spray that if suddenly and well-directed, using "paraffin emulsion," or some other insecticide, many should be caught by it; but a more certain way is to hold a large piece of board, sheet of canvas, or tin, newly painted or tarred, so that it is quite sticky, in such a way that when they are disturbed they may jump into it and be caught. These insects probably pass the winter in the egg condition, and where these are laid is uncertain. Spraying your creepers with a caustic wash in the course of the winter, taking care not to use it after the buds show any signs of starting into growth, would probably be useful.—G. S. S.]

GARDEN WORK.

Conservatory.—We are taking stock of our room under glass with a view to make the best arrangement for the winter. What is wanted is a continuity of bloom all the season, and this means looking a long way ahead. At the present there are the Chrysanthemums, which will last up till January, but we want something besides Chrysanthemums. We want variety, and this can be had only by growing quite a number of different things. There is a danger of drifting under glass into the same condition as we were thirty or more years ago with the bedding out in the flower garden. Then every border of old-fashioned flowers was cleared and converted into ribbon borders. Now many of us are getting back the old favourites, with any additions in the way of improvements to be obtained. The time, I think, is coming when the same course will be adopted with reference to the plants usually grown under glass. A house filled with Chrysanthemums is very bright, but it becomes monotonous. There are other things to be had, and a good batch of Zonal Geraniums is always effective. Heliotropes which have been pinched during summer will now be in bud ready to burst into blossom when a little warmth is applied. Some of the new varieties have very large flowers. Lord Roberts is a very fine variety with large trusses and bushy habit. The Scarborough Lily (Vallota purpurea) when well done is one of the brightest autumn-flowering bulbs. I remember the time when it was treated altogether as a stove bulb. Now it does better with open air treatment in summer, moving it indoors just as the flower-spikes are visible. Cyclamens when well grown make a very pretty group. The foliage of many of the seedlings is prettily marked, and the flowers much larger than we used to

have them, though very few have any fragrance now. The best way to deal with the bulb after flowering is to plant them out in light soil in a partially shaded spot, and lift them when they have made some growth. We lift ours early in September, and they make strong plants, but do not flower so early as the strongest seedlings.

Stove.—*Rodeletia speciosa* major is a very pretty, easily-grown plant, and makes a very useful exhibition plant for the summer shows. I have seen it in several winning collections this season; in fact, it has been in evidence every year for many years. It is one of the few old plants that still occupies its old position as a very useful stove plant. The flowers are useful for personal wear, or to fill specimen glasses, and it is seldom without flowers when the plants have attained some size. *Eucharis Lilies* in blossom should be plentiful now, with other plants coming on in succession. Heat and moisture will soon send up the flower spikes, which are specially useful for church decorations and wreath making. Years ago we used to grow a few aquatics in the stove, including one or two of the smaller Water Lilies, Villarsias, and other things. On a small scale for the amateur's house, a tub or barrel cut through the centre will make two rather interesting aquatic receptacles. The plants may either be grown in pots and plunged in the water, or be planted in a mound of good soil and pieces of sandstone. I have seen No. 1 pots used, with the bottoms puddled with clay. Anyway, a few water plants in small tubs or in some other way would be a source of interest, and the vapour arising from the water will be useful to other plants in the house. Weak liquid-manure may be given occasionally to *Gardenias* in bud, *Eucharis Lilies*, and *Poinsettias* which have filled their pots with roots. The nights have been cold lately, and warmth will improve all plants brought in from cool-houses, including the usual winter-flowering soft things.

Ferns and fine-foliated plants.—There is always a good demand for these in the autumn. It is astonishing the number of *Palms* sold in the country during the autumn. *Kentias* purchased now may be kept in a room in good condition all through the winter, or much longer; in fact, there is no limit to their existence if rightly managed. The watering and sponging are the principal attention required. In the winter very little water is required if the leaves are kept clean. During frosty weather the soil should be fairly dry, though, of course, there should always be enough moisture in the soil to keep the roots fresh and the foliage in sound condition. It will always be safe to keep to the sound test, and, when the pot gives off a very hollow sound, give water enough to moisten all the soil. The hardier kinds of *Dracenas*, *Indiarubbers*, *Grevilleas*, and *Aralias*, both the green and variegated, are useful indoors. The best Ferns for decorating, to stand wear and tear, are the *Pterises*, and the best of these are *Pteris cretica* major, *P. c. cristata*, *Pteris tremula*, *Phlebodium aureum*, *Cyrtomium falcatum*, and *Nephrolepis exaltata*. The last is one of the best basket plants. *Phlebodium aureum* also does well in a basket, but this is not quite so hardy as the *Pteris* family. It may be moved to the shady part of the conservatory in summer, but must have warmth in winter.

Hard-wooded plants.—These should now all be under cover, but their removal from the outside to the inside should be made as comfortable as possible, air being given freely night and day, and then needs for water duly studied. Where these plants are well cared for there will be no need to say anything about worms, which always find their way into pots where the bottom of the pot is not secured against their entrance. This can easily be done by placing a bed of coal-ashes 2 inches thick beneath them, and the ash-bed is even better than pavement or boards, as it retains the moisture and gives it off in a hot day. This is the usual time for cleansing the plants and staking all those which require support. No fire will be required till frost of some severity comes.

Potting bulbs for forcing.—For the most part the imported bulbs are sound and good. Roman Hyacinths are, perhaps, the

only exceptions. Some of these show traces of disease, and are smaller and dearer than usual. English-grown Narcissi—at least, those bulbs which have come—are superior to the Dutch-grown bulbs. Get the potting and boxing done as soon as possible, and cover the bulbs with Cocos-nut-fibre. Lillium Harrisii, which is now to hand, should be potted and plunged in fibre in cold-pit to make roots, when the plants can be moved to the house where a little forcing is done.

Window gardening.—Frost lies near. Get all tender plants lifted and placed under cover. In case of a sudden lowering of temperature, cover any plants wanted for the future with canvas or tiffany till they can be lifted. Scarborough Lilies will soon be in flower, and may have weak liquid-manure.

Outdoor garden.—The Rudbeckias are bright autumn flowers. They have long, stout stems, and last well in a cut state. The two best are *R. speciosa* and *R. purpurea*, and these are distinct and good, and everybody should plant them. They come in well with the Japanese Anemones and the early-flowering Starworts or Michaelmas Daisies, some of which everybody should grow. They are splendid furnishing material for new gardens to fill in the shrubbery till things grow and the place gets furnished. When once introduced a place will surely be found for them somewhere. They will form background plants in the borders, and they are very effective in masses of one colour near the margins of the lawn in retired spots, and certainly must be used in the wilderness, where they associate well with Tritomas, Polygoum cuspidatum, and other plants of similar habit, including the tall single Sunflower Miss Mellish, which flowers freely till cut off by frost. This is the best time to sow Grass seeds in new places. Prapara the ground well, roll it firm, and cast on plenty of seeds. Scratch them in with the rake, or cover with rich compost, and roll down firm. The seeds will soon germinate, and, if birds are troublesome, run strings of black cotton over the lawn a foot or so from the ground. When this is done the birds will not interfere with the seeds. Anyone thinking of planting Laurels should get the round-leaved variety. It is hardy and dwarf.

Fruit garden.—Hitherto the season has been most unfavourable for the ripening of fruit, especially what are termed soft fruits, such as Plums, etc. The latter are cracking a good deal, and this, of course, means decay and loss of crop. It requires a very even temperament to keep pegging away and at the same time maintain a smiling countenance under such circumstances, but this is the only sensible course to take. We must, of course, take note of things with a view to rectify any errors of culture or management, and as the planting season is close at hand we want to decide to the best of our judgment the right kinds to plant. From all my sources of information comes a good opinion of Newton Wonder Apple, and there will probably be a run upon this kind. Lane's Prince Albert has an established reputation. Bismarck has very little colour this season in our district, and the fruits, as might have been expected, are hardly so fine. Last November a farmer who is turning his attention to fruit growing in the I-on district sent me a couple of dozen fruits of Bismarck that were, I think, the finest I have ever seen. His Cox's Orange Pippins also were good, showing that now the Fens are well drained there is an opening for the fruit grower. All he has to do is to dig deeply and fetch up a little of the boulder clay to mix with his lighter stuff. Doyenné du Comice Pear still maintains its reputation as one of the best early winter Pears, and the market grower may continue to plant Pitmaston Duchess, as its size will sell it, and it is a fair cropper when the trees have gained size and age, though it may require a little root pruning to bring it into bearing.

Vegetable garden.—There is plenty of Cauliflowers this season; in fact, they are too big, but the difficulty is to keep the Autumn Giant of a reasonable size. One friend of mine who had a rich soil used to sow his seeds thinly in deep drills or trenches, and thin the plants out to 9 inches or 10 inches apart, and then earth the plants up. In this way he obtained

smaller and closer-grown hearts, and many more of them on the same land. The Walcheren, when true, is an excellent Cauliflower for late use. When sown in May and planted in different aspects, a long succession is obtained. During the long damp time we have had the weeds have been a terrible trial, but they must be kept down or our self-respect will suffer, as no one can be happy when overwhelmed with weeds. The Potato disease has given much trouble, and there will be considerable loss of crop. Spraying, when done in time, has been useful. Even a dressing of newly-slaked lime, when applied before the disease has had a chance to spread, has been useful. The outside Tomato crop this season cannot be a success. We have for some time been gathering all the fruits as fast as they show the least change of tint, and ripened them under glass. In this way all the best fruits will come out well coloured. The disease is spreading, and on heavy, damp soil the loss will be great; but, to make amends, the indoor crop has been good, though in cool-houses the crop is late. Plant out Cabbages and Lettuces, and fill spare frames with half grown Lettuces and Endive for winter. E. HODDAY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

September 29th.—Several frames have been filled with Violets for winter and early spring blooming. We find Melon and Cucumber frames suitable, levelling the soil down and adding a little old leaf-mould and some sharp sand, and after planting scattering a mixture of charcoal-dust and wood-ashes among the plants, and firming the soil about them. A light shower will do good, but heavy rains will be kept out. Put in a lot of cuttings of the double-flowered Arabis albidula. Sowed Mignonette.

September 30th.—Fruit gathering is receiving attention, but care is necessary in not gathering too early. All fallen Apples are gathered up daily. The maggot is still present in some of the fruits, and must be watched and destroyed. Grease-bands arrested the progress upwards of many insects last autumn, and these will be used a little earlier this season. The Brown Turkey Fig on a warm stable wall with a south aspect is ripening its fruit well. The growth is kept thin.

October 1st.—Strawberry plants have been cleared of runners and weeds. Some of the best runners of leading kinds have been planted 6 inches apart in nursery beds for spring planting. A bed of late Asters is usually grown, being sown thinly outside early in May. These are useful to fill vacancies in beds and borders, as they can be lifted with balls, and will watered in scarcely feel a check. Commenced putting in Rose cuttings in prepared bed in shady border.

October 2nd.—Late Raspberries are bearing freely, especially that robust variety Belle de Fontenoy. Summer bearing Raspberries have been thoroughly cleared of all wood not required. Canes suitable for planting, and which may be required, have been planted in many beds, being well watered in and mulched. Late Potatoes are now being lifted. We have not seen much disease, but there is plenty of diseased tubers in the neighbourhood.

October 3rd.—Carnations in borders are being planted. Duplicates of each kind will be potted and kept in frames till spring. Potted the last of the Freesias and Roman Hyacinths. The latter have been plunged in Cocoa-fibre, but Freesias are better uncovered in cold-frame for the present. All the tender plants of any value have been placed under glass, and, as usual at this season, we have scarcely room enough to hold all.

October 4th.—Put in cuttings of Ivies, chiefly small-leaved sorts and the broad-leaved variegated variety of Madeirensis. The latter is often grafted on the Irish Ivy during the winter or early in spring under glass. Gathered a surplus of Scarlet Runners, and placed in earthen jars with layers of salt for winter use. Frost will soon spoil the Beans outside. We are still gathering a few late pods of Ne Plus Ultra Pea, second crop from seeds sown in June. Sowed Mustard and Cress in shallow boxes in warm-house. Mushroom beds are still being gathered from open air beds.

LAW AND CUSTOM.

Land subject to quit rent.—I have a house and garden, for which I pay £1 per year. I rent. The land was taken from waste land 70 years ago by my grandfather, and my father built the house on it. Can I sell it?—P. A.

[Yes, you may sell this land. You will have no title deeds, except the wills of your father and grandfather—if they made wills. In the absence of any will or similar document, a purchaser may take some objection to the title, but the solicitor who acts for you will get over the difficulty by obtaining a declaration from someone who has known the property and its ownership for a considerable period. The land can only be sold subject to the quit rent; that is to say, the purchaser must continue to pay it.—K. C. T.]

A neighbour's dog.—I am employed as gardener, with cottage found. A lady lives next door, and has the use of my yard. She keeps a dog, and allows it to run all over my garden, and, before I can let my children go out in the morning, I have to clear away the dirt made by the dog during the night. I have asked the lady to charge me by keeping her dog on her own premises, but she declines. What am I to do?—J. K.

[Probably the premises where this lady resides belong to your employer, and if so you had better complain to him and ask him to put the matter right. If he refuses, your better plan would be to give notice to leave, as if you take legal proceedings you may not improbably receive notice to determine your service. If the house where this lady resides does not belong to your employer, you may probably sue her for the trespass of her dog, but before advising definitely I should require to know under what circumstances the lady has the use of your yard, and how your garden is divided from or fenced from the yard.—K. C. T.]

Dog chasing trespassing fowls.—I live by the side of a highway, and have wired off a corner of my premises, and keep some twenty to six there. After feeding them in the afternoon I usually turn them out upon the road so that they may get fresh grit. On the other side of the road is a Grass field occupied by a neighbouring farmer, and my fowls naturally go into it. The farmer is in the habit of sending his dog after the fowls. Is he justified in so doing? If any of the fowls are killed or injured, can I recover damages?—P. URBAN.

[Yes; the farmer is perfectly justified in sending his dog to drive your poultry out of the field. You may think it perfectly natural that your poultry should enter the field, but it is equally natural that the farmer should resent their trespass. He has no right to injure them either by himself or by his dog, and if the dog worries one of the fowls you may recover damages from the farmer. But this does not mean that he may not drive the fowls out. He may in any case sue you for their trespass, and as you know their propensity to trespass, it is your duty to keep them at home. You have no right to turn them upon the highway.—K. C. T.]

Nuisance from bee-keeping.—My garden adjoins that of a neighbour who keeps bees for profit. The gardener is afraid of the bees, and will not work near them, nor yet cut the hedge dividing the gardens, and so we are over-run with weeds. Is there any remedy?—IGNORANCE.

[The case is somewhat analogous to that of the nuisance caused by cock-crowing. It is alike lawful to keep bees and to keep poultry, but they must be kept so as not to be a nuisance to neighbours. If the bees are of a particularly pugnacious disposition, I think you might obtain an injunction to prevent your neighbour from keeping them; but it is altogether a question of degree, and while one person may be afraid of the bees and find them a nuisance, another person may have no fear of them. When working in the immediate vicinity of the bees your gardener might protect himself by wearing a veil and gloves, if he is of a very nervous disposition.—K. C. T.]

Title to land.—Some 60 years ago my father took half an acre of moorland for the purpose of making a garden and building a house in it. He was to pay £1 a year for the land, and he built the house, cultivated the land, and walled it in. For about 40 years the landlord came each year and collected the yearly payment, but afterwards ceased, and nothing has since been paid nor even requested. Some tell me that if a man occupies land for over 12 years without paying any rent for it, the land becomes his own property; others say that he must occupy it for 20 years without paying rent before it becomes his own. Will you please tell me which is correct? I may say there never was any written agreement or lease.—L. H. K. B.

[At the first view I thought this to be a case of a quit-rent, and not of an ordinary tenancy, and that the landlord in question was merely the lord of the manor. Possibly this view was correct, but it is perfectly immaterial. Where

a quit-rent is payable, the lord of the manor or other person entitled to receive the quit-rent is entitled to it and to it only, and has no title to the land itself, and he cannot increase the amount of the quit-rent under any circumstances. A person who occupies land for 12 years, without paying rent or making any acknowledgment for the land, does not thereby become the legal owner of it, but it practically amounts to the same thing, as the land cannot be recovered from him in an action. (But this would not be the case if he held under a lease for an unexpired term of years). You cannot now be dispossessed of this land, neither can you be compelled to pay any rent—whether quit-rent or otherwise—but you must be careful to pay nothing to anyone in respect of the land, nor to sign any document or agreement concerning it.—K. C. T.]

BIRDS.

Redpoll losing its bright plumage (N. B.).—Yes, these birds lose their distinctive markings on their first moult after being caged. In a garden aviary, however, they retain their beauty of plumage, and the males acquire the carmine red upon the sides of the neck and breast, as in a state of freedom. Do not give your bird much Hemp-seed (only a few grains now and then), as this in quantity tends to darken the plumage, besides causing over-fatness, to which caged Redpolls are very subject. The staple diet should be Canary-seed, with a change occasionally in the shape of a little summer Rape, Linseed, Maw, or Lettuce-seed. Give also the flowering buds of Groundsel and the ripe stalks of Plantain-seed.—S. S. G.

The Linnet (C. L.).—This bird is a very sweet songster, and a great favourite as a cage-bird. It should be fed upon Canary-seed and Summer Rape, with occasionally a little Lettuce-seed, Maw-seed, and a few grains of Hemp, with a fair supply of green food, as Groundsel, Chickweed, and Plantain. In a cage it is liable to become over fat, and the exercise afforded by the range of an aviary is more favourable to its general health; it, however, sings better in a cage. It is one of our indigenous songsters, and is generally spread throughout our island, frequenting during the summer furze-covered commons, sheep-walks, wild lands bordering on woods, thickets, and rough hedgerows. There are usually two broods during the season, the nest being composed of Moss and the stalks of Grass, interwoven with wool, and lined with hair and feathers, and generally placed in a clump of furze. The eggs are of a bluish-white, speckled with purplish-red. Young Linnets are easily reared by hand on bread scalded in milk, and Summer Rape boiled or scalded to remove its acidity, soaked Canary-seed being substituted as they grow older. The male birds of this species breed very freely with hen Canaries in confinement. The Linnet differs much in plumage at different ages, the male of three years old being distinguished by having the forehead blood-red and the rest of the head roddish ash-colour, with a spot of black on the top; the cheeks and sides of the neck and the circle round the eyes have a pink tint; the feathers of the back are chestnut brown with paler edges, while the upper tail coverts are black, edged with reddish-white. The throat is pale yellow, with some dashes of reddish-grey; sides of the breast are blood-red, feathers being edged with yellowish-white. The quill and tail feathers are black, margined with white. The grey Linnet, or male of one year old, wants the red on the head, the top of which is more dashed with black than in older birds, the breast having but a pale wash of carmine. After the second moult, however, blood-red specks may be seen making their appearance, if the feathers of the head be turned aside and examined, while the red of the breast is only hidden by the wide yellowish-white borders of the feathers. These tints soon disappear in a state of captivity, and birds captured in their finest plumage lose their bright colours at the first moulting, and remain afterwards grey. On the approach of winter, these birds assemble in flocks, and traverse the moors cultivated parts of the country, or descend to the sea-coast, till they separate in pairs on the return of spring to revisit their old breeding places.—S. S. G.

POULTRY.

GOOD WINTER LAYERS.

STRONG, heavy-feathered birds of a vigorous constitution are, no doubt, able to stand sudden changes of weather, and thrive in cold districts better than thin-feathered breeds, and for production of eggs in winter and strength of constitution there is probably no breed that can surpass the Brahma. The hens of this breed lay a larger number of eggs than do Cochins during the winter, although the latter is considered one of the best breeds for all-the-year-round laying. Brahmas are also good foragers where they have their liberty, and, consequently, inexpensive to keep. The chickens are hardy and easily reared, and the pullets begin to lay at an early age. The eggs of this breed are large and of a brownish tint. Cochins, besides being excellent winter layers, are the best of all breeds for keeping in a limited space, having no inclination to wander. The pullets begin to lay at an early age, regardless of the season or state of the weather, and continue to produce eggs through the cold, dark days of winter. The hens are most valuable as sitters early in the season, becoming broody when other breeds are beginning to lay. The eggs are of a pale chocolate colour and of excellent flavour. A very fine cross for the production of winter eggs is the Minorca-Brahma, and very few breeds stand confinement better and thrive so well in a small space. They are very hardy, stand the coldest weather well, often laying when snow is on the ground. The Black Minorca will also lay well in the winter if kept in a sheltered situation, and has few superiors as an egg producer, while the size of the egg exceeds that of almost any other breed. It bears confinement well, although with a good range it is a good forager (finding a large proportion of its own food), so that not only is it largely kept by the town poultry-keeper as the breed that is suited for small space, but it is found equally suitable for the poultry farmer, especially where egg production is the chief source of profit. The large number of eggs produced by the Black Minorca is in great measure owing to its being a non-sitting breed.

As to winter management, the same conditions we choose for ourselves—air, light, warmth, and dryness—are those best adapted for poultry, and to insure these the yard should be well drained and gravelled, so that there may be no stagnant water. The poultry-house should, if possible, have a southern aspect, and the floor be formed of chalk and earth, well beaten to form a compact, solid mass and bear frequent sweeping, being kept well sprinkled with dry ashes. As fowls cannot obtain worms or insects in the winter, it materially assists in the production of eggs if they are supplied with small quantities of animal food, minced fine. It is also important that laying hens should have access to substances containing lime, such as oyster shells and old mortar, otherwise there is a liability of their laying shell-less eggs. Grass is of the greatest value to fowls, and, where they have not the advantage of a Grass run, some fresh vegetables should be given them daily. A Cabbage suspended by its stalk affords them good, healthy occupation; otherwise, the leaves may be cut into small pieces and scattered like grain. Turnips, Carrots, Potatoes, etc., boiled and mixed with the soft food, conduces to good health. The best way of feeding is to give soft food warm first thing in the morning, kitchen scraps at midday, and good, sound grain at night before going to roost. Birds fed upon a judicious mixture of soft food first thing in the morning continue in better health and lay a far greater number of eggs than do those fed entirely upon grain.

S. S. G.

Photographs of Gardens, Plants, or Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

The Prize Winners this week are: 1, Mr. R. G. Pringle, Charlton Gardens, Colingbury, Gt. Br. Tree-Pony Mme. Stuart, Low, 2, Miss Harrison, The Old House, Whitehill, Sunderland-on-Wear, for Lupins and Irises, 11

CORRESPONDENCE.

Questions.—Queries and answers are inserted in *GARDENING* free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF *GARDENING*, 17, FURNAL-STREET, HOLBORN, LONDON, E.C. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as *GARDENING* has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits, as, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Keeping Begonias (M. C. L.).—Lift your Begonias when the first frost has hurt them, lay them in a frame, and when the growths have all fallen off, clean the bulbs over and lay them into sand in a box, plaing them under the greenhouse stage so that no drip can fall on them. A cellar, where no frost can penetrate, will answer as well.

Sowing Grass-seed (John Part).—October is too late to sow Grass-seed. If you cannot sow during the present month, wait till March or April. If sown in March there is no reason why you should not have a good lawn during the following summer. Sow thickly, make the seed-bed firm, and run black cotton over the seeds to keep off birds.

Tropeolum speciosum (S. Border).—Leave the seeds on the plant until they are quite ripe, when at once sow in a pan or box in light loam, leaf-mould, and sand. Place in a pit or frame and keep the soil moist, but not too wet, until the seedlings appear in the spring. Careful division of the roots is, however, the best way to increase this.

Fungus on lawn (A Constant Reader).—Your only chance is to prevent the casting of spores, and by picking them early you may in time reduce them. At the same time, you have the worst evil to contend with underground in the mycelium or spawn running about. It is possible some very strong brine poured into the patches may kill the spawm, or some weed-killer may do likewise. The best time to apply either of these is when the peat is most active.

Roses for pillars (Stafford-hire).—Some good Roses for posts and chains may include the cluster kind, as *Aimée Vibert*, *Dundee Rambler*, *Alice Grey*, *Reine Olga de Wurtemberg*, *Frances Bloxam*, *Pélicie-Perpetue*, and the fine single *Provence Rose*, *R. setigera*. The posts may be 5 feet to 7 feet asunder. There is no objection to planting Clematis in conjunction with the Rose; indeed, it is frequently done. All the Roses named are good. *Cheshunt Hybrid* is one of the earliest to flower of red climbers.

Carnations from seeds (J. W. L.).—Sow the seed in March or April in pots or pans of fine soil, and plunge in a brisk bottom heat. The soil must be kept dry damp, so that no watering is necessary until the seedlings appear. As soon as fit to handle, prick off into other boxes about 3 inches apart, and allow to remain in warm frames until established, gradually inouling the young plants to the air. When well established the seedlings may be staked in a cold-frame, and, by the first week in May, the lights may be removed and the young plants set out where they are to flower.

Snapdragons in winter (R. J. S.).—These plants will be quite safe in the frames, giving air on all favourable occasions. If in boxes use light soil and plant firmly. Very little water will be needed from November to end of February, but the soil must not be allowed to get quite dry. If the plants are now in boxes, and with room to develop, leave them alone, but if at all thick and likely to spoil, transplant at once into other boxes. In cold weather the plants will be safest if nearly or quite dry. In this respect the treatment will do for Geraniums, but these will not endure frost.

Carnations falling (B. D.).—We could find no grub of any kind, but from the shoot sent should say that wireworm is the cause of failure. If wireworms show themselves in a bed of Carnations, the best way is to place slices of Carrots on the ends of pointed sticks. Bury the slices 2 inches or 3 inches in the ground, and examine them daily and destroy them. The wireworm will be found on the Carrot slices. A good way is to dress the ground where the Carnations have been with gas-lime, working this into the ground and letting the soil lie fallow for a year, frequently stirring it, so as to well incorporate the lime.

Good Carnations (Stafford-hire).—You cannot do wrong in planting any of the fragrant salt kinds, such as *George Macquay*, white, *Countess of Paris*, *Carroll Duran*, *Sadek*, *Waterwitch*, *Braw Lass*, *Miss A. Campbell*, *Hayes' Scarlet*, *Boadicea*, all good. A few old sorts for free mauling should include *Old Glove*, *Gloire de Nancy*, *Ruby Castle*, *Duchess of Fife* (plant in a little shade), and *Alice Ayres*. Another year if you want flowering plants where the Snapdragons are now, it is possible the Tuberous Begonia may suffice. If you are not particular as to flower, and there is room, and the Roses fall enough, why not plant young *Lavender*? This would be quite in keeping with the old flagged terrace.

Climbing Rose (Lande, W.).—The only likely Rose to succeed is such as *Aimée Vibert* or *Mme. Lambert*. The *Reine Olga* may also do well and the yellow *Tree-Lupin* is worth a trial. If you tried a mixture of these, you could not do worse than to try *Tropeolum speciosum* all along the

wall to climb over the other things. It sometimes succeeds quite well in this aspect. If you wanted a solitary plant merely for cover, the one plant we should at once name is *Eunonymus radicans variegata*. It is non-flowering, so to speak, but is self adherent in such cases. You may certainly write us again.

Twelve good Phloxes (Amateur).—The following should suit you: Whites, Myrtle and Mrs. F. H. Jenkins; rods, Etna and Cocquilleot; salmon, Lother and A. F. Barron; bluish-pink, Mme. Malisset; orange-scarlet, Embrassement; black, Lerviche; rose-lilac, and slate, Balzac; soil lilac, Cendrillon; crimson, Cocinea; white, crimson eye, Countess of Aberdeen; white, purple eye, Edith. While the above are a good set, it is quite possible you would be best supplied by placing your order with any of the hardy plant dealers, stating your wants and leaving the selection to them.

Fern unhealthy (E. J. Fleming, Stanhope House, Stribton).—The Fern, *Cyatium anomalophyllum*, which you sent us appears to be suffering from bad action of the roots, but it is difficult to pronounce with certainty, as the same results are often due to the presence of thrips, and the frod received is too shrivelled to say for certain, but it appears to be free from insects, therefore see that the soil in which your Ferns grow is not kept in a constant state of moisture, which has for consequences the rotting of the spongyules of the roots. Exposure to strong light would also cause it, but this can scarcely be the case this season, therefore see to the state of the roots. Gladioli bulbs should not be planted in the border in the autumn. Plant them about April-May, and take them up in autumn, and if on a cold or stiff clay ground plant only in May-June, but always take them up in autumn.

Roses for beds (Staffordshire).—For the new Roses the following kinds would be suitable: Comtesse de Saxe, rich light salmon, shaded copper, fine foliage; Bougere, rich salmon and of good substance; Ernest Metz, rose-pink; Jean Ducher, yellow, shaded pink, a grand Rose; Jean Perret, rich apricot; Lucile, fine rose-carmine and copper; Mme. de Watteville, white, salmon, and rose, wants thinning of the buds; Marquise, de Viviers, rose-pink; Marquise Litta, rose-carmine; Mme. Jules Grolez, salicy-pink; Mme. Abel Chateaux, rose-carmine, shaded vermillion, rose, and salmon; Grace Darling, pink and peach, extra; Lady Battersea, cherry crimson and orange; Liberty, brilliant velvet crimson; Lady Mary Fitzwilliam, flesh, extra fine; Gris an Topitz, scarlet-crimson, grand; Camoens, satin-rose; Shandon, deep carmine, reddish centre, sweet; The Meteor, velvety crimson; Viscountess Folkestone, creamy-pink and salmon, large, fragrant, and free. The H.T.'s are marked with an asterisk. The others are Teas, and all of merit. We would suggest planting six or more in a block for effect, and the plants should be about 2 feet apart.

TREES AND SHRUBS.

Climber for arch (Eria).—Yes, the Honeysuckle will do quite well, and if you have room you may plant the Crimson Rambler Rose to bear it company. The two plants are excellent in combination in this way.

Planting Azaleas (Anon).—We are assuming the soil will be deepened and improved to suit the Azalea. Groups of Lilies would be charming, and among late-flowering shrubs there are several Iroonis, including G. Andreana and the yellow Spanish. The latter might be kept down by pruning. Hardy Fuchsias would be nice. Hydrangeas would do, both H. Hortensia and paniculata grandiflora, also Althaea frutex (Hibiscus) in variety, but do not overwater.

Blight and Birch-trees (Birch Tree).—Judging from your description, the kind you refer to is probably *Betula alba laciniata pendula*. The small leaves you send give us no opportunity of expressing an opinion other than that they appear to be tolerably good health. If aphides are really present, this may be readily got rid of by syringing with some cheap wash, petroleum and soft-soap, for example, or these in conjunction with Quassia solution, the intense bitterness of the latter remaining effective a long time after the application.

Berry-bearing Ivy (M. B.).—This is usually known as 'tree-ivy' and in certain parts gets beyond the limits of training and having no support forms a hard, woody growth that it is hardly possible to root. If the berried shoots are in a position to admit of it, your only chance is to layer the shoots either into boxes or pans of soil. If detached from the parent plant, the pieces so detached would only linger and die. By watching some of the younger shoots, you may perchance get some to root in the way mentioned, but even then it is slow work.

Laurels and Hollies (Ecogreen).—If the laurels are large and have been many years in one position, the removal may go hard with them. Indeed, it would be best to prepare these and the Hollies by digging round them at once and separating the large roots at 2 feet from the stem. This will cause fresh fibrous roots to form, and it is upon these that the freshly-planted tree depends for its fresh start. You may also prune the Laurels somewhat, but not the Hollies. The former may then in early spring be replanted, and the Hollies in early June. Thus treated, any fairly good light loamy soil, to which some decayed manure may be added for the Hollies, will grow them quite well.

FRUIT.

Mildewed Vines (Peggy).—You will have noticed, no doubt, that we have replied to others in regard to the Vins midew, which seems to be very prevalent this year, arising from the heavy rains chilling the borders, cold air, and absence of sunheat. Yours is a very bad case. Get 1 lb. of sulphate of copper (blue-stone), and dissolve it in a wooden tub in boiling water. Also dissolve in a pint 1 lb. of fresh lime and add the liquid to the other, also 1 lb. of soft-soap. Then add 9 gallons of water, and when clear well spray or syringe the whole of the Vines with it. Cut all the Grapes first, as this is poisonous.

Canker on Apricot-tree (C. S.).—The Moor park, the best of all Apricots, unfortunately, is more prone to canker than are most other varieties. You may be able to check the spread of the disease if you will lightly scrape over the cankered portion, then will make up a compound of clay and paraffin, and rub on the wound with it. We seem not to have found a stock on which this Apricot will do well over many years. Seedling plants are sus-

ceptible to canker, but then seedlings may prove to be of very poor quality. Apricots like a very firm soil, and there should be forked in with yours (probably sandy) some clay, wood-ashes, and old lime refuse. Well tread the ground over the roots.

Pruning outdoor Vine (Mrs. P.).—You should have cut your Vine hard back soon after it was planted to cause it to send up a strong shoot or rod the following season. You do not say when you planted it, but we assume that it was just winter. If so, as you did not do so then, our proper course will be to cut until all the leaves have fallen, and then to cut back any shoots made this season to fully one-half their length, nailing in the portions left. Those portions should break strongly next year. Whether the shoots then will carry bunches or not will depend on their strength. You will have to prune every winter in about the same way, leaving on the Vine only stout, hard, well-ripened wood. If you do not prune, your Vine will soon become a mass of shoots, and worthless.

Blighted Vine-leaves (E. A. T.).—The Vine-leaves sent are foul with the excrement of aphids, and your best course now that the fruit is gathered is to shut the house up as close as possible, then to smoulder in it so as to fill it with strong smoke some Tobacco or Tobacco-paper. When the house has been filled, keep it close for an hour. Next morning give the Vine a good syringing with hot water. Give a second smoking three evenings later, and treat as advised. When the leaves fall sweep all up and burn them. Prune the Vine as soon afterwards as possible, and burn the canes. Then give the Vines and the entire house when quite empty a syringing with solution of caustic soda 1 lb. and of potash 1 lb., and 10 gallons of water, used as hot as possible. That should destroy all insects.

A good outdoor Vine (C. J.).—Generally, the most reliable outdoor Vine for producing in this country fairly good fine Grapes is the White Sweetwater, or perhaps more properly named Royal Muscadine. It is also the White Chasselas of the French. This Grape will usually set well, and it pays to have some of the best bunches thinned a little in the early summer. Wasps and flies are fond of the sweet berries, and, therefore, as they approach ripening, it is well to enclose the best bunches in muslin bags to keep off these pests. There is a really first-rate outdoor Grape known as Reine Olga, the berries of a reddish hue, which usually does remarkably well outdoors on a warm wall. It is not yet largely grown. Perhaps it may be well to obtain and plant both varieties, and see in a few years which you like best.

Peaches under glass (M.).—It is very difficult to determine the actual cause of your Peach-leaves turning yellow, except on full examination of the condition of the border in which the roots are. No doubt the cause is to be looked for there. You should open a hole on the border and judge as to the condition of the soil. If you find it stiff, clammy, and poor, no wonder the leaves turn yellow. In such case, the best thing to do is to remove carefully with a fork all the surface soil, then get up all the roots, preserving them, and covering up with straw. Then excavate the bottom soil about 10 inches in depth, remove it, and replace with good soil from the vegetable quarters, and one-third of turfy loam; also add wood-ashes and some old lime refuse. Relay the roots about 6 inches below the surface, and when the soil is filled in add to the top a mulching of long stable-manure. If inside the house give also a moderate watering, and others at intervals through the winter. Perform what is advised so soon as the fruit has been gathered.

SHORT REPLIES.

T. G. White.—You ought to apply to an analytical chemist. —**Flurist.**—Do not cut the foliage of your hardy plants until it has properly ripened off. You had better leave the Madonna Lilies as they are, and top-dress them with some light, friable soil. The best time to replant is immediately after flowering. —**Rosic.**—We doubt very much if Ivy-leaved Pelargonium, even if protected, will stand the winter; but you can only try. If you have any plants, stand in a frost-proof house during the winter, and pot on in the early spring. Do not cut them down. —**J. Izzard.**—Leave the Rose shoot as it is, only cutting off in the spring the unripened and soft wood. It will break out and flower freely next spring. Yes, you can grow it along with the Vine. —**W. Moorling.**—Very difficult to advise without further particulars. Very probably you are keeping too close to the wall. Admit all the air you can and they will soon recover. —**G. M. S.**—We have given selections of Roses in previous issues, which consult. —**Enquirer.**—In such a soil as yours you cannot do better than mulch well with cow-manure when the plants have died down. The goodness of the manure will then be washed down to the roots by the winter rains. —**G. M. Mordant.**—Sorry to say we cannot help you. —**F. K. Peto.**—You certainly cannot use a weed-killer in any place to which animals have access. Weeding and hoeing are the only remedies in such a case. —**W. C. N.**—Start at six in the morning, with three quarters of an hour for breakfast at eight o'clock, an hour for dinner at one, leaving off at six, no time for tea. These are the hours from which you should start. Of course, if it comes over time, you must pay him or allow day occasionally to visit other gardens in lieu of money. —**Journepinal.**—Your best plan will be to try and get employment in some of the large market nurseries round London. —**C. J. Page.**—We dealt with 'Strawberry growing in tubs' in Vol. XXI., the discussion lasting several weeks. The numbers can still be had by applying to the publisher. —**Bilberry.**—Not a gardening query. —**Sky.**—Let the Vine start naturally. In such a house there is sufficient moisture without any syringing. —**A. M. L.**—If you have well manured the ground for Michaelmas Daisies, there is no need for any feeding. Liquid-manure would be the best for them. —**K. E. S.**—You cannot do better than try *Pasiflora corulea* and its white variety *Constance Elliott*. —**Leilid.**—I have a description and illustration of the Persimmon in the issue of Feb. 14, 1901, to which you can refer for a full description, price list. You do not say how old your Vine is. You can keep it to the length of stem you say, but in this way you sacrifice the crop of fruit, as the longer the stem the more bunches. —**M. J.**—You cannot do better than try Hollies in variety. —**Yes, Box, Thuja, Juniper, Evergreen Oak, Pleura, Magnolia, beautiful in flower, and Berberis in variety.** —**W. P.**

I. We do not understand your query re Tomatoes. As it depends on the heat you can command, and the time when you start the trees. —**Worcestershire.**—Kindly give us some idea what you want, and then we shall be glad to help you. —**Greenhouse Builder.**—Your best plan will be to make a border and to plant the Tomatoes in this. —**Red Gemble.**—The amount of piping you have is quite sufficient to keep out frost—that is, if the boiler is powerful enough, which we fear it is not. —**Isfort.**—An ordinary small oil stove of good quality should suffice to keep your greenhouse at the required temperature, or there are stoves, such as the 'Challenge,' made for this purpose. Rippington's Albion Lamp Co. make a specialty of lamps, and propagating-cases combined. —**Chalk Subsoil.**—You cannot do better than get old peeing stones, which answer the purpose well. —**H. C.**—Yes, the Myrtle ought to do against a wall if you cover up in the winter. —**B. Phillips.**—Yes. —**North Country.**—Not at all unusual. —**Polo.**—See note in this week's issue re 'Holly-hocks,' p. 337. —**C. D. Massey.**—Send a specimen, and then we can help you. —**F. L. C.**—You can do nothing to rid the Vine of the mildew, the present season having been all against the growth of outdoor Grapes. —**J.**—Your best plan will be to build the rock earlier during the autumn and winter, and then put it early in the spring. The course is as soon as finished, you can, if you wish, fill any of the spaces with any bulbs you wish to grow. —**L. A. C.**—You cannot do better than plant *Glaire de Dijon*. —**Rosic.**—1, Certainly. 2, Plant when the ground is neither too wet nor too dry. 3, Hardy plants may be set out either in the spring or autumn immediately after flowering is over. 4, No need to cover with ashes. —**M. C. L.**—Certainly, you can plant *Dafodils* among the Tea Roses. The mulching will be an advantage rather than otherwise. —**Mrs. Hudson.**—See article in coming week's issue re 'Violets.' —**Lavender.**—We prefer not to say. —**F. G. N. Somerset.**—Only natural that such should happen, as the flowers continue opening in succession. The soil has nothing to do with it. —**Anon.**—Give us a good collection of hardy and bulbous plants, and you will never be without bloom all this year.

NAMES OF PLANTS AND FRUITS.

* Any communications respecting plants or fruits sent to name should always accompany the parcel, which should be addressed to the Editor of GARDENING ILLUSTRATED, 17, FURNIVAL-STREET, HOLBORN, LONDON, E.C. A number should also be firmly affixed to each specimen of flowers or fruit sent for naming. No more than four kinds of fruits or flowers for naming should be sent at one time.

Names of plants.—**Lady Jane Grey.**—1, *Tridax* sp. probably, specimen insufficient; 2, *Lyceasteria leucocoma*. —**John Hutchinson.**—We cannot undertake to name Roses. —**L. D.**—1, *Abies sp.*; 2, *Variegated Hollock*; 3, *Spiraea Douglasii*; 4, *Galaxia officinalis*; 5, *Red Valerian* (*Centranthus ruber*); 6, Specimen insufficient. —**Flora.**—1, *Ipomoea Scapularis* (*Saponaria officinalis* fl. pl.); 2, *The Gilly-flower* (*Echium anthemum*). The only one you can do with is *Scapanus* if you grow in pots, but we doubt if it will succeed; all are like the one you send. —**C. C. M.**—Flower too dried up. —**P. J. Williams.**—1, *Arum crinitum*; 2, *Tecoma radicans*. —**Sarina.**—1, *Hibiscus syriacus* var.; 2, *Begonia* specimen too poor; 3, *Sedum carneum*; 4, Please send better specimen. —**Val.**—1, *Bouvardia jasminiflora*; 2, *Stephanotis floribunda*. —**R. Greening.**—1, *Pyrethrum uliginosum*; 2, *The Japan Knotweed* (*Polygonum cuspidatum*). —**H. P. J.**—Apparently the white, rose, and purple forms of *Malope grandiflora*, but such withered specimens afford us no opportunity for accuracy, and debar you obtaining the information you seek. 1, *Ipomoea Stolon*; 2, *Venturum nigrum*; 3, *Aster hypopitellus*; 4, *Solidago multiradiata*; 5, *Azolla bennettiana*. Thanks for sending such good specimens. —**J. W.**—If you will send them in flower we may be able to help you. —**M. A. C. R.**—*Senecio Doris*. —**R. G. H. Hadon.**—Japan Knotweed (*Polygonum cuspidatum*). —**J. W. L.**—Yes, the bloom of an alpine Auricula. —**Arthur Birt.**—*Rhamnus Frangula*. —**Anon.**—1, *Tecoma fruticans*; 2, *Abelia rupestris*; 3, *Eunonymus japonicus*; 4, *Elaeagnus glabra*. —**Noz.**—1, *Wellingtonia grandis*; 2, *Sequoia sempervirens*; 3, *Abies alba* (?); 4, *Cupressus Lawsoniana*.

Names of fruits.—**Rev. A. H. Watson.**—1, *Pear Marie Louise*; 2 and 3, Specimens too poor; 4, *Man Codlin*. —**X. Y. Z.**—Apple *Cellini*. —**Z. O.**—Apples: 1, *Small Emperor Alexander*; 2, Not recognised; 3, *Cellini*; 4, *Lord Deeby*. It is almost impossible to name when, as in your case, only one specimen is sent. —**Holmald.**—*Plum Mitchellson's*. —**Cambridge Wells.**—Kindly read our rules as to naming fruit. —**F. T. P.**—It is early yet to name Apples generally, as the fruits are far from being in their true form. No. 1 is evidently *Tower of Glamis*, although the two fruits sent are greatly unlike. No. 2 is *Cellini Pippin*, No. 3 *Small's Admirable*, and No. 4 *Wheeler's Russet*. With the exception of quite early varieties, Apples or Pears cannot all be correctly named before October, or, at least, until fully grown.

Catalogues received.—**W. Smith and Son, Aberdeen.**—*Catalogue of Flower Roots, &c.* —**W. Samson and Co., Kilmarnock.**—*Bulb Catalogue.* —**Harrison and Sons, Leicester.**—*Spring-flowering Bulbs and Roots.* —**Ann Roozen and Son, Haarlem, Holland.**—*Dutch and Cape Bulbs.* —**Wm. Sydenham, Tamworth.**—*List of Bulbs.* —**Jas. Craven and Co., 4, Manners-street, Wellington, N.Z.**—*Seed Annual, 1902-3.* —**Pinehurst Nurseries, Pinehurst, N.C.**—*List of American Seeds.* —**East Angles Plant Co., Great Totham, Witham, Essex.**—*Flora and Beautiful Plants.* —**H. Cannell and Sons, Wexley, Kent.**—*List of Bulbs, Strawberries, and Small Fruits.* —**Edmondson Bros., Dame-street, Dublin.**—*Autumn Catalogue.* —**W. Bull and Sons, Chelsea, S.W.**—*List of Bulbs, &c.* —**Dickson's, Chester.**—*List of Bulbs, &c.* —**F. S. Ware, Ltd., Feltham.**—*Bulbs and Plants for Autumn Planting.* —**John K. King and Sons, Coggeshall.**—*Choice Flower Roots.* —**Pope and Son, Birmingham.**—*List of Dafodils.* —**Geo. Bunyard and Co., Maidstone.**—*List of Fruit-trees, Roses, &c.*

Books received.—'Fruit Preserving,' by Jas. H. Cook. 'Fittman's Health Food Stores, Birmingham.' 'Spade Work on How to Start a Flower Garden,' by Henry Hoare. A. L. Humphreys, 187, Piccadilly, W.

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PLANTS AND FLOWERS.

INDOOR PLANTS.

EARLY POTTING OF BULBS.

UNDOUBTEDLY October is the best month for potting and boxing bulbs in general, except those that are needed for early forcing, and then a month earlier is advantageous. It is no uncommon thing to hear growers complain in spring of the unsatisfactory blooming of bulbs, and the Editor knows this from the many inquiries that reach him for advice. I believe the major part of the failures arises from bad treatment of the bulbs, and late planting is responsible for many of them. This is not difficult to understand if the cultivator will but give a little thought. How can bulbs be expected to be satisfactory if they have been exposed to the air for months? Were they in the soil they would commence rooting by the end of August, and would not have had any of the sap dried out of them. I have tried placing bulbs in September in boxes and pots without soil in a moist place in my fruit-room, and they began rooting at once. Nor do I think keeping them out of the ground so long retards them to the extent many imagine. I have noticed that when potted so late the bulbs begin to make leaves before they are well rooted, giving often poor, weak, deformed blooms. I am aware November is soon enough to plant in the open ground, but here they bloom later. It is important amateurs and beginners in their culture should understand this, especially now that most bulbous plants can be purchased so cheaply. Nor is it necessary to have a heated glasshouse to have them in bloom early in the year. I am convinced no place is so satisfactory to grow most of them (except the tall-growing Lilies) as pits and frames. Many a fine lot of bulbs, such as Narcissi, Tulips, etc., has been ruined by bringing them when insufficiently rooted into a dry, hot house and standing them on dry shelves. Far better allow them to remain in a moist pit, or place them on a bed away from drying heat. Such things as grow in moist situations and amongst the Grass cannot be happy on shelves. When the spikes are advancing, then they may be brought near the light, but there should be abundance of moisture both at root and top. Good early bloom may be had without fire-heat of any kind, and those who enjoy them in their rooms may bring them forward in pits and frames before bringing them into the drying heat of dwelling-rooms.

Last year I tried growing Narcissi, Tulips, Hyacinths, and other bulbs generally grown in pots, in garden frames, and pits. I have never seen them bloom better than when thus treated. Early in October these were potted or boxed, placing them under ashes on a cold border. When well rooted they were removed into a frame on an old, spent hot-bed, where Cucumbers had been grown in summer. When the nights were cold the lights were well covered. Early in January I filled a pit with fresh tree

leaves for sowing Carrots on. One light was set apart for bringing forward bulbs. When the bed had settled, this was filled with pots and boxes of bulbs, standing them close together; the slight warmth from the bed brought them on, and, being close to the glass, they were very sturdy. When the blooms were about to open, the plants were removed to a light house to bloom. Should leaves not be available, then anything that produces a slight heat, such as tan, or manure, provided it is not used in a fresh, rank state, may be used to stand them on. To be successful, obtain good bulbs, pot early, bring on slowly, and never allow them to get dry at the root.

J. CROOK.

GROWING LAPAGERIAS.

I HAVE a lean-to greenhouse, 17 feet long and 10 feet to the top. It faces east, with a slight turn to the north. I want to grow Lapagerias in it, so please will you answer in your valuable paper the following questions: 1. How many Lapagerias can I grow in said greenhouse, training them up against wall? 2. Would they do in the same heat in winter with Palms, Araucarias, etc. (mild and moist heat)? 3. How long would they flower? Advice as to watering and general culture thankfully received.—A. R.

[A couple of old-established plants of Lapageria would cover the space given, but they would, of course, take some years to attain these dimensions, hence we should advise putting young thrifty plants 2 feet apart along a prepared border, or, if you are inclined to wait a little longer, 3 feet may be allowed between each. The red and the white varieties might be planted alternately. Lapagerias are by no means all of equal merit, hence the best forms are usually in nurseries propagated by layers, which when well rooted are mostly put into pots 6 inches to 8 inches in diameter. After about twelve months in these pots they are thoroughly established, and it is plants such as these that give the greatest amount of satisfaction when planted out, as they soon take hold of the new soil, whereas those that have been in pots for years become more or less cramped, and are difficult to start out of that condition. Once established, Lapagerias will grow and flower well year after year with but little trouble, hence the planting should be thoroughly done, for if confined in pots they are never satisfactory for any length of time. As the Lapageria when growing needs a plentiful supply of water, drainage is very important. When making the border remove the soil to a depth of 2½ feet and the same in width. Then, provided the subsoil is sufficiently open to allow of water draining away, a foot or nearly so of broken crocks, brick-rubble, or anything in that way may be put in the bottom, and over that a layer of thinly-cut turves with the grassy side downwards. Then fill the border with a mixture of about four parts good fibrous peat to one part nodules of charcoal or soft bricks, broken to a size varying from Hazel Nuts to Walnuts, and one part of sand. When pressed down firmly the Lapagerias may be permanently planted in this mixture. Till the roots take hold of the new soil care must be taken not to overwater, while just as the young and succulent shoots appear above ground a sharp look-out must be kept for slugs, which

soon destroy them. 2. Lapagerias are essentially greenhouse plants—that is to say, the structure in which they are growing should not fall below 45 degs. in the winter. During the summer a liberal use of the syringe is beneficial. 3. Generally speaking, they will flower for about three months.]

NOTES AND REPLIES.

Slow combustion stoves.—Will any reader who has successfully used a slow combustion Tortoise stove for heating a small span-roof greenhouse, say, 20 feet by 10 feet, kindly give his experience?—J. F. C.

Vallisneria spiralis.—How should Vallisneria be treated? Mine has hardly grown an inch all the summer. It is in a tumbler on a window-ledge.—N. E.

[This is a floating fresh-water perennial, whose flowers live under water, except just at the time of impregnation. It ought to be grown in rich loam in a good sized pot, plunged deeply in a tub or cistern filled with water.]

A malformed Agapanthus bloom stem.—Last week I saw at St. Austell what appeared a very interesting example of fasciation in a plant of Agapanthus umbellatus. There was a flower stem of nearly 2 feet 6 inches in height, flat, except for corrugations, tapering from 2 inches in width at the bottom to 1½ inches at the base of the umbel. But the most curious thing was this: Quits among the leaves of the base was another umbel, the flower stalks appearing (without very precise observation) to rise from the ground quits as independently as those of a Primrose. The leaves and these flowers were completely mixed. It would seem that the one umbel had actually robbed the other of its stem, though the plant was so strongly grown as apparently to make this unnecessary.—C. R. S.

Raising Schizanthus from seed.—I should be very much obliged if you could give in an early issue of your valuable paper some directions concerning the culture of Schizanthus for spring flowering in the greenhouse. I saw some lovely specimens of Schizanthus pinnatus in a cool greenhouse last spring, each plant quite a soft cloud of delicately tinted blossoms. I got some seed about the end of July, and have a fair number of seedlings just potted. They seem to me, however, a little weedy, and slugs seem to attack them wherever they are put. The plants I saw in flower had strong stems, and were much branched, as if they had been stopped several times during their growth.—ANNON, Mansel.

[To obtain large specimens the Schizanthuses are sown in early autumn, potted off as soon as they can be handled, and kept during the winter close to the glass in a structure from which frost is just excluded. Seed sown in the spring will make useful flowering plants for the greenhouse in the summer. The one important item in their culture is to keep the plants as near to the glass as possible in the greenhouse, and allow a free circulation of air amongst them. The points of the shoots, too, should be pinched out while the plants are still small, and again later on if necessary. In this way good, sturdy plants are obtained, which will yield a fine display. Pots 6 inches in diameter are large enough for the spring sown plants to flower in. As the pots get full of roots an occasional watering with liquid-manure will be of great service.]

Treatment of Hydrangeas.—Will you kindly, in your next issue (as I have delayed writing too long), give me some information as to how I should treat my Hydrangeas? The article in issue September 6 does not give me the information I want. Last year I cut several plants

down, and not a single bloom this autumn; two other plants I did not cut down, and each has about six stems, very strong, about 2 feet high, and only one stem on each plant has any bloom, both very fine. Please advise best course to have blooms on all plants. I am afraid I must have done the wrong thing.—HIBERNIA.

[The answer in the issue for September 6th referred to the greenhouse *Hydrangea Hortensis*, but whether yours is that kind or the hardy *Hydrangea paniculata grandiflora* we are only left to conjecture. This latter produces long cane-like shoots, which should, before starting in the spring, be pruned back to the last two or three eyes—that is to say, cut back nearly to the old wood. The shoots then produced will each bear a large terminal pyramidal-shaped head of blossoms, which are of a creamy-white when first expanded, but after a time become flushed with red. To produce the largest heads of all, only about three shoots should be allowed to develop, but the effect is more pleasing when the plant carries six or eight clusters, though, of course, they are not so large. If the *Hydrangeas* are planted out in a bed fully exposed to the sun, pruned as above detailed, and watered when necessary (occasionally with manure-water), there is no reason why they should not flower well. If it is the ordinary *Hydrangea Hortensis* that you enquire about, we presume the plants are in pots, in which case you must bear in mind that they are liberal feeders. This *Hydrangea* is hardy in some parts of England, and where it is too tender for outdoor culture, the plants, which are often grown in large pots or tubs, should be stood out-of-doors in a sunny spot in order to ensure blossoms later on. A dose of weak liquid manure about every fortnight will be of great service. The less pruning a *Hydrangea* of this class receives the better, except it be the cutting out of any old and weak shoots which are apt to crowd up the centre of the plant. The fact that the name of the variety is not given, nor whether planted out or in pots, and if this last their size, handicaps us greatly in answering your question.]

Ginger-plant (*Zingiber officinale*).—Will you kindly inform me how this plant may be propagated? The plant is about six years old, and is now in bloom.—E. R.

[Under ordinary greenhouse treatment this flowers in the autumn, only plants that are well established blooming in a satisfactory manner. Those who have weakly-looking specimens should make an effort to get them strong. Nine-inch or 11-inch pots are very suitable sizes in which to grow the Ginger plant. Even in a large pot a strong plant will often produce but one good shoot in a year, but if well cared for it will reach to a height of 5 feet, with a noble spike of flowers on the top. Frequent root-disturbance is bad. Repotting once a year, and that early in the spring, is all they require. Being plants with numerous strong roots and rather large leaves, they require a strong holding soil to sustain them. A suitable compost is three parts turfy loam and one part peat, made pretty firm at the time of potting. Owing to the vigorous character of the growth, there is no plant more benefited by liquid stimulants than this, if given as soon as the flower-stems begin to rise. But it is not safe to apply the liquid before, or the result is likely to be nothing but leaves. In the case of amateurs, there is no doubt that this plant suffers sometimes during the summer months from the want of root-moisture, as a plant in active growth makes a good number of roots. Where it is not likely to be well attended to in this matter, it is better to stand it on the floor of the house, where the roots will be kept cooler, but it must have plenty of light and air. It is a good plan not to encourage the plant to form too many crowns; one strong flower-spike in a 9-inch pot is as many as it can support. For that reason some of the weakest crowns should be cut off when the plants are potted in the spring. They may be grown on to make flowering plants for the next year. It can be easily increased by division in the spring.]

Ivy-leaved Pelargoniums.—The all-round qualities of the Ivy-leaved Pelargoniums account for their popularity. In the wet weeks of the past summer, when other bedding plants have made wood at the expense of bloom, the Ivy-leaved Pelargoniums have come out best and flowered freely. Their long, trailing habit fits them peculiarly for window

boxes, flower-stands, and the like. One or two old plants held in reserve will supply one with many cuttings in March.—LEAHURST.

ROSES.

ROSES FOR SMALL GREENHOUSE.

I beg to take exception to the list of Roses supplied to "Alec" (p. 322) for his small greenhouse, and especially to the six first named kinds on the list. The selection is one not likely to impress a novice, as "Alec" says he is, as to the suitability of Roses for pot culture generally. I will take the first six as they appear. 1, Mrs. John Laing, 2, Ulrich Brunner. One of these twain is not wanted in a select half-dozen, with much the same character, and a good deal of similarity in colour; in short, the latter kind is not wanted at all. 3, Fisher Holmes is a Rose that but few specialists can grow well in pots, albeit the colour is good when it comes good. As this is the only "red" Rose given in the list of six, one wonders why so comparatively easy a grower as General Jacqueminot is omitted altogether. Failing this, I would unhesitatingly select either Capt. Hayward or Prince Arthur. In any case, Fisher Holmes is quite useless to a beginner. 4, Frau Carl Druschki I have never grown in pots, and, indeed, it is so much a novelty at the present time that it is doubtful if many can speak definitely concerning it. 5, Caroline Testout is a superb Rose for pots when once wood of the right character has been obtained by cultivation in pots. In other words, this kind is of little use until it has been eighteen months under pot culture. 6, La France is the best of the first six, flowering twice in rather quick succession when established.

My experience with Roses in pots under glass, and of the varieties similar to the above named, is that "Alec" should proceed as follows: First purchase in early October strong selected maidens, preferably on the Manetti stock. Pot at once into 8-inch pots, using rich soil, as advocated at p. 322, and plunge the pots to the rim in coal-ashes in the open. If the plants are dry at the root when received, soak them in water a few hours before potting up. The plants will be safe to the end of the year in the open, when they may be half shortened back and placed in a frame or even the cold-house. If the house is available, the plants may be pruned early in January and allowed to come away as slowly as possible. It were far better that these intended pot Roses should be grown quite cool under glass the first season, and by permitting only a single flower to develop on any growth, be not only receiving some reward for patient waiting, but also promoting and producing that earlier growth with restricted root area in pots that is assuredly the forerunner of success in the year ensuing. Often enough, maidens will produce a full crop of blooms six months after potting, but it is not prudent to allow the plants to do so; hence, I suggest one bloom to one growth. It is important, when growing pot Roses under glass of the H.P. character, that a long spell be given in which the plants may break into growth. Often enough, freshly-potted maidens, early potted, start to grow, and in this way pruning is forced upon one much earlier than the orthodox way would permit. It may be due to a large number of freshly-made roots in new soil, and the warm conditions of late autumn months. Be it what it may, it is folly to withhold pruning when the lower eyes are showing unmistakable activity. Pruned early and developed in a cool-house, I have had grand blooms from maidens less than five months in pots; therefore, I ask, why wait for eighteen months before seeing a good bloom? The longer the time between the pruning and the break from the wood the better will be the blooms, all else being equal. Duke of Edinburgh is a grand Rose for pots with slow and cool treatment, but it will not be forced, though it is recommended for such work again and again. But where Roses are not wanted before May I should always include this one, for it is a good keeper, of a magnificent colour—rich velvet-crimson—and, if need be, may be cut with 18 inches of stem. It has no fragrance; still, it is superb to look upon, and, though it is rare that maidens of it flower at all the year following

potting, yet the plants make such wood that the finest bloom may follow the next year when the wood is ripened off. Amateur Rose growers would be far more successful in growing their plants were they to realise the full value of annual early autumn potting for all H.P. Roses. E. J.

A FEW OF THE BEST AUTUMN-FLOWERING ROSES.

Now that there are so many Roses of value for autumn flowering, a selection of the best should prove of much assistance to all who are planting, mainly for the autumnal display. The lengthening nights, coupled with heavy dews, give to the semi-double Roses a wonderful decorative value, for such varieties expand freely, yet the developed blossoms remain on the plant for a considerable time, so that we have a more profuse display in September and October than we get in June and July from the same varieties.

No list of autumnals can be complete without the lovely G. Nabonnand, its very large petals, of a pale rose flesh tint, and long, elegant buds, combined with fine growth, making it one of the most desirable. Then how brilliant are the beds of the fragrant Gruss an Teplitz, some of the flowers having the beautiful velvety shading of Duke of Edinburgh, and, moreover, the coloured foliage is an additional charm to this glorious Rose. Camoens is not yet surpassed as a bright rose-pink for massing, and Marquise de Salisbury is certainly one of the brightest Roses and of even growth. Both of these last-named are extremely showy on the plant, and by pruning hard each season a more uniform growth and also a more regular blossoming are secured. Corallina, Enchantress, and Sulphurea are a trio of beautiful kinds, the first even more vigorous than the old pink Monthly, and it has huge coral-coloured petals and long, brilliant buds. Enchantress, with its half-drooping, globular flowers of a delicate creamy-yellow, and Sulphurea, clear and bright sulphur-yellow, are colours much desired. All three are really excellent, and should be largely planted for massing. Mme. Pernet Ducher is a never-failing source of delight, and Killarney gains more admirers each season. The old and well-tried Marie Van Houtto, its carmine-tinted petals being richer in autumn than in the height of summer, and Mme. Abel Chateaux are both vigorous and would make worthy companions. This latter Rose somehow compels admiration, even from those who cannot bring themselves to like these decorative Roses. What a strange taste, to be sure! But I have known individuals who can only admire a slow bloom of the perfect symmetry of an A. K. Williams or a Mrs. John Laing. Viscountess Folkestone is still one of our best autumnals, and it has a worthy companion in Grand Duc de Luxembourg. Marie d'Orleans is also first-rate, and as hardy as it is good. Papa Gontier has most shapely buds and smooth blossoms, and Mme. Lombard is also a fine autumnal Rose. General Schablikine and Comtesse Festetics Hamilton have a great future, for they grow and blossom most freely, and are always admired in the mass. Ma Tulipe will also please a great many, although nearly single. Its fragrant parent, Princess Bonnie, is one of the best things the American growers have ever sent us. Lady Battersea has a most lovely bud, the expanded flowers being not unlike those of Killarney, only rather deeper in colour. A refined, shapely, and brilliant Rose, too, is Liberty, and, above all, it possesses a powerful fragrance. Already this Rose seems to have recovered from excessive propagation, and I feel sure it will come to the front as one of our best dark coloured autumnals. What a fine contrast would be the charming White Lady, splendid always in autumn as in June. The La France race and, I might say, the Caroline Testout race, are well known as our best large-flowered autumnals, and the old and still unbested Souvenir de la Malmaison, with its sulphur-white sport, Kronprinzessin Victoria, give us of their beauty just now as they never do in the summer.

I could speak of the delightful Chinas, Queen Mab, Eugene Resal, and the rest, also some Polyanthas and others, but I have

already indicated quite a number that the grower may with every confidence plant largely, if his object be a brilliant mass of blossoms during the autumn days. ROSA.

ROSE BEAUTY OF WALTHAM.

It says much for an old favourite like Beauty of Waltham that in this, its fortieth year, the variety is found in the winning seventy-two that gained the champion trophy at the Temple Show. It is a very reliable Rose. It blossoms freely, and one may always depend upon a good flower, even if rather under-sized. Beauty of Waltham is a good autumnal for a Hybrid Perpetual. Unfortunately this group, collectively, does not rank as good autumnals when compared to the splendid Hybrid Teas, so that all that are above the average in this respect are most welcome. The colour is

NOTES AND REPLIES.

Rosa Pissardi.—This most interesting semi-double Rose was very fine during August. It is really one of the best August-blooming semi-doubles we have. Doubtless springing from *R. moschata*, it appears to be a hybrid, probably with the *Noisette*, which gives the variety its autumn-flowering habit. *R. Pissardi* and *Bardou Job* make a beautiful contrast, and flowering as they do together, an interesting effect can be secured. Several plants planted among a mass of *R. ferruginea* (*rubrifolia*) would be most interesting, the purple colour of the latter harmonising so well with the pearly-white blossoms of *Pissardi*.—ROSA.

Own-root Roses.—Where these are procurable in pots the present is an excellent time to plant out. Many kinds, especially the newer Teas and H. Teas, can only be raised

cannot say it is quite so profuse in flowering, but for arches and walls no better kind is to be found among apricot-coloured Roses, unless it be *Rève d'Or*. Its disposition to become bare at the base can be remedied by timely cutting back of the old growths, or by bending them about serpentine fashion, and, like all climbers, it pays for liberal treatment both when planting and during the growing period. As a standard it is also fine, just the one for an isolated specimen. If its growths pass through the winter unscathed, the following summer will see them studded all over with lovely buds. —ROSA.

Standard Rose Gloire de Dijon with long growths.—I have several standard *Rose-trees* of *Gloire*, old heads, and they throw three or four long shoots, 4 feet or 5 feet long, which look so unidly. Of course, these are valuable, but can you tell me what to do with them? In April I prune them down to about one-quarter their length, or one-third; but this seems such a pity. Then at this time of year they are unmanageable. I have tried tying them down, but now they are so tough they break. What is proper treatment of such to keep head of standard tidy always? I should like a drooping standard head.—A.

[If you refrained from pruning the long growths you would have them all studded over with lovely blossom the next summer. As you desire to have a drooping head, the growths require bending when young, and to do this best they should be cut hard back in spring, and as they grow train them to the desired shape, then the following summer you will have plenty of blossom on them. When once the head is formed with plenty of shoots bearing laterals, you may suppress the long annual shoots only, retaining such as you require the next year to replace any very old growths it may be desirable to cut out. Another plan, and one that answers well in the case of climbing Roses grown as standards, is to form a frame of wire beneath the head of the tree, and then partially coil the long growths in a semi-circular manner. Wherever the flow of sap is checked you will find plenty of laterals follow, and upon these, if shortened when pruning, some beautiful flowers will be produced. It will not harm the trees to cut these growths back at once should you object to the appearance of them.]

Climbing Roses on south wall.—I got some very useful guidance from you last spring through *HARDENING*, so I venture to come to you again. I have a gable wall, due south, in rather a draughty position, and I am at a loss to know what to grow on it. The house is painted, and there is an *Ampelopsis Veitchii*, also a white *Clematis*, not doing very well, on it. I have tried *China* Roses, but they are not a success. I think it is too hot. If you would kindly say what you think would do well I would be much obliged. I have tried *Wistaria*, but I fear it was kept too dry at the root. Please tell me what culture it requires?—FLOWER LARK.

[You should be able to grow several fine things on this wall, but it is necessary to thoroughly prepare the border in which you plant them. Wall plants, being fixtures, must be planted carefully, and you must see that there is a good depth of soil—3 feet, if possible. It would not be a great undertaking to remove the gravel subsoil, if such there be, to a depth of 3 feet, and replace with good garden soil in which vegetables have been grown successfully. As you fear your Roses have hitherto suffered from drought, this can be overcome by timely waterings, not mere sprinklings, but a good soaking now and then, afterwards mulching the surface with some short manure. Roses should grow well under these conditions, and good varieties are *Rève d'Or*, *Lamarque*, *Mme. Alfred Carriero*, *Souvenir de Mme. Joseph Metral*, *Waltham Climber No. 1*, *Reine Olga de Wurtemberg*, *Mme. Berard*, and *Mme. Jules Siegfried*. Other good climbers would be: *Pyraeantha Lelandi* for the most draughty position, *Bignonia radicans*, *Jasminum revolutum*, *Foraytia suspensa*, *Magnolia grandiflora* (*Exmouth* var.), and *Ceanothus* of sorts. A *Wistaria* should thrive well, but you must procure a well-rooted plant. It is best when purchasing to judge this plant more by its roots than its long growths. We have known plants sold with growths 10 feet to 12 feet long and but few roots, whereas we have procured plants whose roots went through the bottom of the pot, and although they had very little top, say about 4 feet, they quickly outpaced the longer plant. Always procure *Wistarias* in pots, and when planting break the pot, and then plant it with pot attached. They like a rather heavy soil, well drained, but we have never failed with them where roots were plentiful.]



Rose Beauty of Waltham.

right cherry-red, passing to rosy-carmine, and the fragrance is very sweet. The petals are somewhat imbricated, the centres characteristically folded over each other. This trait in hot weather preserves the flower, but it undoubtedly accounts for the paucity of seedlings from the variety. If taken in hand by the hybridist valuable hardy type would be produced. It is really remarkable how the Hybrid Perpetuals and themselves to crossing, and I marvel there is not more of it done, instead of so many others following each other in the track of hybrid Teas. We see in the variety *Ben Cant* on the fine bold petals of *Suzanne Marie* (*Madocanachi*) are given to a flower of the colour and form of *Victor Hugo*, the two kinds named being the parents of this coming *Rose*. *Beauty of Waltham* is a first-rate kind to grow as a standard, either outdoors or as a pot plant for the Rose-house. It is also good in bush form, the seedling *Brier* is the best stock for it, this continues to grow in autumn when the *lanetti* is practically at rest. Digitize Ros.

under glass, but if the plants were rooted early and have had several weeks in the open pits, they cannot fail to succeed well if planted now. The soil should be well worked, and where at all stiff a liberal admixture of grit afforded. When they become established then they can take liquid and other manure equal to their budded brethren. I have seen own-root plants in 5-inch pots quite equal in size to grafted plants of the same age; but even if the plants were a little smaller, provided the wood be hard, I would not hesitate to plant such.—ROSA.

Rose Mme. Berard.—This is one of the most beautifully formed Roses to be met with among the fast-growing climbing varieties. Its half-open flowers are perfect in colour and also in shape. The colour, too, is pleasing, the centre apricot with rosy-salmon exterior. Its one great blemish is mildew, the young growths often being sadly marred by this troublesome fungus, otherwise no more beautiful climber could be planted, and it is as free in growth and nearly as hardy as *Gloire de Dijon*. UN

OUTDOOR PLANTS

FLAME FLOWERS (KNIPHOFIAS).

THE Kniphofias, especially the forms of *K. Uvaria*, are amongst the finest of autumn-flowering plants. Large irregular groups give a very brilliant effect in autumn, and they

soils and conditions, and few plants are better adapted for picturesque grouping in the wild garden, where with a fairly open space and deep rich soil it forms large and very handsome groups. It is the most valuable of the known species, perhaps as much as 70 per cent. of the garden forms being traceable to *K. aloides*, either as seedlings or hybrids. The variety

after all the other forms are over; the flowers are greenish-yellow, only occasionally tinged with red. The var. *Saundersi* has bright green leaves and very rich orange-scarlet flowers; var. *longiscapa* has very long flower-heads, and is a most desirable form; var. *maxima globosa*, earlier than *maxima*, with globose heads of yellow and red flowers; var. *glaucescens*, large spikes of vermilion-scarlet flowers, shading to orange. This is a free-flowering plant, and one of the very best in heavy, rich soil. There are many more forms to be found in gardens, having been raised in recent years. Most of these are distinct and good.

K. BIRCHELLI.—The type, as introduced from the Cape, is a very distinct and beautiful plant. It is figured in the *Botanical Register*, tab. 1745, but this figure differs somewhat from the plant now in cultivation, which we take to be a hybrid or connecting-link between that species and *K. aloides*. The latter form has a purple-spotted stem, the flower-stalks being much shorter than in the type, and the plant dwarfier. It flowers soon after midsummer, and just between *præcox* and the other *aloides* forms. The leaves are bright green, firm in texture, 2 feet to 3 feet long, and tapering very gradually to the apex. Heads moderately dense, the flowers bright red, those on the lower



Kniphofia Nelsoni.

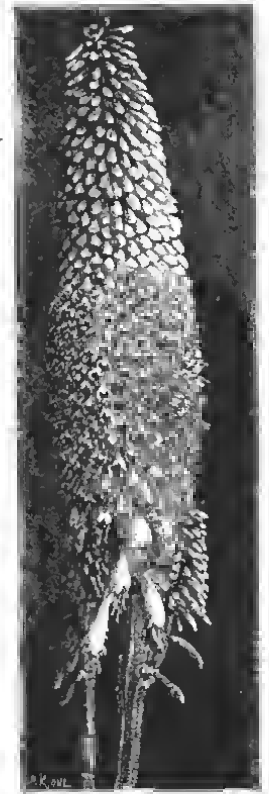
require no attention more than an occasional top-dressing of rich soil or well-rotted manure. Many of the species and varieties suffer from frost and damp, the latter more particularly, but this may be averted by a covering of dry leaves when the foliage begins to yellow in autumn. They are readily increased by division, by offsets, and by seeds, the last giving most curious results and many good varieties. The following are amongst the best of those in cultivation:—

K. ALOIDES, or *Tritoma Uvaria*, under which

præcox flowers much earlier than any other form of *K. aloides*, being in full perfection from the middle to the end of May. The leaves are broader than those of the type, not glaucous, the raceme shorter, and the stem only about half as long as the leaves. The flowers, with the stamens not protruding, are bright red, passing into yellow tinged red when older. The variety *nobilis*, which is very near, if not similar, to *grandis*, is a very robust and noble plant. The leaves are more distinctly serrated and deeper keeled. The flowering



K. aloides in a Scotch garden.



K. hybrida Obelisk.

end bright yellow. The style in this case protrudes, the stamens being included in the tube. A useful and very distinct plant, suited well for dry banks, etc.

K. CAULESCENS AND *K. NORTHII* differ from all other Flame-flowers in cultivation by their distinctly caulescent habit. From all the *Uvaria* forms *K. caulescens* differs also in its smaller size, glaucous leaves, short heads, and less curved flowers. Though less brilliant in colour than most of the other species, it is one of the hardiest species we have, with a very distinct and robust habit, flowering, as a rule, early, which is a specially welcome feature. It is a very striking plant for the rock garden, where it does well and flowers freely on dry slopes. Its cultivation, indeed, may be said to be the easiest, and it may be propagated freely from suckers and by cutting up the short stem. The suckers or offsets taken off in early autumn root freely in sand in a cold-frame.

K. COMOSA seems to be closely allied to *K.*

name it is even now known in many gardens, is perhaps the oldest, and still one of the very best of this fine genus. It is the Flame-flower of old English cottage gardens. It is an excellent border plant, suitable for all kinds of

stem is from 5 feet to 8 feet in height. The flowers vary from scarlet to orange-scarlet, anthers prominent. It blooms from the beginning of August to September. The variety *serotina* or *chloroleuca* blooms a month or so

pumila, and gives a very peculiar effect with its long, protruding style and anthers. It is much dwarfer in habit than the well-known *K. Uvaria*, the leaves much narrower, the flowers smaller, and of a uniform bright colour. The leaves are in dense rosettes, narrow, erect, and

an elevation of 4,000 feet to 5,000 feet above sea level. The leaves are 1 foot to 2 feet long, narrow, and distinctly keeled, with deeply grooved margins. The flower-heads are small, and the flowers of a bright orange-red. The plant is perfectly hardy and suitable for rock-



K. hybrida Triumph.

of a bright green, very pointed, and almost three cornered. The flowers are all drooping, in a dense oblong head, bright yellow, much narrowed or constricted above the base. The stamens and style are about twice the length of the flower-tube. A showy, but rather tender plant, flowering in September.

K. CORALLINA, a very fine robust hybrid between this species and *K. aloides*, is exactly intermediate between the two, and a very desirable plant.

K. FOLIOSA (syn. *K. Quartiniana*) may be said to be the counterpart of *K. caulescens*, but having distinct stems instead of being stemless. It is one of the most robust of the whole genus, and is easily recognised by its broadish leaves and protruding stamens. It was first flowered in England about 1881. The leaves are collected in a dense tuft on the top of a longish bare stem, 3 inches to 4 inches broad at the base, and tapering into a long point; green or very slightly glaucous, obscurely serrated. Stem stout, 1 foot to 3 feet high. The flowers, in a dense oblong head nearly a foot long, are bright yellow or tinged red. Native of the Cape, flowering in late autumn.

K. LEICHTLINI was named in honour of Herr Max Leichtlin, of Baden-Baden, who has done so much to furnish English gardens with rare and beautiful hardy plants. The present species is a native of Abyssinia, and requires protection in winter even in the south of England. It is, perhaps, nearest to *K. pumila*. Leaves in a dense tuft, about 2 feet to 4 feet long, spreading, dilated at the base into a broad, clasping shield, gradually narrowing to the tip, three-cornered, bright green, with entire margins. The flower-stems are from 2 feet to 4 feet high, the head about 6 inches long, flowers drooping, of a dull vermilion-red and yellow, stamens slightly protruding. The variety *disticha*, which is quite distinct from the type, is more robust, the leaves are broader, the flower-tube shorter, and the stamens decidedly longer. Two and even three heads of flowers of a bright deep yellow colour are produced on the same stem. Native of Abyssinia, and flowering in August.

K. MACOWANI.—A distinct type, differing from most of the other species by the reflexed segments of the corolla and dwarf habit at

eries; *rigidissima* and *maroccana* are garden names, and the variety *longiflora* has much longer flowers.

K. NELSONI has tufts of fine Grass-like foliage, about a foot in height, from which issue many flower-stems, 2 feet high, late in autumn. The flowers are a bright coral-red in colour.

K. NORTONI.—A species from Grahamstown, of undoubted hardiness in the neighbourhood of London. It is most nearly allied to *K. caulescens*, but the leaves are much broader, not keeled, serrulate on margins, flower-heads dense, about a foot long, the flowers pale yellow, only the upper half tinged red towards the tips.

K. ROOPERI is one of the best species in cultivation. It is nearly allied to *K. Uvaria*, but is an early or summer-flowering plant, the stamens being included in the tube, the flowers paler and less curved and the leaves broad and very glaucous. It requires a little protection during severe winters. It has a fine bold appearance when in full bloom, the heads from 6 inches to a foot long, and the crowded flowers of a bright orange-red, getting yellowish with age. The plant usually called *Rooperi*, flowering in November and December, is a variety of *K. aloides*.

K. SARMENTOSA is a distinct and very useful plant. It is readily distinguished from *K. Uvaria* by its smaller glaucous leaves, the edges and keel not serrated as in that species. The flower-heads are 6 inches to a foot long, cylindrical, the flowers red in the upper half, yellow or yellow tinged red in the lower. It is perfectly hardy and readily propagated by suckers. There is an excellent hybrid between this species and *K. Uvaria*. Native of the Cape.

K. TRICKI has large, glaucous, Yucca-like foliage, growing 4 feet to 5 feet high, with massive heads of bright red flowers, changing to yellow, and borne early in June.

Besides the above species we have now many hybrid forms, a few of the best of these being

OBELISK, which is very free flowering, the spikes attaining a height of some 5 feet, the flowering portion being about 15 inches long.

STAR OF BADEN-BADEN, with bronzy-yellow flowers, the spikes reaching to a height of 7 feet.

LACRISIS.—Of very strong and rapid growth, the colour a deep yellow.

TRICOLOR.—Very similar to *Obelisk*.

ORANGE.—Rich orange, a distinct shade. It is also very free flowering.

NOTES ON HARDY FLOWERS.

HEUCHERA SANGUINEA.—As a weather-proof flower this has few equals. The flowers seem to be quite indifferent to atmospheric changes, periods of great heat and heavy rains not dimming their brightness. Plants that came with me into bloom early in July were bright and attractive at the end of August. During that period we have had a lot of inclement weather—thunderstorms which washed the colour out of many hardy things, and drizzling rains, with brief spells of hot sun. Any hardy flower that will pass with undimmed beauty through such trials should be cherished. The best way to utilise this *Heuchera* is to plant in colonies of from three to a score of plants, as in this way its decorative worth is better realised. A top-dressing of leaf-mould or rotten manure applied in early spring will impart vigour, and so give strength to the flower spikes and colour to the blooms. There are, I find, some inferior varieties of this plant in cultivation; they have probably been raised from seeds and give no true idea of the worth of this *Heuchera*, the flowers being very poor in colour. The best form of it is *splendens*, which has very bright flowers, and there is another form called *robusta* which is much stronger than the type.

SAXIFRAGA HAWORTHII.—I am not aware if this Saxifrage is grown under any other name in this country. Up to the present I have failed to find it in any English catalogue of hardy flowers. I got my plant from Holland, where this species has apparently been grown under the present name for a considerable period. I find, however, that in the case of alpine the Dutch nomenclature is not very reliable; one is apt to get the same thing under



K. aloides grandis

several different names from different firms. Whatever the true name of *Saxifraga Haworthii* may be, it is a gem among rock plants, and certainly the best of the mossy section. It forms cushions of rather pale green verdure, about 6 inches high, the growth being dense y

packed and somewhat rounded at the top. As is the case with the Saxifragas generally, the young growths take on a brownish tinge in summer, but the early autumn rains quickly restore the fresh green appearance, and by the end of September well established specimens are masses of lovely verdure, in which condition they remain all through the winter. The pure white flowers are produced in such profusion as to smother the plants; in fact, I know of no other member of this large and varied family that can compare with it for freedom of flowering. As a pot plant for cool rooms or window ledges it should have great value by reason of its delightful verdure; it is attractive all the year round.

MONTBRETIAS.—Now that the fine hybrid forms raised by M. Lemoine can be had at prices that place them within the reach of flower growers generally, we shall probably see but little of the old *crocosmiaeflora* and *Potsii*, from which they are derived. The newer kinds are, according to my experience, as free flowering as the typical forms, and although some of them are dwarfier in habit, they are all sufficiently vigorous to give a good display in the open ground. Such kinds as *Phare*, *Etoile de Feu*, and *Potsii grandiflora* are very brilliant, and in *Drap d'Or*, *Pluie d'Or*, *Aurea*, *Solfatorre*, etc., we get very pleasing and uncommon shades of chrome, orange, and yellow. Some kinds, such as *Tigridae*, are beautifully spotted. By reason of their graceful growth and fine colours, these Montbretias are distinct from all other hardy flowers, and now that they are sufficiently cheap to be within compass of the modest purse they will undoubtedly find a place in gardens large and small. I should wish, however, to warn intending growers that except in the very warmest parts of Great Britain, these fine hybrid forms cannot with safety be left in the open ground all the year through without protection. It is when the ground becomes hard frozen to a depth of 6 inches that they suffer, and are either killed outright or are so weakened that their blooming capacity is destroyed for the coming season. Either the bulbs should be protected in some way, or they should be lifted and stored away in some cool place, planting out again about the middle of March. These Montbretias make fine pot plants, putting three good bulbs in a 6-inch pot.

J. C., *Byfleet*.

EXCHANGING GARDEN SOIL.

It is quite a common request that "I would like so-and-so grown in a certain part of the garden, such as Sweet Peas at a certain entrance door, or on a certain border. They have been grown there for many years; they look so well there, and although they have not done so well as formerly, at the same time I like to see them there and would like you to bestow some attention upon them." Experience, however, has frequently proved that no matter how good the cultivation may be as regards tillage, manure, and after attention, it must be admitted that Sweet Peas and many other similar subjects never do so well as when they are sown or planted on fresh ground. Here I have two doorways from the flower garden into the kitchen garden. Sweet Peas are regularly grown on both sides of each door, and I could learn that they had not been a great success for some years previous to 1900. In that autumn I had the soil where they were to grow taken out to a depth of about 20 inches, and about as much in breadth. This was wheeled on to a vegetable break, and the trenches were refilled with soil from the vegetable break; in fact, it was simply an exchange of soil. The result proved eminently satisfactory, and its annual repetition has been attended with equally good results. Considering the many disappointments with Mignonette and other seed not germinating freely, or Roses whose growth is not all that could be desired, it well repays the labour, which, after all, is not a serious one, as it simply means loading the wheelbarrow for two journeys. Mignonette is another favourite plant, and is frequently sown by garden entrances; indeed, no finer subject could be desired for such a position, and if the same method be adopted as with the Sweet Peas, it will be found that no plant responds to fresh soil more readily than does Mignonette. Turning to plants of a per-

manent nature—for example, Roses—it has been found advantageous to place fresh soil round their roots when beating up old borders, and, when replanting whole borders of Rose-trees, it is the most satisfactory plan to exchange the soil, if this is at all practicable. Here a border occupied by Hybrid Tea Roses was subjected to the treatment recommended for the Sweet Pea borders, and it is at the present moment one of the features of the garden. About three years ago my employers intimated to me that they would like Hybrid Tea Roses in this particular border, but they had been planted twice and had refused to grow. Accordingly a similar mode of treatment was adopted. The soil was wheeled away to a depth of 24 inches, the bottom well broken up, and the trench refilled with soil from the vegetable quarters. Naturally, this was a heavier undertaking; but here again any extra labour has been amply recompensed by the production of many large and fine Rose blooms of various shades of colour.

J. JEFFREY.

St. Mary's Isle, N.B.

IRRITATION CAUSED BY HUMEA ELEGANS.

A FEMALE patient of mine who has a particularly delicate complexion, has during the last few months been frequently suffering from vesicular eruptions on the nose and cheeks looking like impetigo. They quickly subsided under treatment, but as there was an almost immediate relapse she consulted a specialist, who diagnosed eczema and naturally ordered a course of arsenic. On June 7th I found her with a red, swollen face, the left eye closed, large vesicles containing clear serum on the cheeks, and a patch of eczema on the left side of the chin. She was greatly alarmed, as she supposed that she had erysipelas. Her temperature, however, was normal. She was unable to account for the attack, but first noticed it after playing ping-pong. She had not been handling *Primula obconica* as she was aware of its dangers, but she volunteered the statements that she had been feeding chickens with crushed bones and that she had noticed some irritation about the nose. The attack subsided in the course of a few days under *lotia plumbi antiseptici*. The first time she went out, at the end of the week when her face was well, she complained of itching of her right eyelid, and in the course of a few hours her face was as bad as ever. She then said that she had picked a leaf of *Humea elegans*, and had smelt it, and that she had been in the habit during the last few months of picking a leaf and rubbing it on her veil as she liked the perfume. The position of the rash was just where a veil would touch the face and the patch on the chin corresponded to the place where the veil is screwed up and tucked in. No doubt this had been the cause of all the trouble.

Humea elegans, a native of New South Wales, is frequently grown in greenhouses for the sake of its perfume and flowers. The leaves are not unlike those of the Tobacco-plant in shape but much more shiny, and they exhale a strong smell like incense. A leaf rubbed on my arm left a gummy secretion with a powerful smell and was followed by a bright red punctiform rash which lasted all day but caused little irritation. A gardener has told me that he has noticed his arms itching after moving the plants and that the gardener who gave them to him suffered from a severely inflamed face, which was ascribed to an irritating soap, but no doubt was due to the *Humea*. It is well known that many plants like *Primula obconica* are irritants, but that *Humea elegans* is one of them was new to me and may be a warning to others.

DR. HEARNDEN, in the *Lancet*.

NOTES AND REPLIES.

Californian Irises.—I should be much obliged if "S. W. F.," who wrote article, August 2nd, on Irises, would kindly give me full description and cultural details of *Iris tenuis*, *Iris Texas*, and *Iris hexagona*?—G. J. FARRER.

Lifting Daffodils (*Daffodil*).—The bulbs sent are very weak, and will not be improved in any way by your disturbing them now. It is much too late for this work, which should have been done in July, and the work of transplanting have been done this month. The

whits roots are new roots that are issuing earlier this year than usual on account of the wet season. The roots perish annually, and when thus dormant the bulbs should at once be lifted where this is necessary. If you have lifted the bulbs the only thing to do is to get them planted again as quickly as possible; to dry them now is courting failure. It will be quite sufficient if you replant the bulbs thinly without breaking up any of those with double crown, selecting a place not overdone with trees or shade, and planting 4 inches deep. Some grit may be added about the bulbs at planting time. It is now too late to lift the bulbous Irises.

Poppy Anemones.—I forward to you by this post a few blooms of my St. Bridget Anemone seedlings, sown in April last. They have had special culture, beginning with a very careful preparation of the seed-beds.—MRS. S. M. SWINNY, *Tobarcooran, Carmoney, Belfast*.

A beautiful gathering of these useful flowers, which can be had over such a long season. The colours range from pure white to the brightest scarlet.—ED.]

Patchy lawn.—Last autumn I had a piece of ground prepared for a lawn by levelling, after removing Apples and hush fruits. The spring was so cold that seed could not be sown till May 2nd. This has grown well. It was mown by hand at first, but latterly rolled and cut weekly with a machine. It looks a green sward, but on examination it is lumpy, with bare patches. Will these fill up? Or would it be well to sow a little seed now to take its chance of growing? Or would any top-dressing be advisable? I ought to say no manure was used at time of making lawn, trees having been regularly dressed for years. Can it be rolled with advantage this winter?—ANATHEA.

[You ought to at once give your lawn a good top-dressing of loamy soil, rotten manure, and wood ashes, and sprinkle some Grass-seed over it. You may roll it whenever the weather is mild.]

Primula rosea seed not starting.—I have had two packets of above, and have not succeeded in raising a single plant. The first lot was sown in February in pans, boxes, and open ground, and the second on June 21 and August 30, also according to directions. I should be much obliged if you could give me any idea of the reason of failure?—SIRLEBERT.

[In raising any of the hardy *Primula* family from seed, patience is necessary, as the seed often remains dormant for a long time, unless it is sown as soon as gathered, and it must on no account be placed in heat. A cool-frame is the proper place for the seed-pan. Some of your seedlings may appear this autumn, and in all probability you will find a great many will grow next spring. On no account throw away the soil in which the seeds have been sown.]

Worms on path.—I have a newly-laid gravel path around my garden, which seems infested with worms. Can you suggest a remedy for these, as they are continually throwing up the gravel and earth, particularly after a wet evening? I have rolled it several times, but this seems of no effect.—F. M. S.

[The presence of the worms is the truest indication of a badly made—that is, insufficiently drained—path. We hardly know what you can apply, inasmuch as in the very nature of things the worms work the soil that should not be there. Anything you may apply to one part will merely send them elsewhere. The only true remedy is to remove the underlying soil and replace it with rough gravel, clinkers, or even rough ashes. In such material the worms cannot work. Lime-water may bring many to the surface, but so long as the soil exists below the worms will of a surety find their way thither.]

Plants for pergola (*R. M.*).—The following plants would be suitable for spring: *Clematis montana*, *Wistaria*, *Jasminum nudiflorum*, *Rose Gloire de Dijon*, *R. Cheshant Hybrid*, as among the earliest of all to bloom; while for summer the material is abundant. What with Roses in plenty—*Carmine Pillar*, *Crimson Rambler*, *Alistor Stella Grey*, *W. A. Richardson*, *Mme. Bernard*, *Climbing Perle des Jardins*, and *Leuchtsterne*, all of which are very charming and free for the purpose, and may be augmented by such *Clematis* as *Jackman*, *J. superba*, *J. Mrs. George Jackman*, etc. For the later lot we would name *Clematis Viticella rubra* and *alba*, *C. lanuginosa nivea*, *C. Lord Wolseley*, *C. Fairy Queen*, *C. Beauty of Worcester*, *C. rubra*, *C. purpurea elegans*, *C. Anderson Henry*, *C. Gipsy Queen*, etc. To these could be added such as *Tropaeolum speciosum*, *Passiflora Constance Elliot*, *Solanum jasminoides*, *Vitis Cincinnatica*, *Lonicera aureo reticulata*, *Rubus Incarnatus*, *Joncium officinale*, *Lathyrus latifolius albus*, and *Polygonum Baldschuanicum*, one of the finest of modern

introductions. The beauty and value of these pergolas lie in the indiscriminate arrangement that tends to give a touch of Nature to the whole, therefore we advise the co-mingling of Roses, Vines, and Clematis, etc., throughout, rather than any plan that would keep the plants too much to themselves. The flower you send is *Salvia Iforminum*.

Plants for churchyard (*Clericus*).—You have omitted a rough idea of the size of the ground, which would have been helpful in respect to the trees, etc. There is ample room for the hardy plant borders as you suggest, and you cannot do better than plant such things as Michaelmas Daisies, Kniphofias, Flag Irises in variety and in plenty, Sunflowers, Rudbeckias, *Stenactis speciosa*, Day Lilies, Lenten and Christmas Roses, Lupins, Achilleas (the tall kinds), *Alstroemerias*, *Anemone japonica* in var., *Agrostemma*, *Campanulas*, *Delphiniums*, *Eryngium*, *Echinops*, *Armeria*, *Solomon's Seal*, *Verbascum*, *Thalictrum*, *Chrysanthemum latifolium* vars., *C. uliginosum*, *Statice*, *Trollius*, *Paeonies*, *Perennial Pea*, *Helenium*, with *Aubri-*

in again with about half the sod lifted. The borders for hardy things could be prepared by deep digging and manuring, and may be planted now, or the soil may be trenched up for winter and lie exposed, and planted in March or April, which is a capital time, and for not a few things, the best time. There is in this work ample scope for a good display, both in the churchyard and borders, and much will depend upon the amount you wish to expend on the whole. At the same time, we may mention, for such a purpose, that not a few of the more showy things are also the cheaper kinds. Again, you need only plant thinly, so to speak, giving the plants room to develop. For making a good show in the Grass some of the bolder perennials are excellent, and the attention required is reduced to a minimum.

Spring borders (*L. A. J.*).—Do we understand that you desire the spring border to be a permanent thing? If so, we think the Tulips may disappoint you after the first year or so, simply because these things require occasional

wards. Both the *Trillium* and *Cypripedium* will do in the cold-house, and prefer peat and moisture.

THE INDIAN MOUNTAIN CLEMATIS
(*C. MONTANA*).

BEAUTIFUL garden effects are created by the more vigorous members of the Clematis family when permitted to ramble freely over pergolas, trees, and bushes. The subject of the accompanying illustration, *C. montana*, is one of the most beautiful of the family, and when well established grows vigorously, soon covering a large extent of surface. Few more charming spring pictures can be imagined than an old evergreen, its branches hung with the ivory-white flowers of this Clematis, whose shoots have reached the topmost boughs, and hang in a white veil from its dark-leaved branches. When planting it is well to give this Clematis a good start by providing it with a deep bed of rich soil, especially if it has to struggle with the roots of trees or other strong-growing sub-



The Indian Mountain Clematis (*C. montana*) on bushes and low trees.

...tias, alpine Aster, alpine Phloxes, and other dwarf plants for the front. You have given no idea of what width you purpose making the borders, and without this we can hardly help you in greater detail. If we can help you further when you have settled some of the details, please writa again. If the room would admit at "E. E.," you could plant Yew-trees as an avenue. If not, then we suggest the fine-leaved Holly (*Ilex Hodginsii*), a splendid plant in any soil free from stagnant water. The best time for Holly planting is May and early June, but Yews would have to be planted in October or left to April. You had better tell us something of the area of the ground, roughly. In the Grass you could plant Walnut, Spanish Chestnut, and Limes. Not a few of the *Abies* are very fine when established. In the Grass many bulbs may be planted, as Daffodils, Muscari, Scilla, Anemones in profusion, Snowdrops, Crocus, Crown Imperials, Tulips, etc. These could be planted any time now, by lifting a sod of turf with mattock, slightly loosening the lower soil, and covering

lifting and sorting as well as periodical transplanting. You say nothing of Narcissi, a group generally to be preferred for permanent planting to Tulips. Many Narcissi may not only remain, but improve with years; with Tulips it is often the other way, unless lifted, etc. We think if you relied upon such Narcissi as Sir Watkin, Stella, Princess, Emperor, Horsfieldi, Cynosure, ornatus, and recurvus, together with Tulips of the Gesner group and others, and carpet with *Chionodoxa*, *Scilla*, *Snowdrop*, *Snowflake*, *Muscari*, *Fritillaria Moleagris*, *Anemones*, and *Myosotis dissitiflora*, you would obtain a good result. The *Silene* is probably *S. pendula compacta*. *Iris reticulata* is early March flowering and bulbous, and *Echinops* and *Eryngium* are quite late summer flowering. The group planting is one of the simplest yet most effective in results. It is a good plan, however, first to get an idea on paper of the principal participants, with colour and probable time of flowering. By this means the smaller items can be readily filed in on the carpet plants arranged after-

jects. When once established it is wonderful how it will hold its own even under seemingly the most disadvantageous circumstances, but to do so the roots must have undisputed possession of the soil when given now quarters.

Weather in Scotland.—We have just experienced last night (September 12th) 6 degs. of frost, and the flower gardens, which have only now begun to look their best, present a mournful appearance. I trust no one has been caught napping, as I have been, by failing to put the lights on a batch of *Cinerarias*. I have lost them all, and those that will recover will not regain their lost energy. This severe touch at this time of year is in keeping with the cold, raw summer we have had, and nothing better can be expected. *Dahlias*, *Begonias*, *Heliotropes*, *Marigolds*, *Cannas*, *Fuchsias*, and even *Asters*, are one black mass. It is interesting to note that while the plants named previously have been ruined, some *Geraniums* have resisted the frost. A sharp look-out will have to

be kept, however, and covers of a light nature got ready to protect Chrysanthemums, which have by no means all set their buds yet. This frost also warns us to put under cover, without delay, Callas which have been plunged outside, and Camellias also, if not already done. — D. McIVER, *Bridge-of-Weir, N.E.*

CHRYSANTHEMUMS.

SEASONABLE HINTS.

THE present season is curious in many respects, and there is some anxiety in the minds of many growers as to what the outcome of it all will be. Plants which were struck early in the year have done very well, and the buds have developed satisfactorily. Those growers, however, who delayed their operations have good reason to regret commencing in the spring; the buds have developed late, too late, in fact, to be of much use for the November exhibitions. The moist weather of the past summer has encouraged growth, the plants, as a rule, being much taller than usual. The tendency nowadays to retain second crown-buds has given us plants much taller than was the case some years ago, and, in quite a number of instances, the plants are exceptionally tall. A leading grower of the incurved varieties has quite a large number of plants from 9 feet to 11 feet in height, necessitating the use of extra tall steps to inspect the shoots and manipulate the buds. There is the promise—at least, from the collections of careful growers—of obtaining incurved blooms of exceptionally fine quality, and this can only be achieved by commencing the propagation of this type of the Chrysanthemum during December at the latest, stopping or pinching the resulting plants in March or April, and retaining second crown-buds, or those of even a later series, developing somewhere about the last week of August or the earlier days of September. For exhibition, it is now far too late to retain buds in the hope that they will develop blooms for the November shows. In the case of plants grown for decoration, however, terminal buds may be retained, and, under ordinary treatment, blossoms should result from these for the November displays. Terminal buds develop at a rapid rate, and, as the blooms from this bud selection are not by any means over-large, they are invaluable for cutting. Their colour, too, is usually good, and rarely are they known to show signs of damping of the florists. Keep a sharp look-out for insect pests. The earwig is one of the greatest troubles at this season, often eating out the points of the tender shoots with the buds in embryo. Inverted pots with hay or paper in them, and placed on the stakes, are a capital and ready means of trapping them. The pots should be examined each morning and carefully lifted. They should then be shaken over a vessel containing boiling water, or any other equally efficacious fluid for destroying them. As Bamboo canes are now used very extensively for stakes, it is just as well to point out how they harbour the earwigs. Those Bamboo stakes with hollowed-out stems afford an excellent hiding place, and old stakes may be slit down and often found to contain quite a lot of earwigs. For this reason, growers should fill the hole in the top of the Bamboos with putty or any other equally useful substance, and in this way minimise the risk of damage to the shoots.

HOUSING THE PLANTS is the all-important item of work at the present time. Too often this is deferred, and not infrequently the plants are rushed into the glass structure without the latter being in a fit state to receive them, or the plants ready for placing under glass. There are several little details, not the least of these being the proper cleansing of the greenhouse or conservatory preparatory thereto. If it be possible, confine the house exclusively to Chrysanthemums, as in this way it is much easier to give them proper treatment, without which the best results cannot be obtained. If necessary, take down the benches and stands and remove them outside. Proceed then to give the glass structure a thorough cleaning. Walls should be lime-washed, as this has a sweetening influence besides filling up cavities, which are too often the hiding-places of insect pests. See that the floor of the house, no

matter what may be its character, is rendered clean, also see that the ventilators are in order, and that the side windows open without any trouble. If the roof has not had a coat of paint lately, at least once, both inside and out, should it be gone over. By these means the glass roof is made waterproof, which is very necessary, as "drip," when the plants are in full blossom, may cause the loss of many of the prettiest and best flowers. Before taking the plants inside, see that all the foliage and weeds are removed. When releasing the ties made to the cross wires in the standing ground, observe the greatest care, otherwise many valuable shoots may be lost. Arrange the plants in the house so that the best effect may be gained. The group should slope from the tallest at the back to the shortest in the front. On no account crowd the plants. Dust with flowers of sulphur any plants affected with mildew. E. G.

ROOM AND WINDOW.

EVERLASTING FLOWERS FOR WINTER USE.

WHERE numerous tall vases require filling for the winter months and suitable flowers are not over-plentiful, various kinds of Everlasting Flowers and Grasses are useful, and make an agreeable change. Honesty ranks as one of the best; the shining silvery seed-pods when prepared are very showy and last a long time in good condition, and it is also valuable in the herbaceous border in early summer, when the purple and white flowers are freely produced. There is only one thing that tells against the growing of Honesty in the herbaceous borders for use during the winter—its untidy appearance after the flowers have faded and when the seed-pods are forming. The remedy, then, is to grow a batch of plants in some part of the kitchen garden for winter use only. With good culture Honesty grows from 3 feet to 4 feet high. The plants should be pulled up when thoroughly dry and hung up in a cool, airy shed to dry gradually for ten days, when the outer covering of the seed-pods can be easily taken off, leaving nothing but the shining silvery centre. They should be again hung up in the same quarters until required for use.

THE PEARL CUPWEEK (*Gnaphalium margaritaceum*) is valuable for winter use, but not often employed for this purpose. The flower-heads are produced on stout stalks from 2 feet to 3 feet long: the fully expanded blossoms have their outer petals white, the centre pale yellow; the unexpanded buds have a scaly appearance, silvery-white. The leaves are woolly, and should be stripped off when the stems are gathered, hanging the flowers up in bunches to dry gradually in a cool, airy shed. If laid in the sun they dry too fast, shrivelling the stems and discolouring the flower-heads. Beyond its value for winter decoration, this *Gnaphalium* is much appreciated as a summer-flowering herbaceous subject. The

HELICHRYSUM is the most common species of Everlasting Flowers, and probably the most useful of all, as it can be had in such a variety of colours from the bracteatum type, from pure white to scarlet-crimson, with innumerable tints between. They ought to be cut in a variety of stages, from small buds to fully expanded blossoms, to obtain the widest range of variety. Helichrysums are very suitable for small as well as tall vases, and for bouquets and wreaths. The same treatment is required for these as for the preceding in the way of harvesting the flowers.

RHODANTHES are valuable not only when grown in pots, but for winter use in a cut state; being slim in appearance, they lend themselves to tasteful arrangement in small vases for drawing-room decoration. Sown several seeds in 3-inch pots in March in a cold-frame, and afterwards planted out in rich soil in a warm position, they grow freely and flower profusely. They can be had in separate colours of carmine, rose, crimson, white, and yellow. The flowers ought to be fully expanded before cut, which should be done with as long stalks as possible.

WINTER CHERRY (*Physalis*) is not exactly deserving of being classed among Everlasting Flowers, although it is a capital subject

for winter decoration. The beauty of this plant consists in the bright red Cherry-like fruits inside a large inflated calyx. Under good cultivation stems bearing many fruits can be cut from 1 foot to 2 feet long, but for keeping during the winter should become thoroughly matured before being cut.

ACROCLINIUMS, rose and white, and the larger variety called grandiflorum of the roseum type, make capital winter ornaments for vases; being single-flowered on long, slender stems, they can be lightly arranged in a mass or mixed with other things. Seed should be sown in March in a cold-frame, the seedlings pricked out in light soil in a frame, and afterwards planted in rich compost in a thoroughly exposed situation. The flowers should be cut when young, as they retain their colours better in that state.

APHELEXIS of the macrantha type, cultivated as greenhouse specimens, are most useful in producing flowers for winter after they have served their purpose as exhibition plants during the summer. The flowers last a long time after being cut, and give pleasing shades of pink.

STATICE PROFUSA, another pleasing subject, is appreciated by many in a cut state for winter use, as blue flowers, even of the everlasting type, are rare. The flowers ought to be cut before they commence to turn pale on the plant, as the colour is better preserved and the flowers fresher too, consequently in better condition to stand the winter months in a cut state.

BULRUSHES of both the narrow and broad-leaved types make capital winter ornaments for large halls where an imposing group is required. Mixed with Pampas Grass plumes, Bulrushes have a good effect. When fully in bloom they should be gathered, being cut with long stems, as they are so much more ornamental in that way than when only a few inches long. Many kinds of

NATIVE GRASSES can be employed to give a winter effect if cut and preserved at the right time—when fully expanded just before the seeds commence to fall from the heads.

The flowering sprays of the now well-known Lace-flower (*Cypripedium paniculata*) and *Statice latifolia* are also very useful when cut and dried for winter decoration. The Sea Hollies (*Eryagium*), too, may be cut and dried in the same way.

GARDEN PESTS AND FRIENDS.

The Death's-head-moth (*M. Pinnell*).

—The insect that you send is the caterpillar of the Death's-head-moth (*Acherontia atropis*). These caterpillars, which are not uncommon, but never abundant, usually feed on the leaves of Potatoes, but they do very little harm, and will not injure your Chrysanthemums in any way. When fully grown the caterpillar buries itself in the ground and becomes a chrysalis, in which condition it remains during the winter.

CATERPILLAR (*J. Blackmore*).—The caterpillar you enclosed was that of one of the "Sphinx Moths," but it had tried to become a chrysalis on the journey and only partially succeeded, and it was, therefore, impossible to tell to what species it belonged, so I cannot say on what it probably fed. It is very seldom that these caterpillars are the cause of any real injury in gardens, for they are rarely found in any abundance, but each caterpillar will consume a considerable amount of leaves during its life.—G. S. S.

DESTROYING SLUGS (*A. W.*).—Freeing a garden from slugs and snails when they have been long left to breed abundantly is always a difficult matter, and it is more so when the garden is surrounded by hedges or similar harbour. Dressings of soot or fresh slacked lime are very efficacious in killing the pests if applied at the right time, and that is of an evening, when damp falls and the pests come out to feed. Then dustings of these powders are very destructive. Again, when Cabbage, Cauliflower, Lettuce, or similar plants are put out, and it is found that slugs eat them, if looked for at night with a candle hundreds may be caught and destroyed; that, too, is the time to use the soot and lime. If the pests harbour at the foot of walls or fences, straw salt freely and often there. Also get

gas-lime, break it fine, and use it in the same way, or freely about beneath hedges. Also, if it be strewn between rows of plants, but not on them, it acts as a great deterrent for a time. We do not advise the use of paraffin oil for the purpose.

Insects on Pear-trees (*L. Borae*).—From your description we should say that your Pear-trees have been attacked by the grubs of the Pear saw-fly (*Eriocampa adumbrata*). The grubs are commonly known as slug-worms. If the tree is bearing a crop of fruit, it is very difficult to advise a remedy. Syringing the tree with paraffin-emulsion or Tobacco-water and soft-soap are useful. When full grown, the grubs bury themselves in the ground just under the trees and between 3 inches and 4 inches below the surface. They each spin a thin, papery cocoon round themselves, in which they become chrysalides. The surface soil should be removed and burnt or buried, and replaced with good soil free from this pest.

Moss on walks.—For some time past there has appeared on the paths in my garden a curious green growth, after rains especially. I enclose a specimen, and shall be greatly obliged if you will tell me what it is and how to get rid of it? My garden paths are made of what is locally known as "shillet."—J. E. GRIMMIS (L. COL.)

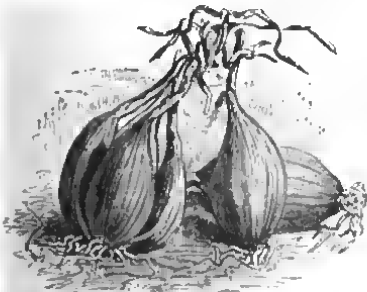
[The green growth on your garden paths is one of the algae belonging to the genus *Nostoc*, by which name it is commonly known. These gelatinous masses are composed almost entirely of minute chains of spores. I should scrape as much off as I could and then water the paths with a weed-killer. You would find 2½ lb. of lime and 2 lb. of sulphur, boiled together in 10 gallons of water, after it has settled pour off and use the clear liquid, or 1 part of sulphuric acid (oil of vitriol) mixed in 30 parts of water, useful, or the mixture sold under the name of "weed-killers."—G. S. S.]

Fungus in Vine border (*B. Z.*).—The matter which you find in your Vine bed seems chiefly composed of the mycelium or spawn of a fungus. What the fungus is I cannot say, as the spawn of fungi are so much alike, and I cannot find any of the spore-bearing part. I am afraid that there is no chance of destroying it by means of any fungicide, as if one were applied in sufficient strength to kill the fungus, it would destroy the roots of your Vines. I should open up the bed and take away all you can find, and remove the Rhubarb plant, which cannot be a good neighbour for the Vines, as it takes so much out of the soil. At the same time you will be able to see if the roots of your Vines are healthy, and if they are infested by the fungus in any way.—G. S. S.

VEGETABLES.

SHALLOTS.

The Shallot is one of our best and most wholesome vegetables, useful alike for soups, salads, and other purposes, and it makes one of our best pickles. It is, in short, in every-day use, both in the kitchen and in the pantry. The light-coloured or true Shallot, an excellent



True Shallot.

which much resembles a small Onion. The bulbs do not keep so well as the true Shallot, and commence to grow sooner in spring. The Jersey Shallot flowers and seeds pretty regularly, the seed exactly resembling Onion seed; indeed, in all the characteristics of its growth the plant is an Onion, and has nothing to do with the true Shallot.

CULTURE.—In order to grow Shallots well and free from disease, never apply fresh manure to the ground on which they are to be grown. In autumn, or early in winter, trench up and ridge a piece of ground for them that has been manured the previous season for some other crop, and fork it over in frosty weather in order to get it sweet and well pulverised. Level it down, and plant the bulbs in February; but never, by any means, bury the bulbs too deep, nor plant them in very loose soil, for they are very subject to canker and mildew just when in full growth in May if damp gets down between their partings or claws, and, on account of these attacks, they are almost always scarce and dear. After levelling the ground stretch a line at distances a foot apart, with one foot tread the ground along the line only at planting time from end to end, then just press the bulbs on the surface, and place a pinch of fine cinder ashes on them to keep worms from them. In March, when the surface becomes dry and mellow, tread between the rows with both feet, so as to make the ground as firm as possible. This will raise the rows of bulbs a little above the general ground level. Then just clear the loose earth away from the bulbs, which will now have pushed forth roots, with the hand or small hoe, so as to allow them—i.e., the bulbs—to stand quite clear of the ground. Thus situated disease, mildew, or failure is scarcely possible; on the contrary, good, healthy, sound, firm crops are obtained. Plantations of Shallots may be made in October or March; but late in February or very early in March is the best season, and the crop may be taken up and stored whenever the leaves die down, or, if not then, in autumn. After being well dried the roots should be hung up in nets or laid thinly on shelves, or even hanked in an airy loft, or wherever the Onion crop is stored.

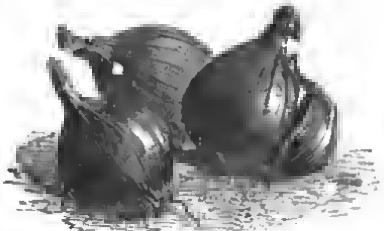
VEGETABLES FOR THE WINTER.

If a constant supply of the best vegetables is to be kept up through the year, then considerable thought is necessary, and at no time more so than during the autumn. Evidently the crop of Potatoes will not be heavy, and this will cause more demand for other vegetables, more especially when the spring comes. This being so, every effort should be made to begin the winter with a good stock of green vegetables and roots. Many growers at the beginning of winter think they have an enormous supply, but before new crops are ready they find this is not so, especially should the winter be a severe one.

If thought is given during autumn, much may be done by husbanding present crops and using those things that will not keep. After this cold, unless summer many crops are much lighter than usual. Runner Beans in our garden are not more than half the crop generally seen. The same holds good with dwarf kinds. By going over these frequently, gathering them when they have attained to their full size, and standing on their ends in big saucers in a cold place they keep fresh a long time, and extend their season considerably. Peas, again, should be gathered frequently. I find them keep best when laid in a damp place, placing a cloth over them. My Peas never were better till the end of August, when the cold storms and longer nights prevented their filling. If frost keeps off I shall have a supply till the end of October. Now, middle of September, Autocrat is my best kind. Marrows should be treated like Beans. Spinach should be used freely, gathering only the large leaves first, and where New Zealand Spinach (a most useful kind) is grown, it should be used till destroyed by frost. I have had this till late by covering on frosty nights and growing in Asparagus alleys, the Asparagus foliage keeping off the frost, unless very severe.

Only the whitest Cabbage should be used now. Brussels Sprouts are often begun too late, these ought not to be needed till

Cauliflower is well nigh over. I have a nice patch of French Horn Carrots, which will be ready when summer vegetables are over. Turnips will be abundant. When there is a glut I have them stored, allowing the late ones to grow while these are being used. All the big-necked Onions should be used first,



False or Jersey Shallot.

holding back the largest and best, as these are useful for stewing. Give every attention to Celery in the way of feeding and earthing up, as this is valuable in winter for stewing. Roots of all kinds should be preserved. With a good stock of Seakale Roots and Asparagus for forcing, there should be no scarcity till spring. J. CROOK.

Tomatoes in small houses in winter.—Attempts made to grow Tomatoes in small houses where other plants are kept during the winter are seldom attended with anything like success; but there is always the temptation at this time of the year, if the summer crop has turned out well, to try what one can do in the winter, and, as cuttings strike easily and quickly, all things go on well until towards November, when fogs and cold weather set in. It is about that time when the grower of Tomatoes is face to face with the difficulty of keeping up sufficient heat, and finds out that winter culture is far different to summer, when solar heat plays such an important part. Where it is intended to grow them, they should be given a house to themselves, as mixed up with Pelargoniums, etc., they become drawn, whilst the extra heat needed for the Tomatoes is not wanted for bedding plants, and so both are spoiled. Growing a few plants on the long rod system in a separate house is, I am convinced, the right course to adopt.—LEMCHEST.

About Cucumbers.—In spring and summer, more especially when it is very hot, the demand for Cucumbers is great. Frequently growers fail with them in frames from keeping them too moist and close, whereas, if they gave them more air, they would grow more sturdy and not get infested with fly. I expose the plants to the open on warm afternoons, shutting up at nightfall, watering in the morning only. In this way the growth is sturdy. I find some kinds are more suitable for frames than others, and during the last two years I have grown many kinds. I find a good stock of Rochford's hard to beat, either for frames or for house culture. This year I grow this, Marvel, and Lord Roberts side by side in a Fig-house. The two former are of a similar type, but Lord Roberts is a fine, long, smooth kind, growing to a length of 24 inches, and is a fine exhibition kind. Opinions differ regarding the flavour in Cucumbers. I never could find much difference in kinds when grown well and quickly. Recently I had a gentleman in the seed trade staying with me, and one night he wished to try those three kinds together with salt only. He considered Marvel and Lord Roberts the best; most greengrocers prefer Rochford's.—J. CROOK.

Photographs of Gardens, Plants, or Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

The Prize Winners this week are: 1, Mr. Geo. E. Low, Dublin, for Solanum jasminoides; 2, Rev. J. S. Griffiths, Gainsborough, for Rose Dejoncques.

FRUIT.

PEACH ROYAL GEORGE.

FEW varieties of Peaches have such a good record as this. Royal George is one of the best known and is largely grown in all parts of the kingdom. For forcing, Royal George rarely fails, and it will stand more heat than many of the earlier kinds. This variety forced yearly sets grandly. It does not drop its buds like many others and is not at all fastidious as to the position given. It makes a grand back wall tree, and, provided the wood is not crowded, the fruits are large and very sweet, with the distinct flavour so much liked. The fruits, given the best culture, are medium sized, skin pale, speckled with red in the shade, and marbled, as it were, near the stalk, the portion exposed to the sun being a deep red. The flesh is a pale yellowish white, the portion near the stone very red. The flowers are small and the leaves are without glands. In the open it may be termed a midseason variety, ripening at the end of August on a warm wall.

In cold, wet soils on open walls this variety is not reliable, as it mildows badly, no matter how well treated as regards food. Even in light soils in the most favoured localities at times it fails badly. Doubtless this failing is caused at times by the stock not suiting the variety. With much rain or dull, cold weather the trees are often suddenly attacked, and, unless means are taken to check the mildew, it so badly disfigures the fruit that it is not presentable at table, and the trees have a wretched appearance. On the other hand, in even heavier soil, but in an elevated position near the sea-coast, trees have never been attacked. In the Thames valley it rarely escapes.

THE PLUM CROP.

MANY disappointments have been experienced this year in regard to the Plum. In the spring there was every indication of a bounteous crop, but the vicissitudes of the year have been so many and varied that the results have not come up to expectation. The dearth of Plums is not a universal outcry, for in some favoured districts there is abundance, judging by the quantities of the common kinds that find their way into the markets. Choice Plums, however, seem scarce, and it is not in the least to be wondered at, when the amount of blight which infested the trees in early summer is remembered. Frost and cold east winds did irreparable damage to the open flowers, and standard trees, where at all exposed, suffered severely from this cause alone. Taking into account the extremely untoward nature of the season, there is reason for congratulation in the extent and quality of wall-grown Plums. As a natural outcome of the cold spring and dull summer all Plums were later than usual. Sorts that in some years I had been able to gather the first week in August were not ready until early in September. At the end of July there were no apparent prospects of ripe Plums for Bank Holiday shows, but Early Rivers', Peach Plum, and Orleans came to the rescue. That useful early Plum, Oullin's Golden, did not ripen for some days later; indeed, it was in use till the end of that month, while of Jefferson's and Kirke's I had not a sign of a ripe fruit in mid-August. Transparent, Lawson's and Guthrie's Gages, Pond's, Victoria, Prince Englebert, Diamond, Monarch, and Grand Duke have each cropped fairly well. Coe's Golden Drop bears less than half a crop this year, and Coe's Late Red is almost an entire failure. Blue Imperatrice has cropped somewhat more heavily, and Reine Claude de Bavay, Bryanstone's, and Golden Gages are much below the average. There is a marked absence of sweetness in many Plums this season, which is nothing less than may be looked for when it is remembered there has been little sunshine. Though a south wall is deemed necessary for producing the first crops of all choice fruits, the aspect does not, according to my experience, provide in Plums a gain of time over a west or eastern one. In light Plums there may be a somewhat brighter colour if there is not too much leafage to shade the fruit. Black varieties do not seem favoured at all in early

ripening on a south wall, and there is not much to choose between east and west exposures. I have not found that the lighter weight of crop has materially increased the size of the fruits, though naturally this would be expected.

W. S.

THE TREATMENT OF MELONS.

THE weather, up to the middle of September, could not be called at all favourable to Melons, seeing that they enjoy an abundance of solar heat from the time the plants are put out until the last fruit is cut, as, in the absence of sun, it is well nigh impossible to get fruit of even passable flavour, and a Melon deficient of this is very little better than a Marrow from the open garden. Plants now swelling their fruit require the greatest care and attention, as the days are fast drawing in, and, consequently, the sun has less power to assist in ripening the fruit. Endeavour to maintain a night temperature of about 70 degs., with an advance of 10 degs. or 15 degs. with sun-heat when full ventilation is afforded, increasing it gradually from when the thermometer indicates 78 degs. While ventilation is an important item with Melons, water at the root as well as overhead syringings is doubly so, especially during the latter part of September and succeeding month.

much sun-heat as possible after 2 p.m. to finish the same, covering the glass with a mat at night now it is inclined to be a bit colder. Plants in heated structures require to be closed about the same time, with plenty of moisture about the walls and paths. When ripening approaches less water at the root and moisture about the house or frame should be maintained, and a chink of air at all times. Of

VARIETIES there are many, each grower having his favourite, some preferring green-flesh, others scarlet. I prefer the scarlet-fleshed kinds, and consider Sutton's Scarlet an ideal Melon for a gentleman's table—rich in flavour, good setter, and strong constitution. From three to four fruits should be allowed each plant, then nice serviceable fruits, three or four to each, will be forthcoming if the plants have been well cared for. Hero of Lockinge, Triumph, Emerald Gem, and Earl's Favourite, are all excellent-flavoured varieties, with pale or green flesh. EAST DEVON.

NOTES AND REPLIES.

Scarcity of Apples.—It is many years since there was such a scarcity of good home-grown Apples. In this locality the crop of Pears is above the average, while in the same garden there is not half a crop of Apples.



A good all-round Peach (Royal George).

Test the soil the plants are growing in each day, and do not apply any at the root unless you are really convinced that the soil is well on the dry side, as many a crop has been lost through applying water indiscriminately at this time of year. On dull days overhead syringing should be discontinued, and even in bright weather it must be light, or the water will run down the bine on to the soil and cause canker to set in very soon—in fact, this will happen at any time throughout the summer unless care is exercised in the matter. Dusting with freshly-slaked lime on its first appearance will generally check it, but let the stems be examined every few days, rubbing fresh lime on if the malady appears likely to extend. In watering it should not reach the stems within 2 inches or 3 inches. Plants in pots, of course, require watering much oftener than do those planted out on mounds.

FEEDING THE PLANTS while the fruit is swelling must not be neglected, and I find no better manure than a pinch of Peruvian guano, squeezed up in the water—weak in preference to strong doses should be the order. Those who rely upon hot-bed frames for their supply must have had an anxious time of it this season, and the plants will have required much less water than is usually the case; and should there be any fruit still to ripen in such frames or cold-pits, it will be necessary to husband

Only the fruits on the top branches swelled out to a good size, and all the lower limbs had small, deformed fruit. This was especially the case with all the soft Codlin Apples of the Lord Suffield type, that did not perfect a quarter of a crop. The greatest failures about here were the highly coloured dessert sorts, of which the Devonshire Quarrenden was the most conspicuous, as the trees had in most cases not a single fruit on them. Those growers who have had a moderate crop this year have realised more profit from them than they did from last year's over-abundant crop, as they have had a ready sale for even the windfalls.—JAMES GROOM, Gosport.

Propagating the Mulberry.—I am about to saw off a branch of a Mulberry-tree, and should be glad of instructions as to making it root. I have read before that a branch will strike root if planted, but have tried it several times without success. When should it be cut off, how planted, how treated? Also, how thick and how long a branch?—A.

[If branches of some size are used, let these be cut off early in February and inserted a foot deep where neither sun nor wind can freely penetrate. Envelop the stem above the ground level with Moss, all but the upper pair of buds, in order to check evaporation.]

Grapes shanking.—I am sending some Grapes, and shall be glad if you will inform me why some of them have gone off and not ripened? The Vine has been planted about three years inside a greenhouse.—EVA, Oxford.

[Your Grapes are what is known as "shanked," brought on by the roots getting

into a cold subsoil or the border becoming sour and sodden, the young roots thus being destroyed. Another very probable cause is overcropping, which, from the poor colour of several of the berries, is in your case a very likely one.]

GARDEN WORK.

Conservatory.—For the cool conservatory, hardy plants, such as Stocks of the intermediate or East Lobbian type, are useful in spring. Forget-me-nots, potted up now, are charming early in the spring in pots, and are nice for filling small vases. The flowers come on longer stems when grown under glass, and the colours are brighter and have a fresher, cleaner appearance. White and other Pinks, such as Her Majesty and Anne Boleyn, are very useful for pot culture to flower in April and May. This they will do without much watering. Canterbury Bells, strong plants potted up now and kept in cold-frame till the new year, and then helped with just a little warmth, are very bright and effective in April or earlier. Rhedodendrons and Tree-Prunies are bright in April with cool-house treatment. Hybrid Primroses, potted up now into 4-inch pots, will flower in the winter. I have had pretty groups of them arranged in Moss in a cool house, and they are useful for filling small stands in the drawing-room. It is like bringing a breath of spring into the house to see Primroses when the snow is on the ground. Violets, again, are very attractive when well potted in pots. We used to grow Tree-Violets with double flowers in the winter years ago, but these have been lost sight of. Now we go in for the long-stalked flowers. Princess of Wales and Admiral Avonlin when well done in 5-inch pots are very charming. Of course, they want proper treatment. Cuttings of the old shoots planted now in boxes will root during winter, and, if planted out on a bit of good land, kept free from weeds, and, if necessary, mulched and watered during summer to keep down red-spider, which are partial to the foliage, they will be ready for potting up early in September, and may be stood on a coal-bed for a time, till the roots are working into the new soil. It is an article of faith with many of us that we must not expect a plant to do its best in the way of flowering till the roots have pretty well occupied all the soil, and then, when the roots are abundant, we can feed with liquid-manure in a moderate way to bring out the long-stalked flowers. One need not have a very high temperature to have a supply of flowers if the right means are adopted and the right plants selected. Mignonette, sown in August and again in September, and grown on shelves near the glass after the middle of September, will be very sweet at Christmas and later. Of course, Mignonette can be had earlier, but there is a freshness about the Mignonette grown under glass that is absent from the plants that have borne the heat of summer.

Stove.—There will soon be a demand for stove flowers for cutting, and to a certain extent this demand will be met by pushing on the Poinsettias, Begonias, and Euphorbias. Both the Euphorbias and Poinsettias may be planted out and trained up walls, if suitable positions can be found in the stove or warm-house, and a much better result, so far as flowers for cutting are concerned, obtained. Then there are still a few trusses of gorgeous blossoms on Allamandas, which last a good while in a cut state, or at least other flowers will continue opening, and form a succession. Eucharis Lilies, several forms of Vinca, including rosea and alba, and Epiphyllums that have been ripened in the sunshine will soon show flower-buds when brought into heat. Gardenias well ripened will respond to warmth and moisture. There are always a few Orchids in bloom among the Calanthes, Dendrobiums, Ophrys, Oncidium, and Cypripediums, etc., which may be managed in a mixed collection.

The Peach-house.—The fruits will all have been gathered even from late trees under glass now, and the condition of the wood examined, and all old wood which is not likely to be wanted for laying in had better be cut

out. No benefit will be derived from its presence, and the young wood intended for next year's bearing wants all the sun and air to be obtained in a season like the present. Another important matter is to make sure the borders are moist enough. The autumn is the time when the finishing touches are given to fruit-buds. If the roots are too dry the buds will be poorly built up, and will probably fall in the spring. Any over-luxuriant trees may have the roots lifted, and any tree which has done its work and does not now bear good fruit may be removed and the border prepared for the next tenant, which may be planted as soon as the leaves are falling. In most places young trees are kept in training for filling vacancies in houses. Those who are thinking of planting a new house or renovating an old one should be making preparations now. The best soil is a good sound, rather adhesive loam from an old pasture which has been fed off by sheep. The borders must be perfectly drained, and if the subsoil is bad the roots should be kept out of it by placing a layer of concrete on the bottom sloping towards the front, and on the concrete 6 inches of brick rubble should be laid. This makes the best possible job of it, and though the expense is considerable where permanency is desired, it pays to do work well.

Mushroom-house.—It is desirable to have a Mushroom-house in every garden, as so much besides Mushrooms can be grown in it. At this season beds should be made up frequently, because if the house is pretty well filled up in winter, the warmth from the fermenting manure will keep up the temperature. If we take 55 degs. as the mean temperature required, it may fluctuate a little both upwards and downwards without doing any harm. There are several things which must be insisted on in Mushroom growing. The manure must be from a stable where the horses have hard food, and where the manure from a sick horse is not included, and should be in a reasonably fresh condition. It is an advantage when the manure is fresh to mix about a fifth part of its bulk of good loam with it, thoroughly blending the whole together. This saves time in the preparation, as once turning will suffice, as the soil absorbs the moisture and keeps down the strong heat, and I have generally found such beds very prolific and last longer in a bearing condition. Of course, good, new spawn is absolutely necessary, and in making up the beds firmness is essential to free and continuous bearing. A covering of hay or litter keeps in the warmth and moisture.

Window gardening.—The boxes outside are now past their best, and should be refilled for the autumn and winter. Where one has small Chrysanthemums coming into bloom, they should be used to give an autumn display, and the winter furniture, either shrubs or other plants, introduced later. Spring-sown Lansies are coming into bloom now, and will be a nice change for winter without the shrubs. Wall-flowers and Forget-me-nots are sweet in spring. I do not care much for the average kind of shrub used, as they soon get brown and seared.

Outdoor garden.—Tidiness in the garden is important; in fact, one does not feel comfortable where disorder is the rule, even though certain plants may be in a thriving condition, and at this season, when dead leaves are falling about and flowers are fading, there is a good deal to do in keeping the plants in a thoroughly enjoyable state. Late-sown Astors are very fresh and nice, and can easily be moved with balls of earth without injury. If a bed of Victorias, or, for the matter of that, any kind of Aster, is sown thinly outside early in May, they will be very useful for filling beds now or earlier. The early-flowering Chrysanthemums, especially the different forms of Marie Masse and the old favourite, Mme. Desgrange, of which there are several varieties, are very bright now, and are useful for cutting. This has not been a good season for very tender novelties in the flower beds; but I have seen the plume-flowered Celosias effectively used in several gardens this summer. I bedded these out a good many years ago, and in favourable seasons they attracted much attention. Balsams are also very effective bedding plants. The best way of using Balsams is to plant them in

a good-sized bed a yard apart, and have a groundwork of some low-growing plant. Verbena or Heliotropes kept low are doing well with a band of Koniga variegata round the outside. Tender plants outside must be lifted and potted in sandy loam, with a little leaf-mould, and stand prepared at a moment's notice to be placed under cover. Carnations should be planted when the soil is dry on the surface. Lay down and repair lawns, either with seeds or turf.

Fruit garden.—Root-pruning may be done now; this is best done in a tentative way, not all round the tree at once. I am partial to the use of lime on fruit land. Gas-lime in moderation, say, a pound to the square yard, may be used any time with benefit to almost any kind of land. If more lime were used there would be less trouble with insects and millwigs (termed blights). Soot, also, is a good and cheap stimulant. All fruits are late in ripening, and the late Apples and Pears must hang till quite ready, or they will shrivel. Everything is quite a fortnight late, though a fortnight's dry, sunny weather would fetch up arrears; in fact, sunshine is wanted to ripen the wood. The early planting of Strawberries is important if a crop is wanted next year. Even if runners only are required, the young plants should be planted early enough to get established before severe frost comes. A mulching of good manure on old plantations will have considerable value now in plumping up crowns. Of course, old plantations must not be left till they have parted with all the vigour. Except in the best managed gardens, Strawberries are left too long in one position. Old worn-out wall trees should be cleared away and the site prepared for the young trees. It is a good plan to always have a few young trees, so that we can fill vacant places with young trees coming into bearing. Young Peach-trees which are making too much wood under glass may have the roots carefully lifted now.

Vegetable garden.—The seed-sowing outside is over for the season, but inside, where warmth can be given, French Beans of a dwarf early kind may be sown in pots, five Beans in a 6-inch pot, and kept near the glass in a night temperature of 80 degs. or so. If very early Asparagus is required, a row or two of very strong plants may be cut down ready for lifting when the hot-bed is ready. For early forcing, the best roots are those which have been grown specially for the work, and from which nothing has been cut. They are more vigorous, and require less heat to start the crowns. The roots should be from four to five years old from the seed. Clear off all exhausted vegetables and trench the ground. Fresh manure may be trenched into heavy, holding land now, but light, porous land should not be manured at this season. More lime might be used on vegetable and fruit land with advantage, especially newly broken up land where insects are numerous. In the latter case gas-lime, 2 lb. to the square yard, will do good, and if the land will lie dormant the quantity of gas-lime may be increased. This is a good season for making up Mushroom-beds for winter supply. Very often good Mushroom-beds are grown in sheds without artificial heat, and where the sheds are large and the beds numerous the heat from the beds will keep the requisite temperature; but there should be a regular temperature of 55 degs. to ensure a regular supply. Flimsy, badly constructed sheds are not suitable for winter Mushroom-beds, as in cold weather the temperature falls so low. Cucumbers will now be growing freely in the warm-house, and the leading shoots should be permitted to grow well up the roof before being stopped. E. HUNNAY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

September 29th.—More time is given up now to general tilling up; the mowing machine still has to go its regular round, and faded blossoms and dead leaves must be removed. But among the debris of autumn many hardy flowers are lovely in their freshness. Bold masses of Budbeckias, Starworts, Japanese Aconites, Sedum spectabile, and early-flowering Chrysanthemums are very effective. Cactus

and other Dahlias have up to the time of writing escaped the frost, which has not yet been very severe. We have been busy getting plants inside, as we cannot trust the weather now. Of course, we are always prepared to cover up anything tender.

September 30th.—With the exception of two trees of late Peaches which are scarcely ripe yet, the Peach season is over, and we are now cutting away all wood not required for filling up the trees next season. This hastens the maturation of the wood, which is most important. Trees that were mulched in the early summer, when the weather was dry, now want the remains of the autumnal sunshine on their roots, so the mulch has been raked off and removed. Exhausted vegetables, such as Peas and Beans, have been pulled up.

October 1st.—Azaleas have been received from Belgium and firmly potted in small pots as the roots can be comfortably got into, and placed in cool-pit for the present. One of the best forcing Azaleas is the Deutsche Perle. The best Spiræas are grown in Holland, especially in a dry season, and they are surprisingly cheap, but the carriage is heavy; in fact, the carriage costs more than the roots. The Dutch growers do not trade fair, as after selling all the bulbs they can in the trade, they immediately swamp the market with the surplus bulbs.

October 2nd.—Referring again to the heavy importations of Dutch bulbs, many of our home growers are growing certain kinds of bulbs quite as well as the Dutchmen, especially Narcissi of all kinds. These, in fact, are better than the Dutch roots this season, and they are much cheaper. Just finished lifting Potatoes, and found very little disease. Several frames have been filled with cuttings of choice shrubs. Half-grown Lettuces and Endives are being planted in cold-frames for winter.

October 3rd.—Shifted Cinerarias and Primulas into 5-inch pots. Cyclamens are now placed in light house where a little heat can be given. Herbaceous Calceolarias have been potted singly into 3½-inch pots, and are at present in cold-frames. Cucumbers in houses are growing freely and showing fruit. At present our supply is drawn from frames and pits. Apples and Pears are gathered as they ripen.

October 4th.—Violets have been placed in frames and a few potted in 6-inch pots. Tree-Carnations are showing flower in cool-house; a little fire will be used now. Scarlet Salvias in flower are moved to conservatory. Potted Spiræas and Dielytras for forcing; will be kept in cool pit for a time to make roots. Shifted on young Pteris Ferns. Planted out Carnations in beds and borders. Passed Dutch hoe through rows of Spinach, Onions, and Lettuces. Spinach has been thinned to 4 inches apart.

BIRDS.

The Chaffinch (*Fringilla œlebs*).—In its wild state this handsome bird subsists upon a diet of seeds, fruit-berries, and insects, feeding its nestlings upon the latter. Its notes are heard very early in the spring, uttered in a clear, melodious tone, forming a song of considerable beauty, and as a cage-bird it is a great favourite. Under good management the Chaffinch will live a long time in a state of captivity, and should be fed upon Canary, Rape, Flax, and other seeds, to which may be added a mealworm occasionally and a little fruit. The latter will tend to keep the bird in good health and the plumage bright. The nestlings of this species are not difficult to rear by hand, and prove tamer than those that are captured when full grown. In gardens the Chaffinch is very destructive during the spring in uprooting seedlings as soon as they appear above the surface of the ground, although it does much good by the destruction of numberless insects. The nest of this bird is a most beautiful structure, the external materials differing according to circumstances, so as to harmonise with the prevalent tints around it, some being covered with smooth green Lichens, while others exhibit a mixture of Moss, green, grey, and yellow Lichens, and the nests of spiders rolled up into little tufts. Various situations are chosen for the nest, it sometimes being placed on the mossy branch of an old

Apple-tree, sometimes in Ivy encircling the stem of a timber tree, but more often upon the top of a Lichen-covered protuberance, where a small bough offers a firm resting-place. The eggs are three to five in number, of a bluish-white with a tinge of pink, spotted and streaked with purplish-red. Two broods (sometimes three) are reared during the season, the young being able to leave the nest in about a fortnight. The plumage of the young birds resembles that of the hen until they moult in the autumn, and then the males obtain their handsome livery. The Chaffinch has obtained its scientific name of *Fringilla œlebs* from the fact of the sexes separating into distinct companies after the breeding season.—S. S. G.

Death of Linnet (*E. D.*).—Your bird appears to have died from excessive fatness of the internal organs, a complaint to which caged Linnets are very subject. They require much exercise, and this the small cages in which they are usually confined do not permit. In an aviary or large cage these birds enjoy the best of health and survive many years. In a confined space, however, they need very careful treatment in order to prevent them becoming over fat. In its wild state this bird feeds upon the seeds of many noxious weeds, such as Thistle, Plantain, Knotweed, Dock, and would, no doubt, thrive in captivity if these seeds could be supplied. The usual diet for caged Linnets is Canary-seed as a staple, with other seeds added in small quantities, such as Summer Rape, Maw-seed, Hemp, or Lettuce-seed. Hemp-seed should be used very sparingly, as from its oily nature it is very fattening. For green food they may have Lettuce (of which they are very fond), Groundsel, Chickweed, and the green stalks of Plantain. A little salt given now and then proves very beneficial. Coarse grit-sand and plenty of fresh water both for bathing and drinking should never be forgotten.—S. S. G.

POULTRY.

Chickens dying (*Oakbank*).—The chicken sent for examination was in very poor condition, and had evidently been improperly fed. No particulars are furnished as to food and general management. The best food for chickens after their first few meals of hard-boiled egg and breadcrumbs is a crumbly paste composed of two parts of coarse Oatmeal to one part of Barley-meal, mixed with water. When a few days old they may have grits, crushed Oats, or bruised Wheat, in addition to the paste. Also a small piece of cooked lean meat, rather underdone and minced fine, may be given daily until the chickens are about three weeks old. The use of stuffy coops is the cause of much illness among chickens, for they cannot thrive when compelled to inhale foul air for hours together, neither can they be successfully reared on a tainted, damp run, or where they have to pass their time amongst older fowls. The loss of so many broods proves there is something wrong with the ground or the management. Sometimes the failure to rear chickens arises from their having been bred from immature or unhealthy stock. Diarrhoea is often brought about through improper feeding, and in this case it is well to supply the meal in a warm state, adding a little powdered chalk and Cayenne pepper till the looseness is checked. Boiled Rice is also useful in this complaint. The coop should stand upon a good thickness of dry earth, sand, or mortar-rubbish, and the front covered at night, providing ventilation without draught.—S. S. G.

National Dahlia Society.—Arrangements are being made for the holding of a conference on the judging of Cactus Dahlias in September, 1903, on the afternoon of the first day of the annual exhibition. The conference will be opened by a paper from Mr. C. G. Wyatt. The exhibition will be held at the Drill Hall, Buckingham-gate, the arrangements being similar to those for the exhibition held recently, and the conference will take the place of the fortnightly lecture of the Royal Horticultural Society. Several new decorative classes will be added to the schedule for next year.

CORRESPONDENCE.

Questions.—Queries and answers are invited by GARDENING free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of GARDENING, 17, Furnival-street, Holborn, London, E.C. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruit for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruit are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Saving Petunia seed (*L. H. J.*).—When the pods of the Petunia are ripe they should be gathered and laid out on a piece of paper in a tray or box to further mature and dry. When quite ready and dry, the seeds are easily secured and cleaned, and may then be packed till required for use.

Lilium testaceum (*Flora*).—This Lily is not at all delicate, and does well in the open air, particularly if some rotten leaf-mould and peat are dug into the place intended for the bulbs and given a position where they may be left undisturbed. You had best plant it now. By *Gladiolus delicatissimus* we suppose you mean the early-flowering Blushing Bride, the bulbs of which ought to be planted during October.

Cinerarias falling (*Jim*).—The treatment of your Cinerarias seems to have been correct, and the only thing we can suggest is that the sprinkling of manure was too liberally applied. Of course, they like plenty of air, but that, according to your letter, they received. Are they kept too wet at the roots? Perhaps there may be some weevil grubs at the roots. These would be a very probable cause of failure.

Mealy-bug on Cacti (*W. H. Charlton*).—This is a terrible pest, and you will have to persevere if you wish to clear it off. You ought to forcibly spray the plants when laid on their sides with a mixture of soft-soap and ½ pint of paraffin to 3 gallons of water, applied warm. Keep the mixture well stirred to prevent the paraffin coming to the surface. The plants will require two or three dressings, and even then you will have to watch and destroy any that appear.

Roses for hedge (*Fred Coles*).—You would find the Rambler Roses, such as *Felicité-Perpetue*, *Benedicte*, *Seedling*, *Aglaia*, and *Crimson Rambler*, very suitable to form a hedge. A few lengths of wire should be run above to tie the Roses to to start them. You could also use some of Lord Penzance's Sweet Briars, which answer well for the same purpose. To give variety, you could plant *Cotoneaster Simonsi* and *Forsythia suspensa* among the Roses.

Gloriosa bulbs, storing (*J. H. B.*).—The proper way to winter these is to allow the soil in the pots to become dry, and to leave the bulbs in it all winter, standing them on a dry shelf. Or you may shake the soil out of the pots, wash the bulbs down, and place them in small pots filled with soft-wood shavings, in which they must be covered to prevent too much shrivelling. You may grow the Vines and Roses with every prospect of success. Plant *B. Hamburg* and white *Frontina*.

Storing Dahlias (*Flora*).—When the frost has blackened the leaves and the ground is fairly dry, lift the Dahlias, and when the soil falls away from the tubers they may then be stored in a clean state. Dahlias should not be kept too dry during the winter, a cellar where frost cannot reach them being an excellent place. Cover the tubers with soil, this just keeping them moist, and, at the same time, warding off frost. Here they may remain until you want to start them, say, in early March. You may divide the old tubers after they have started into growth in the spring.

Rust on Chrysanthemum-leaves (*E. Fryer*).—The leaves you send have been attacked by rust, and a remedy has yet to be found that will do good in bad cases such as yours is. We have seen several cases in bad cases, but the grower has syringed his plants with some strong insecticide, and the leaves have been thereby destroyed. It is best, therefore, as the blooms will be forming, to let them develop as best they will, and make a fresh start with clean cuttings next year. The rust is not difficult to deal with if taken in time. This can be done by picking off the leaves in early spring as the lower leaves gradually show the fungus growth.

Roses Mildred Grant and Germaine Trochon (*Rosarian*).—Mildred Grant is a splendid novelty, and we believe it will expand well in a cool-house. We have had it this year in heat, and it yielded some very handsome, clean flowers, the centre pale pink, like a Catherine Mermet, with magnificent guard petals. Germaine Trochon is an excellent Rose, worthy of a place in every garden. It is flowering just now as freely as in summer. We regard it as one of our best autumnals. The Rose makes fine long growths in the same way as *Gustave Regis*, but, like that variety, may be pruned back to about 2 feet of the base each year.

Annuals, etc., for early flowering (*Tailor*).—This is not a new idea, and, indeed, depends very materially on the locality, and soil and altitude in particular. Of true annuals it is now rather late, but a month ago many of the more strictly biennials could have been sown. You may, however, sow any of the cheaper kinds by way of experiment, as in this way you obtain

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VEGETABLES.

OUTDOOR TOMATOES.

COMPLAINTS among Tomato growers are very common this year, for rarely does one hear a favourable word regarding outdoor prospects or even those grown under glass. Mr. Crook, on page 371, says Tomatoes are an absolute failure with him from non-setting, and with others in his neighbourhood the same state of things prevails. Quite recently I called on a large grower of Tomatoes near Frome, in Somersetshire, who complained loudly about the shortness of his crops. Outdoors, where he looked for a crop of some three or four tons' weight, he fears he will not have so many hundredweight. This inflicts great hardships on many, because the loss is an irreparable one, and the labour bestowed during the whole season is lost. There is, too, rent to be paid for the land occupied, and nothing wherewith to pay it. The grower under notice had just, prior to my visit, cleared off a breadth of Tomato plants which he said were absolutely without fruit, this bearing out the experience of Mr. Crook. That this is not common experience is proved in my own case, for, so far as the setting of the crop is concerned, I have nothing to complain of, but disease and the lateness in ripening make the conditions pretty equal. There remains, however, a hope that some of the fruit will mature. My plants carry, some of them, four good trusses of fruit, and present the appearance of an almost complete cordon of green fruit from the extremity to the soil; indeed, some of the bottom clusters touch the ground. I grow several varieties, and, though some are more freely fruited than others, all are fairly good. From my 400 plants a goodly quantity will be forthcoming if the weather is now favourable. It could only be expected that with Potatoes so badly stricken with disease Tomatoes should sooner or later be attacked. The wonder to me is that the plants have escaped so long and so well as they have done. Beside local selections, the varieties that have done well are Becker's XL, a really good Tomato for indoors or out; but a better, I think, will be found in Holmes' Supreme, which is fruiting splendidly outdoors, although sown and planted later than others. Duke of York, Eckford's Prolific, Early Ruby, Ham Green, and the Cropper are a few that were planted against blank spaces on the walls, and which in each instance have done well. Now what to me seems so difficult to understand is why the plants should crop so freely in one garden and so badly in others. The same cannot be said of these as of the hardy fruit crops which were subjected to the frost and chilling winds of spring. Tomatoes are so tender that they must not be put into their permanent summer quarters until frost and cold winds have gone. The weather has been unfavourable for everyone, and though summer storms are often of local origin, wet, dull weather has this year been the general rule, with but few sunny days intervening. In connection with Tomato culture it is easy to see

that though indoors the soil must be rather frequently changed, outdoors this is not so necessary, because instances can be cited where Tomatoes are grown from year to year on the same ground without any change, except the addition of a little artificial manure, which is dug into the soil at planting time. It would be interesting to learn from other readers how outdoor Tomatoes have done. W. S. Teasdale.

KIDNEY BEANS.

THE council of the Royal Horticultural Society have resolved to conduct a trial of all descriptions of Kidney or tender Summer Beans in their gardens at Chiswick next year. It is hardly probable that anything remarkably new may be found, as the seed trade are so very keen to pick up anything that is novel or has special merit. Still, it may furnish a good opportunity for any having little known varieties to have them thus publicly tried. Kidney Beans include not only very many of the dwarf or compact branching section, of which some seem to differ only in the colours or markings of the ripe seed, but they also include several distinct forms of Runners, such as the well-known Scarlet and White flowered Runner, the old long, bent podded Case-knife section, the newer climbing breaks of Canadian Wonder, known as Tondor and Truo, etc., and not least, though perhaps more seldom grown, the Golden Butter Beans, which produce bright yellow round fleshy pods and are so very nice when gathered young, cooked whole, and served with gravy. It is interesting to learn that in Scotland Dwarf Beans only are cultivated and Runners are not. Here, in the south, the Scarlet Runner types are esteemed as of the very highest value and excellence, and, coming after Peas, are the most productive and constant bearers of any garden crops. It has been this season, when cold springs started all tender Beans so late into growth, a matter for congratulation that we have had no serious frosts in September, and so far our Beans have been spared for a few weeks longer. It is rare, however, that they remain unharmed after about the 20th of October, as, being tall and fully exposed, it is not possible to protect the plants. But where in June a sowing can be made close to a south wall or fence and the plants got into fruit in the autumn, then, by means of double or treble netting or mats hung over the plants at night, it is often possible to save them for some few weeks longer and thus render a great service. A very useful trial of Dwarf Beans in pots forced might also take place, but the utilisation of them in that way is very limited, whereas they are universally grown outdoors. But where there is a vinery, Peach or orchard house where there may be room for a few boxes 2 feet long and 8 inches wide and deep, if some dozen of seeds of the Climbing Canadian Wonder be sown in each one, and in due course sticks as supports added, then very early and most useful crops are obtained at little trouble or cost. Generally tender Beans are sown too thickly. The leading growers

who produce such fine examples for exhibition do not make that mistake, and as a result not only do they get great crops, but also very fine long, straight pods. In sowing Runners it is a good plan to have double rows, 9 inches apart, and the Beans in each row fully 9 inches apart also. Dwarf Beans, because of their hushy habits, want even more room for strong growers like Canadian Wonder, but weak growers will do well closer. A. H.

It would be very interesting to compare the notes on the trial of Kidney Beans made over twenty years ago with those on the above trial, and also, if possible, compare the dried seeds, which at that time were split in half, pasted on to a thin board covered with white paper, and enclosed in a glass case. If we remember rightly, attention was also given to the colours of the flowers.—E. J.

NOTES AND REPLIES.

Radishes in autumn.—Some may say these are not wanted in autumn. My answer is they are in many places, and would be appreciated more were they sent to the breakfast-table. I am aware the greatest demand is in the spring, when they are young and tender, many giving them up when the warm weather comes from their being strong and tough. When sown in autumn they are equally as tender as in the spring, and make a nice change after Cucumbers and other salads have had a turn. In country houses where shooting parties are, Radishes have an extra value, and are nice to mix in the salad-bowl. I grow some every year, sowing with Autumn Spinach and Onions, throwing the seed broadcast after the drills are filled in, and raking it in. In this way it is but little trouble, giving a long supply.—J. Crook.

Carrots cracking.—I grow a large quantity of Carrots for the house, but a great proportion of the sorts is apt to split. I enclose some extreme specimens. Wireworm has been very troublesome this year. Has this anything to do with the sorts splitting? The soil is deep and good, and is copiously dressed with lime, which is deficient, and the Carrots are sown in drills with root and wood-ashes. Can you suggest any prevention by cultivation or otherwise for this almost total destruction of the crop by splitting?—IGNACIUS.

The cracking of Carrots is not uncommon, especially in early sowings. The cause is usually a stoppage of swelling in dry weather, then renewed moisture causes rapid swelling of the roots, which very often burst in the process. Wireworm has nothing to do with the splitting, but these pests often bore holes in them, and also often eat the roots clean through when small. Perhaps you sow too early. The best plan in your case would be, if you want good eating Carrots, to sow in shallow drills, 8 inches apart, on a south border early in March, Early Short Horn, to pull when quite small. Also make a small sowing early in April on a warm border, in rows 10 inches apart, of Early Nantes, thinning those down to 2 inches apart in the rows later. Then make a sowing of Intermediate towards the end of May for winter use. If you make yet a further sowing about the middle of July thinly, and not to be thinned later, you will have a good supply of Carrots.

FRUIT.

FIGS AND THEIR CULTURE.

It is doubtful if there is a more wholesome or delicious fruit cultivated than the Fig, provided the fruit is well grown and fully ripe. Figs are by no means difficult to grow either under glass or on open south walls, but all alike do not meet with success. What Figs require and must have is plenty of light and heat, a very firm and not over-rich root-run being also most desirable. For a few years they are fairly productive against back walls of lean to houses, but in time the fruits are produced on the uppermost branches only, and in small numbers there. If the same trees were gradually trained a few feet down the roof more fruit would be forthcoming than ever before, and this might well be done in many cases where the back walls only have hitherto been devoted to the trees. The plan of growing large bushes in the body of the house, the back wall also being covered, answers fairly well, but in the long run it will be found much the better plan to be content with two or three trees, no matter how large the house, and to train these up the roof only. Thus treated the growth is usually short jointed and exceptionally fruitful (see illustration), the Figs being also large and of superior quality. This plan of training is suitable even for quite small forcing-houses, the trees in this case having their roots confined to narrow borders, and well fed when in full bearing. It is not in houses where high temperatures are maintained, or such, say, as would suit Melons well, that the trees are apt to form soft unfruitful wood, but rather in unheated structures. Thin training, though desirable in all cases, is absolutely necessary in unheated houses. A judicious selection of varieties, of which there are many, is also of great importance. The old Brown Turkey would, however, yet appear to be the best of the lot. So good in every way is this popular variety, that there is little or no need to plant any other sorts—under glass, at any rate. It is the surest bearer under all circumstances; it forces readily and succeeds well in or out of pots, while the fruit is always of superior quality. The second, and, in some instances, third crop, though frequently so small as to be quite unrecognisable, is particularly delicious, many people who were previously under the

westwards, these, perhaps, being the hottest corners in the garden. But if these are the best, it does not follow that they are the only positions where Figs will succeed, though it is next to useless to plant them against any other than south walls, and the higher the walls or the more head room that can be

PRUNING should be delayed till the young fruit shows at the points, or say late in April, and then should chiefly consist in thinning out, long naked branches being cut back to near the centre of the trees, or else foreshortened to a well-placed younger fruiting-branch. Thus treated the trees are kept furnished with



A valuable late Fig—Nebian.

allowed the better. That Figs are occasionally to be seen doing well against walls with a south-west aspect is readily admitted, but as a rule the wood fails to ripen well in such positions, a moderately severe frost being liable to cut it down to the ground. Once a tree has of necessity to start afresh from near the stems, it is usually several years before it again attains a productive state, nothing but long sappy shoots being formed; hence the great necessity for protecting the points especially of the branches every winter, the trees being unloosed from the wall for that purpose. Allowing the trees to have their head somewhat is a certain way of checking grossness, the wood made then being principally short-

young fruiting-branches throughout their surface, and not at the ends only, as too often happens.

Soil.—Not a little depends upon the preparation of the borders. Rank growth being most undesirable, a rich, loose root-run ought not to be provided. Only a limited number of readers are in a position to use much chalk or chalky soil in their preparation of a border, but if it can be had it might well be mixed with fresh turfy loam, one part of it to two parts of the loam, a sprinkling of half-inch bones being the only other addition. An excellent substitute for chalk will be found in old mortar rubbish. Comparatively small borders answer well in any case, these being well drained, and, if a clay subsoil abounds, the bottom ought to be concreted to a considerable distance around in order to keep the roots out of it. It is also advisable to make the borders very firm, and if there is a path or roadway in front of the outside trees, these have a good effect on them, checking grossness and promoting productiveness. The number of trustworthy

VARIETIES FOR OPEN-AIR CULTURE is very small. Foremost amongst these must be placed our old favourite Brown Turkey, this being the sort most generally grown, and it cannot be improved upon. Brunswick is also a hardy variety, but not nearly so fruitful as the Brown Turkey, while the White Marseilles is perhaps the most delicious variety of all. The tree is hardy, very productive, and the fruit small, but when well ripened the fruit can be eaten by most people.

FIGS FAILING.

COULD you kindly advise me what to do to make my Fig-trees ripen the fruit? I have three Fig-trees in the garden (one against a south wall and two as standards). They all bear quantities of small Figs, which never open and do not grow larger than Walnuts. I have removed the soil round the trees to the depth of 2 feet and a diameter of 4 feet, and have filled in with old mortar, brick bats, and building refuse. This I did two years ago, but cannot see any improvement. Will you tell me whether I ought to cut back the growth, as the trees grow so much to wood?—E. E. BUCK.

I have a Fig-tree growing against a south wall, but overshadowed somewhat by a large Maple. It bears very scantily. Should the old wood be cut away, or what treatment can be advised?—A. E.

[The fact that the trees make strong growth is plain proof that the steps taken two years ago were not sufficiently drastic to correct the evil and bring them more under control. The removal of the soil round the trees to a depth of 2 feet, and at a diameter of 4 feet from their stems, was a step in the right direction; but you should have gone further, and have tunnelled right under the "balls" of each, when



Fig Violette Sepor.

impression they could not eat Figs eating these readily.

CULTURE.—Along the south coast, notably where a chalky soil abounds, Figs succeed fairly well as standards. The proper position for Fig-trees is the angles formed by the junction of a south wall with a wall being

jointed, hard, fruitful, and not so easily crippled by frosts. The safest and best practice, therefore, with wall trees is to keep them freely thinned out, regularly trained, no attempt being made to confine them to a limited area, and to further protect them with Fir branches, or straw thatch. The

you would have met with one or more strong roots descending to the subsoil. These should be ruthlessly cut away close up to the ball, because so long as these roots exist the trees will continue to make quantities of strong wood, and, if they bear at all, the fruit will never come to perfection. Your best course will be to reopen the trench at from 3 feet to 4 feet from the stem as soon as the trees shed their foliage. This trench should be 1 foot in width, to admit of the work being done conveniently and expeditiously, and be carried to a depth of from 2 feet to 3 feet, so that the soil can be cut away from under the base of the ball, tunnelling under one half of the ball at a time so that there shall be no accident. In the digging of the trench cut all roots found clean away, and when the one half of the ball has been exposed in the manner described, fill in with brickbats and mortar-rubble, placing this in layers and ramming it as firmly as possible to get it. The brick-rubble, being of a dry nature and possessing no manurial constituent, will have a direct tendency to check exuberant root growth in future, and being, moreover, 1 foot in thickness, any roots that may penetrate will be of a fibrous nature only for some time to come. The best way, of course, in dealing with Fig-trees is to enclose their roots in a kind of brick tank, 3 feet to 4 feet square, concreting the bottom and building the sides with bricks laid in cement, and making provision for the outlet of water at one corner into a rubble drain.

If the above work is carried out early this winter you may leave the pruning until the spring, when the growths on the wall-trained tree may be thinned out, cutting away all the weakest and retaining those well furnished with embryo fruits, which will be plainly visible at that date. Just sufficient wood should be laid in to furnish the wall, and no more. With regard to the standards, the heads should be somewhat thinned out, or sufficiently so that sunlight and air—two important factors—can reach to all parts. Should next season prove a dry one, pay particular attention to root watering, and when the fruits are swelling towards maturity give liquid manure weekly; or, failing this, dissolve 2 oz. of Peruvian guano in each gallon of water required. Some trees that we treated thus last autumn have been yielding heavy crops of fine fruit for some time past.]

FRUITING AND NON-FRUITING FIG-TREES.

The theory which I placed before you a few weeks ago as to some Fig-trees being fruitful and others not, and to which you replied in your paper of September 20th, page 383, was intended to open up replies and experiences from Fig-growers, and to raise interest in the matter generally. I am quite aware that my

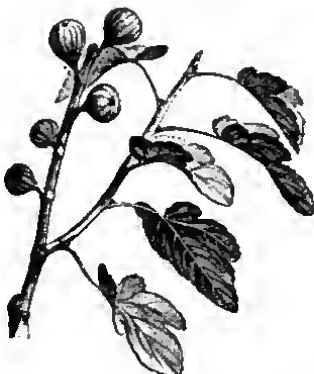


Fig Bordeaux.

views are not those held by most growers. They are briefly these, that (1) there are Fig-trees which never bear any fruit: these I call males. (2) Fig-trees bearing fruit which drop off even in mild weather: these I call females. (3) Where these two kinds are grown close together, either accidentally or intentionally, the fruit on No. 2 will not fall off, but come to maturity and ripen. There seems to have

been a difficulty from time immemorial in inducing certain Fig-trees to fruit. May not my solution of the mystery perhaps be the right one? I do not find Figs want rich soil or manure. Plenty of rain-water is all they require.

In reference to your note on this subject in GARDENING ILLUSTRATED of September 20th, I



Fruiting-branch of a Fig.

have probably more than 100 trees of different sizes, some out-of-doors and some in a cold-house, and all are confined as to root-space. They are in 10-inch and 12-inch pots, lard buckets, etc., so that I can move them from place to place at pleasure. None have been raised from seed; most have been taken from suckers from my own and my neighbours' Fig-trees. I think I have only two, or at the most three, kinds of Figs. I am sending you four leaves taken from four separate trees; two of these are non-fruited, which I, in my ignorance, call males, and the other two I call females; these bear and ripen the fruit now that the non-fruited (male) trees are placed close to them. You will notice a decided difference in my so-called male and female leaves. H. N. G.

Both.

NOTES AND REPLIES.

Planting Filberts.—Will you please tell me if I may plant some Filberts now or keep them until the spring, as I wish to grow some? How long would they be before they bear?—W. W. JENKIN.

[Plant your Filberts during November, allowing 10 feet between the rows. Spur-pruning is the best for the branches, and when the trees have been well attended to for several years, the spurs become numerous and fruitful. The form which suits the trees best is the basin shape usually applied to Red Currant-bushes. All will depend on the growth and attention given to pruning, manuring, etc., as to when they come into bearing.]

Earwigs eating Nectarines.—Can you suggest anything that will be effectual for the protection of wall fruit from garden pests? I have a garden this year for the first time, and had a very good crop of Nectarines, Apricots, and Peaches, but as soon as the Nectarines began to ripen they were attacked by some enemy, which went over and ate the fruit half round between dusk and dawn, and afterwards they were quickly eaten up by troops of black ants, wasps, etc., so up to the present I have had no opportunity of sampling them myself. The Apricots also suffered, but in a less degree, but in the case of these nearly all cracked, and the juices exuding soon attracted ants, spiders, and that interesting little insect which makes a ball of itself when surprised, so these, too, proved a failure. I have a fine crop of Peaches, but these are not sufficiently ripe yet to receive much attention. Can you give me a little advice in this matter of protection, also do you know anything to prevent the cracking of Apricots.—A. V. A. T. R. T.

[The enemy that destroys your fruit is the earwigs. The only way of destroying them is by trapping them, or, as they are night feeders, catching them when dark. The best traps are the hollow stems of Sunflowers or Broad Beans, from which the earwigs may be blown into a basin of boiling water or water on which a little paraffin floats. Small garden pots filled with dry Moss or hay are useful; in fact, anything in which the earwigs can hide during the day.]

Fruit-trees on an Oak fence (H. K.).—With respect to the planting of fruit-trees, cordon or otherwise, trained against a split Oak fence, much may depend, first, on whether

the palings are on the garden face or the rails are, and, second, whether behind there is any shelter from cold draughts. A fence of this description properly made should allow of but very little draught, but if the palings are old and have become shrunken, then much cold air will rush between the cracks, and be very harmful. If you could in any way fill the spaces between the rails with what is called matchboarding you would render the fence airtight. If the posts and rails be inside you would have to strain stout wire along the faces of the posts, 9 inches apart, to which to tie the trees. If the face of the palings be on the garden side you could nail the trees to them. Were a Privet hedge planted behind the fence, a yard from it, and kept hard trimmed, that would exclude draughts, but it may not be practicable. Walls are better than wood fences, because they are impervious to draughts and retain much sun heat.

Jargonelle Pear failing to fruit.—In my garden there is a large and old Jargonelle Pear-tree, the lower part of which is in a fowl-house—that is to say, the lower part is built round it, space being limited. Formerly I had splendid crops of Pears, but for some few years now I have had very few, and these have been maggoty. This year the crop was much larger again, but many of the Pears were small, and quite two-thirds contained maggots. Nothing has been done to the tree or its roots for many years. Can you suggest a course of action? Would lime-washing the trunk do any good as regards the maggots?—C. F.

[It is not a matter for surprise that the large old Jargonelle Pear-tree in your garden does not now produce good fruit, seeing that you have built a fowl-house round the stem. Of necessity, that house must cover a good deal of the ground in which the roots are, and would therefore keep that portion very dry. Again, by thus covering up the stem and ground you keep it in shade, whereas ample sunlight is essential to health. We fear there will be no improvement in your Pear crop until you remove the fowl-house. Even then it would be desirable to open a trench all round the tree, 6 feet from the stem, 2 feet wide, and as deep, cutting off any large roots, and, if possible, any that strike down under the tree, then refilling the trench. Fork in over the roots a dressing of manure, and thoroughly coat the tree and branches with hot lime-white, in which a little clay is mixed to colour it. Also syringe the top branches with the lime white.]

Watering Fig-trees (Fendho).—Usually, Fig-trees on walls outside grow too luxuriantly and make too strong growth. That results from the fact that roots have gone wide afield far removed from immediate waterings. In such case they would benefit

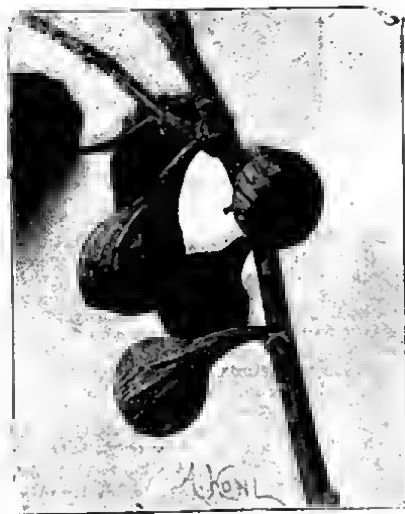


Fig Brown Turkey.

only when heavy rains fell. When it is needful to severely root-prune trees to induce them to form less wood and leafage and produce fruit, occasional heavy waterings, close home, and top-dressings or mulchings of manure are essential. Figs in pots need very liberal watering, certainly in warm weather once a

day, and sometimes twice daily. They should have liquid-manure three times a week; also, the trees be often syringed, and the floor kept well moistened. All this is needful, because the roots are much cramped. Outside too often they have far too much room, and an occasional hard root-pruning helps to throw the trees into bearing.

Planting fruit-trees.—I have a longish length, nearly 200 feet, of Oak fence facing S.W. It is about 6 feet 6 inches high, and about half of the border in front (8 feet or 9 feet wide) is used for flowering shrubs and perennials, and the other half for vegetables. Soil, light subsoil, sand, and gravel. This year, thanks to the rain, the plants of all kinds have grown well, but it is usually very dry and bare. Will you kindly tell me (1) what Roses would do best on the fence, and (2) what kinds of wall fruit, say espaliers or cordons? I have also a smaller length of a similar fence facing N.E. What wall fruit would do on that? I have a Victoria Plum which does fairly well, and a Williams' Pear which has never fruited. —W. J. W.

[To get a break from the railway close to your garden plant Lombardy Poplars. These, planted 8 feet apart, soon make a close screen and give shade. But if you mostly want flower and fruit, you had better plant strong

PLANTS AND FLOWERS.

OUTDOOR PLANTS.

CAPE MARIGOLD (DIMORPHOTHECA).

THIS genus, belonging to the Compositae, comes from the Cape. In

D. PLEUVIALIS the flowers are white and purplish beneath, opening freely in fine weather. Plants from spring-sown seed flower from July to September. It is a bold, free-growing annual, thriving in any good soil, and an effective ground plant with the larger flower garden subjects. It is, however, well worth growing alone.

D. ECKLONI.—This is a beautiful and interesting plant of shrubby, perennial habit, with Marguerite-like blossoms, as may be seen from our illustration. It is of somewhat rather curious combination, the fleshy leaves and stems resembling those of the larger forms of the Candytuft family, while the large white and blue suffused blooms are also very distinct.



Dimorphotheca Eckloni. From a photograph sent by Mr. J. Rose, Oxford.

standard Blenheim Pippin Apples or Siberian Crabs, though the latter fruits are useless. Farleigh Prolific Damsons would do very well and fruit freely. We should not advise you to plant both Roses and trained fruit-trees on your Oak fence. Where there are no flowers, there plant fruit-trees, such as Green Gage, Rivers' Early, Victoria, and Monarch Plums, and Louise Bonne and Marie Louise Pears. We should prefer horizontal trained or fan-shaped trees to cordons. Such Roses as Crimson Rambler, Carmine Pillar, Alistar Stella Gray, W. Allen Richardson, and Gloire de Dijon would do well if planted. Victoria Plum, Catillac Pear, and Morello Cherries are the best fruits for a north-east aspect. It is not warm enough for a Williams' Bon Chrétien Pear.]

Request to readers of "Gardening."—Readers, both amateur and in the trade, will kindly remember that we are always very glad to see interesting specimens of plants or flowers to illustrate, if they will kindly send them to our office in as good a state as possible.

The deep blue disc is a very interesting feature, and here and there, as golden anthers protrude, it is quite exceptional. The plant is easily raised from seed, which is best done every year, as two-year-old plants are liable to become leggy. It is a beautiful plant when the ray florets respond to the warm influence of the sun's rays, but dull, sunless surroundings are not at all suited to show it at its best.

HYBRID JAPAN ANEMONES.

GARDENS in the autumn will be better and brighter for the new forms of *Anemone japonica*. We cannot have too many of those bardy flowers that yield us the full measure of their beauty when early autumn frosts or drenching rains have destroyed the effectiveness of tender bedding plants. In a general way the first flowers of the Japan Anemone open at the close of August, the display lasting up to the end of October; indeed, one may in mild autumns gather good blooms in the middle of November. After many years of sterility the white form produced seeds in an Irish garden.

From these, two varieties differing somewhat from the parent plant were raised and distributed under the name of Lord and Lady Ardillan. My experience of them is that the former is an excellent free-growing, reliable kind, but the latter is constitutionally weak and will only do well in very good soils. In periods of severe drought the leaves become discoloured, the energies of the plants become so paralysed that the flower stems cannot develop properly. Lord Ardillan, on the contrary, is in every way good and reliable, the half-opened flowers being in form much like partially-expanded blooms of the white Water Lily. Previous to the introduction of these varieties there came to us from America a variety named Whirlwind. There is no record as to the origin of this kind, but as it is quite sterile I am of opinion that it is simply a sport from the type. When I first grew this variety I was not at all impressed with its worth. I grew it generously, and with the result that it made a very strong coarse growth, the leafy bracts at the base of the bloom developing to such an extent as to almost destroy the effectiveness of the plants. It was only by chance that I discovered the true worth of this variety. I happened to lay some plants into very poor light soil. They were forgotten until it was too late to set them out. They made quite a different display from those in rich soil, the flowers being produced in great profusion, very pure and not disfigured by leafy growths. For cut bloom I value this variety very much, the pure finely-formed blooms being especially valuable for wreath and cross making. They last longer than those of the type, and have a chaste appearance in floral decorations. *Rosea superba* has no resemblance to the old rosea, which is a tall growing kind with no pretensions to effectiveness. It has very large, finely-formed blooms, produced in great profusion on stems about 3 feet high. The petals are delicately flushed with rose, the effect in the case of established specimens being remarkably fine. I find that it increases rapidly, so that in the case of a permanent plantation the plants should be set out 3 feet apart. It is a curious fact that this variety was raised by M. Lemoine, of Nancy, and in England at about the same time. From the first head of seed I ever saved I raised one plant only. I bloomed it indoors, and had a poor opinion of its merits. The following year, in the open ground, it showed its true character. It was fortunate that I did not name and distribute it, for later on I found it to be almost, if not quite, identical with Lemoine's variety. *Beauté parfaite* will, I believe, be largely grown. It is the finest of the singles, the flowers being very large, produced in great profusion. It is free of growth, and will undoubtedly be a favourite with trade growers and others who require a good supply of pure white flowers at a time so many things in the outdoor garden are over and *Chrysanthemums* are comparatively scarce.

The flowers of *Coupe d'Argent* are composed of several rows of petals; when first expanded they are creamy white, but become pure white with age. It is free-flowering, has a good constitution, and should certainly find a place in gardens where this kind of hardy flower is valued. *Collerette*, *Vase d'Argent*, and *Couronne Virginale* may be said to be glorified forms of Whirlwind. They are all more or less double, and very pure in colour, the finest of them, in my opinion, being *Vase d'Argent*, which has flowers of great substance, composed of about six rows of petals, regularly arranged and fine in form and colour. This variety is of very strong, sturdy growth, the flower stems, in my experience, being more robust than those of any other member of the family. *Collerette* is much in the way of the last-named, the petals being regularly disposed and the flowers finely formed. These double kinds I have found very serviceable when grown in pots. They bloom rather later than the single kinds, so that one can have plenty of perfect flowers, very pure and fine, all through October, and frequently up to the middle of November. Well grown, these Japan Anemones have a fine appearance in 8-inch pots, and may be made good use of in conservatory decoration. They harmonise with scarlet Geraniums, *Vallotas*, *Lilies*, etc.

Original from

Queen of Wurtemberg, a semi-double pink variety, is distinct and well worth growing; it does not, however, appear to be quite so vigorous as the white kinds. Mont Rosa, with double pink flowers, is a great advance among coloured kinds, and indicates what we may expect in the future. In time we shall probably get varieties as double as the Rose and more highly coloured than those we now possess. I should not be surprised if we get right shades of red, deep crimson, and other intermediate tints.
J. C.
Byfleet.

OLD TREE PÆONY.

It will probably take many years to persuade gardeners not to arrange everything they plant like dumplings. Their ideal is to make everything as snug as possible, in that way defeating their own object if they seek variety, or pace, or any of the things that go to make a picture.

Putting the tall things in the middle and bringing down the plants to the margin, and

two plants which had been given me) at the top of my rockery, exposed to all the sun we could get, but sheltered from north and east winds. They have grown well and bloomed freely. My flowers are all a clear white on the upper surface, with a pale lilac under surface. They shut up if a shower comes, and hang their heads, but as soon as the sun shines on them they turn up their blossoms and open again. If "A. W." will try it in the rock garden, I think he will like it better.—A. C. RIVERHEAD.

Omphalodes linifolia.—Readers of GARDENING wishing to grow the pretty Forget-me-not-like flowering annual, *Omphalodes linifolia* (p. 397), can find it in some lists as *Venus Navelwort*.—D. W.

Nicotiana affinis.—I have no greenhouse, and am anxious to have a bed of *Nicotiana affinis* next summer. I put some roots in the ground this spring, and they are doing wonderfully well and growing all over my flower-border. Could I lift these, say, in November, and put them all in the bed and cover with litter, or what do you advise?—HILLY.

If you cover up the roots of the *Nicotiana* with coal-ashes, Cocoa-nut-fibre, or leaves, the roots will survive, and, when starting into

and evenly, so as to make a perfect edge. Put back the soil against it, tread firmly, and then replace the gravel. Each summer you ought to cut it back to its original height or thereabouts, but, of course, allowing it to become a little broader each year.]

Renovating a lawn.—I have a piece of lawn which grows nothing but rank Grass and Dandelions. I am having it all dug up and trenched and the bottom broken, placing the top spit of turf at the bottom. The subsoil is gravel and sand, and at the end of the garden is a railway cutting which tends to increase the dryness of the garden generally. I thought of digging in some cow-manure during the winter and re-sowing in March. Will you kindly tell me (1) whether it would be preferable to use artificial manure, such as basic-slag, instead of the cow-manure, or should I use both? (2) Whether Clover would be likely to make a closer and more lasting lawn in such a dry spot than the ordinary lawn Grass, and if so, what kind I should obtain?—W. J. W.

[You are evidently taking the only useful course in relation to your weedy lawn in thoroughly forking up and burying the weedy surface and replacing it with fresh soil from beneath. We hope you will not find that full of weed seeds later; but weedy lawns usually are the product of foul soil, and not of weol



Old Tree Pæony at Glynde.

If the little bag of tricks they use, only lead to a bad end. Happily, some things do not end themselves to this treatment, and so we do see occasionally a shrub in a garden that shows some form or natural grace. Among these there is nothing, perhaps, more striking than an old Tree Pæony, and this illustration shows one at Glynde, in Sussex, a very fine old plant, which, breaking away from the set shape, with its branches above the general level, formed a striking picture when in flower. We should encourage more and more things that have this free habit, and never seek to repress it.

NOTES AND REPLIES.

Arctotis grandis.—"A. W." asks for the experience of others who have grown this plant. My experience differs from that of "A. W.," as I am very pleased with it. Owing to the severe weather we had in May, I did not put mine out till June, when I put them (only

growth next spring, may be lifted, divided, and put into whatever positions you wish. You ought to lift the *Sileno* at once and plant it in the flower beds.]

Box edging.—"Please advise me as to a Box border? I have some beds edged with Box, but it is in places very ragged and dead. The Sweet Violets, too—growing like weeds—have pushed up in great bunches in the Box. What measures should I take to make it flourish? In many places it is thick and strong.—Mrs. WALTON.

[The only thing you can do is to relay the Box, which you may do at once or leave till the spring. It often happens that Box is neglected and not kept hard clipped, the result being that it gets tall and ragged, as in your case. First draw back from the edge all the top gravel some 12 inches wide, then lift the Box and take it away, laying it in by the roots. Then fork up the ground where it grew, adding some fresh soil and some manure. Strain a line, chop down a straight furrow 6 inches deep, have the Box hard trimmed, tops and roots, to about 7 inches, then plant it thinly

seeds being in the pasture seed sown. Certainly add cow-manure in preference to basic slag, as the soil is no doubt poor, and cow-manure will both enrich it and render it the more solid. The close-growing Clover has been excellent on lawns this season, because so damp; but it may not be so another summer on poor, sandy soil if the season be a dry one. Your best course will be to ask some high-class seedsman to send you Grass seed, stating nature of soil, area of lawn to be sown, purpose for which needed, etc. When the ground has been manured and dug, tread and level it well before you sow the seed. Do that early in April, and keep off birds.]

Blue flowers for spring.—Two of the most cheerful of our early spring blossoms are to be found in *Scilla sibirica* and *S. bifolia*, the latter being a very bright blue, and blooming early, *Chionodoxa*, also, *Lucilia* and *sardensis*, the former being the white-centred Glory of the Snow, and *sardensis* having deep blue

flowers. All bloom early in the year and all are inexpensive; they form a nice setting to beds of Tulips and Hyacinths, which otherwise would be devoid of colour for a time, or for edgings to walks mixed with Crocuses. Like Crocuses, etc., when once planted Scillas and Chionodoxas may be left alone for years, and each season in the early months they will bloom freely. Plant now.—W. F.

Utilising shady bed.—At the foot of my garden I have a bed about 45 feet long by 3 feet wide overhung by trees. It faces west, and is backed by iron railings, with a drop of about 1 foot on the side remote from me. Could you tell me any flowers which would grow there, or what would be the best way to utilise it? I thought of making a rockery and planting Ferns, etc. If so, what would be the best kind of Ferns to use?—E. BERRY.

[If the roots from the trees are not too near or numerous, you may with advantage grow Lily of the Valley, Solomon's Seal, Christmas Roses, Hepaticas, London Pride, and such flowering plants quite well; indeed, the position should exactly suit the Christmas Roses if the soil is good or can be enriched by manuring. You could also plant such bulbs as Muscaria conicum, Fritillaria Meleagris, F. imperialis, the double white Poet's Narcissus, Tritoleias, Scillas, Wood Anemones, and other things, or possibly a mixture of hardy Ferns with the above named would be most interesting. Any of the more plentiful of the Ferns would do quite well—for example, Athyriums, Scolopendriums, Lastreas in many kinds, and Polypodiums. You would also require some old root stumps from trees, or rough stones arranged here and there, and, by placing these first in position, the gaps may be the more readily filled in with plants. Of course, the simpler way would be the flowering things first named, and, as these are among the better class things, you may probably embrace this view. If you wish to quickly hide the soil, we can recommend the London Pride and some of the bold-leaved Megaseas (*M. ligulata purpurea*), which is also a handsome flowering plant. In adopting this method it will be easy to reduce the London Pride at any time when it is required. The flowering plants and bulbs mentioned would give quite a lengthened display of bloom. If planted in mixture, the tree stumps will hardly be required. But whatever you plant, you should thoroughly dig and manure the bed previously.]

INDOOR PLANTS.

MOVING VIOLETS TO THEIR WINTER QUARTERS.

THE latter end of September is a good time to move Violets to their winter quarters, and if the plants have been well treated during the summer, the small single crowns will have developed into fine clumps bristling with flowers and flower-buds. I am not particular as to the quality of the soil in which to put them at this stage, provided it is light and congenial to healthy root-action. The accommodation I have for wintering Violets is ranges of sunk pits with concrete walls a few inches above the ground level. Such pits are easily protected from frost, and wind has not such power on the lights—a consideration in exposed gardens. In these pits the plants are placed rather thickly with the leaves almost touching the glass. As planting proceeds they are well watered, thus settling the soil around the roots as well as washing the dirt and grit off the leaves. Unless the weather is unpropitious or very wet, they are fully exposed for a fortnight, or as long as no danger from frost is imminent. By this exposure no trouble ensues from leaf-damping, which, as all are aware, is a serious check to the free and perfect development of bloom. Excepting during severe weather I allow a current of air to play over the plants day and night, but protect thoroughly with Bracken and mats from being frozen. When necessary (which is not often during the dull and short days) water is given, choosing a dry morning to enable the foliage to dry by nightfall. As regards watering, I would specially caution novices in Violet growing to beware of giving their plants liquid-manure while in bloom, for the flowers retain its unpleasant odour for a considerable length of time. Should the plants or blooms require stimulating, better by far give them a tonic in the shape of a top-dressing, washing well in

with clear water. I find it beneficial, especially during the short days, to slightly syringe the plants overhead about mid-day with tepid water, closing the lights for an hour after; thus assisting the blooms to develop.

The foregoing remarks apply chiefly to the double varieties and weaker kinds, but the cultivation of the single and stronger sorts differs only in degree, such as more space being allowed between the plants and not treating them to quite so rich a larder. Neither is it necessary at all times to winter these latter under glass, unless it is especially desired to forward the blooms. In the cultivation of Violets the following points are very important: Select an open position, light and air being necessary to ripen and plump up the crowns; cultivate well and treat liberally, mulching freely early in June; feed liberally, but wisely, water periodically, and keep clear of runners and weeds; avoid watering with liquid-manure during the winter, apply no heat, and ventilate freely on all favourable occasions. R.

—October is the month, early or late, according to locality, to get under glass Violets that have been grown for the purpose. There can be no doubt unheated brick pits are the best to grow the plants in during winter, Violets disliking fire-heat in any form. Assuming these pits have been occupied with Melons or Cucumbers, the crop will have become exhausted quite early in the month, and all that will be necessary to do now is to get out the soil, and then refill with old hotbed-manure or stacked leaves to within 12 inches or 15 inches of the top of the frame-work, treading it well before putting in the soil, which should be fairly light loam with the addition of a little leaf-mould and wood-ashes or soot, mixing well together. Lift the plants carefully with the spade, retaining good balls of soil, cutting away all runners, and plant 4 inches to 6 inches apart, making the soil quite firm around the roots, and if the soil should be on the dry side, give the whole a thorough good watering with rose cans. It will not be necessary to put on the lights for a few weeks, when by that time the soil and plants will have sunk down enough. During open weather the lights should be drawn back entirely, as Violets enjoy plenty of fresh air; in fact, if you begin to coddle them they soon resent it, and unless it is very wet or the nights frosty, plenty of ventilation should be afforded them. Towards the end of November mulch the surface between the plants with Cocoa-nut-fibre refuse. This will keep the bed moist for a very long time, though, on the other hand, the plants must not suffer from the want of water at any time. Should the leaves suffer from the "spot" disease, dust with flowers of sulphur immediately. J. M. B.

NOTES AND REPLIES.

Brugmansias.—*Brugmansias* are beautiful when in flower, and when seen as centres to beds are attractive. It is time they should receive the shelter of the house or some place where frost cannot reach them, such, for instance, as a potting-shed or outhouse. Where room can be found for them in the greenhouse it often follows that they bloom fairly well on being introduced to heat.—TOWNHALL.

Epicacris.—Among the most valuable of our hard-wooded plants for conservatory and table-decoration are the *Epicacris*, and by varying the treatment one may have them in bloom from November to April. By this time plants which have been standing out-of-doors or in cold-frames will have been removed to the house, and ere long some of the earliest buds will show colour. Dryness is fatal to them at any time, particularly so just now.—DERRY.

Dentzia gracilis.—Will you kindly inform me what is the best treatment for *Dentzia*? I have some in large pots. They have been outside all summer. I want them in flower early. What had I better do with them now? What is the best position for them? Information will greatly oblige.—ROSLAY SWIN.

[We suppose that your *Dentzias* have been standing in the open air since they flowered last spring. After flowering they ought to have been gradually hardened off, and when all danger from frost was over stood in the open air. Any old and exhausted wood should also have been cut out, in order to allow the young shoots to develop, while, if necessary, the plants should have been potted. You must now plunge them in ashes in the open air, where they will be quite safe until you wish to introduce them to heat early in the coming year.]

Staphylea colchica for forcing.

This is one of the best of our hardy shrubs for forcing for early spring, and where white flowers are wanted arrangements should be made for potting a few plants, keeping them in a house or frame away from frost until within a few weeks of the time one needs them in bloom. It will stand forcing, but it must be gentle, therefore it is desirable to get plants into cool quarters as soon as possible. *Staphylea colchica* should never be allowed to become too dry, and occasional syringing of the plants with tepid water will keep them clean, as well as assist development of buds.—LEADHURST.

Potting Canterbury Bells.—Not requiring much heat to get them into bloom early, one would have thought that these slow plants of our borders would have received more attention as pot plants, but for trouble about them, and one often finds that early-flowering plants in houses are largely made up of expensive subjects. To those who do not object to the trouble of potting up a few now let me commend the Canterbury Bells. They should be placed in cold-frames, ventilated freely, and brought into gentle heat early in the new year. One may have a brilliant show under glass with these at a trifling cost.—WOODRUSTWICK.

Fuchsias.—Will you kindly inform me how I should treat my Fuchsias, which at present are covered with flowers? 1. Should I take cuttings from them now, or when? 2. How should I treat the cuttings? 3. Should I treat the old plants, (a) those in pots and (b) those in beds, observing that, if it can be done without any detriment to these Fuchsias, I wish to remove them to the bed. Christmas is near, and I wish to get the plants in the beds. Can you recommend me any good plants to bring the Fuchsias back in the spring. Also will you care to oblige me with a list of five or six very good Fuchsias for growing outdoors?—W. KISS.

[It is not advisable to take cuttings of these now, which also disposes of question No. 2. Cuttings are best taken in early spring from the young shoots. The old plants in the pots will do best if left alone till February or March, when they may be pruned and repotted. Those in the beds may be lifted now and potted at any time, securing a good ball of roots to each plant, potting moderately firm, and standing in half-shady place, giving a good watering also. With the arrival of frosts of any severity place under protection. The following are all good kinds: Singles—Jules Ferry, Inimitable, Jeanne d'Arc, Lord Roberts, Try Me On, General Garfield, Rose of Castille, and Gazelle very free. Doubles: Phenomenal, Ballet Girl, Gipsy Queen, Mrs. H. Cannell, Nelly Morton, Avalancho, and Frau Emma Topfer.]

Heating frames (7733).—You may not only carry your pipes under a pathway for 12 feet with success, but for 1,200 feet with equal success, provided the work is efficiently done and the requisite boiler power at hand. In carrying pipes underground it is necessary to observe that the pipes be not buried in soil or in ashes, but that they lie clear in a trench made for the purpose. In crossing the pathway the least possible rise will suffice, particularly as you have so much rise in the frame. At the same time, you must have a rise, say of not more than 1 inch in the 12 feet. In this case it will be essential that you have a valve in flow and return pipes, otherwise all your heat will go to the higher frame. The best position for the valves will be in the first pit, or just outside the pit wall where they could be worked without any inconvenience. By placing the valves in this position it will be possible to warm the frame quite easily. Naturally, in severe weather you will have to open the valves, and you may do so in proportion to the severity of the weather. In any case, the valves at no time need be more than half open. As your boiler is large enough, it matters little whether you have 3-inch or 4-inch pipes; the latter have, of course, the greater heating surface, and, if this does not exist, it simply means that the pipes must be heated to excess to make things equal—that is, to produce the requisite heat. Therefore, with small pipes and greatly reduced radiating surface, you are constantly expending more money in fuel, while with larger pipes and the larger radiating surface you have a slightly increased expenditure at the start, with the minimum cost for fuel afterwards. In brief, the larger pipes are not only the more economical where they can be used, but the more satisfactory in results also.]

ROSES.

SIX GOOD WHITE TEA ROSES.

White flowers are always welcome, and a white Rose is doubly so. The Camellia has no rival; the Tuberose, Gardenia, Eucharis, and others, although white and sweet-scented, are apt to be bruised so very much more than a Rose that, although they are indispensable flowers when making up any floral designs, they are not so generally preferred as a good white Rose. As the planting season will soon be with us, a list of half a dozen or so may be of service to intending planters.

NIPHETOS, though introduced in 1843, is still one of the finest white Roses we have, and would be in every collection, whether for indoor or outdoor culture. Of free growth and flower, and always opening well, Niphetos will always be a grand white Rose. The buds are long and pointed, and as the flower ages it changes to the purest white colour imaginable. There is also a climbing variety of this kind, and which is also extra good. In every respect except growth it is the exact counterpart of the type. The growth is very rapid, and it will cover a large space as quickly as any Rose, while the

HON. EDITH GIFFORD, sent out by Guillot in 1882, cannot be described as a pure white Rose. It is a flesh-white, getting purer as it ages; a wonderful Rose to stand when out or upon the plant, and of medium size. This is a very useful Rose for the open border or in pots. It is rather more subject to mildew than the majority of Roses, but when well established it will grow away very freely and bloom from every shoot.

DEVONIENSIS is the oldest of the lot. This Rose was sent out in 1840, and is still one of the best. It is, like E. Gifford, flesh-white in its younger stages, getting less so with age. It is very large and full, and possesses a perfume peculiarly its own. The old variety is short and stout in habit, but it has produced a very strong climbing sport, which is grown under the name of Climbing Devonensis. This is indeed a grand Rose when allowed to grow at will. Many complain of this variety growing too strongly and flowering in a scanty manner, but give it room, and only remove a little of the wood that has flowered to leave more space for the remainder, and there will be no need to complain of its shy blooming. A warm and somewhat dry wall and border are best for this Rose.

to from two to four eyes, according to their strength, cutting back the weakest oven to one eye or bud. The long growths, as we said before, should remain as they are, then after they have blossomed you can remove one or two entirely to make room for other similar growths. It is a mistake to severely cut back Tea Roses growing under glass unless they are very vigorous climbers and encroach too much on the space available. We have known such kinds as Mme. Lambert, Souvenir d'un Ami, Perle des Jardins, etc., almost cover a roof of a lean-to greenhouse, and, of course, abundance of blossom is obtained from such kinds when the more vigorous growers are almost flowerless owing to their restricted areas.

The **Maréchal Niel**, which lost its foliage in the summer and is now making new growth, must not be interfered with at present, but we should advise you to give the house as much air as possible by day, and even by night, provided frost is kept out. You will obtain some early flowers from these new growths if you can keep them growing steadily, but there must be no check. Should you be unable to give such treatment owing to the Vines being in the same house, the best plan will be to leave the plant untouched at present, but later, when you start the house, cut back the lateral growths and retain the long ones, as advised for other kinds.]

NOTES AND REPLIES.

Rose Pride of Waltham.—Permit us to draw attention to an error in GARDENING ILLUSTRATED, October 4th. The photograph on page 409 is obviously not "Beauty of Waltham" (bright cherry-red). We happen to know the photo as being one taken in our Rose gardens by Mr. Mason-Good, and the variety is "Pride of Waltham" (deeliest flesh colour).—**BENJ. R. CANT AND SON.**

Roses in October.—I do not know if these Roses are worth notice, but I have never had such before on the 1st of October. Of course, most of them are past their prime, but you can judge of what they have been.—**HENRY MILLER, Parkia, Chiswick, W.**

[A very beautiful gathering, mostly of H. P.'s. Roses this year have been very fine late in the season, as was evident at the last meeting of the R.H.S., at the Drill Hall. Those who grow the Teas may, if the season is favourable, always have a fine display in the autumn; in fact, we think the colours are in many cases richer, the flowers, owing to the cool weather, not being scorched in any way.—**ED.**]

Roses for four beds (W. H. Manning).

—We append names below, five varieties each of the four colours mentioned, and have kept in mind that you have a preference for Roses with long buds:—**White:** Gloire Lyonnaise, Margaret Dickson, White Maman Cochet, Hon. Edith Gifford, Souvenir de S. A. Prince. **Dark red:** Mme. Victor Verdier, Victor Hugo, Eugene Furet, Crown Prince, Prince Arthur. **Yellow and apricot:** Mme. Hoste, Mme. Falcot, Mme. Ravary, Gustavo Regis, Jean Pernet. **Pink:** Caroline Testout, Mme. Abel Chatenay, Mme. Jules Grolex, Maman Cochet, Mrs. John Laing. Provided the fruit-trees, whose stems you wish to clothe with Roses, are not too large, we can recommend for the purpose:—**White:** Purity; **dark red:** Mons. Desir; **yellow:** Bouquet d'Or; **pink:** Climbing Belle Siebrecht. You must take care in summer that the roots of the Roses planted near these trees do not suffer from want of moisture and nourishment. It would be well to make a saucer-like cavity around each Rose, so that liquid-manure, when given, may find its way to the roots. The colours of the Tufted Pansies you propose to plant beneath the Roses would make a very pleasing contrast.

Climbing Roses for S.E. wall.—I would feel obliged if you would recommend me six good hardy wall Roses for a south-east aspect, wall 16 feet high, rather light soil, but the border will be well prepared before the Roses are planted, using fibrous loam and well-rotted manure. Do you recommend the addition of some burned refuse? I should like red, pink, yellow, and white Roses. I have already got Marie Van Houtte, Climbing Devonensis, Lamarque, and Catherine Mermet. I have tried to grow La France and President, and both failed, also Maréchal Niel. My garden is exposed to the south-west wind.—**S. A.**

[If you prepare border as you describe, you should be able to grow La France. Procuro a



Rose Devonensis. From a photograph sent by Rev. Hugh S. Griffiths, Gainsborough.

flowers are borne in the greatest profusion throughout the whole length of the shoots.

SOUVENIR DE S. A. PRINCE is probably the next best white Rose. This was sent out by Mr. Prince, of Oxford, in 1880. For general usefulness it runs Niphetos closer than any other white Rose. It is of good growth, free blooming, and sweet-scented. Like Niphetos, it invariably opens well, and is also grand indoors or out. This is a sport from another very good and popular old Rose, Souvenir d'un Ami, and originated both in this country and in America. The American production is named The Queen, and in every way resembles the one introduced by Mr. Prince.

THE BRIDE is a sport from Catherine Mermet. The flower of The Bride is large and full, besides being very sweetly scented. When young this grand Rose is pale lemon in colour, but gradually gets white with age. To any one who knows Catherine Mermet, The Bride may be briefly described as a white type of it, with a trifle stronger constitution.

BORLE NEIGE was distributed by Lacharme in 1867. It is a grand grower and bloomer, pure white except for a touch of pink on the edges of young blooms. This, however, is lost with age, because as the flower opens, its petals reflex and this characteristic is hidden, leaving a perfectly-shaped and very hardy pure white blossom.

The Rev. H. Griffiths, Gainsborough, who sent the photograph from which our illustration was prepared, has kindly sent us the following notes: "For several years the plant bloomed very meagrely owing to hard pruning by a jobbing gardener. This year, however, I have merely shortened the shoots, and when the photograph was taken it had considerably over 200 blooms—a 'thing of beauty' indeed. At the time of writing (end of July) it is developing a beautiful second lot."

ROSES IN VINERY.

I HAVE just taken a house with large vinery. In the vinery are some Roses—Teas, I think—against back wall. They have thrown long shoots some 8 feet long, stout and strong. I do not understand the pruning of Roses under glass. Should these shoots be shortened now and nailed to the wall? A Maréchal Niel, trained to glass, got badly sun-scalded early in the summer—leaves shed—now making fresh shoots and foliage. What shall I do with it?—**TION.**

[It depends upon the variety as to how your Roses should be pruned, but in the absence of that knowledge we should advise you to leave the long shoots produced this summer unpruned, unless it be to take just a few inches off their extreme ends. Spread them out as much as possible to finish the ripening. If you are giving this house artificial heat early, then the plants must be looked over in November, and the lateral and small shoots pruned back

plant on its own roots or budded on the seedling Brier, and prune it but very little. Caroline Testout would be another excellent pink. Rather stronger growers of this colour are Pink Rover and Climbing Captain Christy; the former has a lovely bud, and its blossoms are very fragrant. A good crimson kind would be Ards Rover, and Grusa and Teplitz would also be a very suitable kind. Belle Lyonnaise would be a splendid pale yellow, and Billiard and Barré a good deep yellow. This latter has a richly-coloured bud, and will be in much request when better known. White varieties of good quality are Gloire Lyonnaise and Mme. Alfred Carrière—the latter rather rampant, perhaps, for a 10-foot wall, but it flowers freely even if its growths are somewhat restricted. If the other side of the wall is on your premises, such a Rose as this would have a beautiful appearance if its growths hung over on this side after they had reached the top of the S.E. side.]

Budding Roses.—I observe in your issue of September 6 an enquiry respecting budding Roses. It may be of interest to your readers to mention a way of removing the wood in preparing the bud for insertion which I have found effective in preserving the eye from injury, as well as a rapid and safe method of operation. Slightly raise the bark above the bud, and insert between it and the wood a loop of strong horsehair or silkworm "gut," then, holding the wood and bark together firmly, draw the loop downwards, when it will separate the bark as perfectly as could be done by a knife, and without any injury to the bud.—ARTHUR MAW.

ROOM AND WINDOW.

GREVILLEA ROBUSTA FOR ROOMS.

This is a hard-wooded greenhouse plant, very easily raised from seed; but to have it available in the shortest time the plants require to be raised in heat. If the seed is sown in February in a temperature of 70 degs., and the plants are grown on in the same house, they will be large enough for use in six months. When once they have attained to a suitable size they should be kept in a greenhouse temperature and have plenty of air, and a thin shade on the glass to keep the leaves of a good colour. If there is no heat available the plants may be raised in the greenhouse, but they will be longer in getting to a suitable size. In such cases the 1st of April will be soon enough to sow the seed, and it must be put in the warmest corner in the house. As only a few plants will be required, the seed may be sown in a 6-inch pot; this should be filled with sandy soil, which must be kept moist by gentle watering. As soon as the seedlings are large enough—say, 2 inches high—they should be put singly into pots 3 inches in diameter, and when they have filled these with roots a shift into 5-inch pots will be necessary. With careful management, the plants will be large enough for use in the autumn, and, if they get a larger pot in the spring, and occupy an airy position on the greenhouse stage, they will last two years for table work. If they are to retain their bottom leaves they must not be crowded at any time, nor must the roots suffer from want of water. Taking into consideration the time they remain of a suitable size, and the little trouble necessary to raise them

there is no better table-plant grown. The annexed illustration represents a *Grevillea* as grown in a small pot for Covent Garden Market.

UNSEASONABLE USE OF FLOWERS.

If one may judge by many florists' shops, the flower-loving public are to have Lily of the Valley, Spiræas, Azalea mollis, and many Lilies and other things the whole year round. Surely we have enough variety in plant life not to necessitate this. I doubt, beautiful as the Lily of the Valley is, if the majority of its admirers would not admit that it is most appreciated from Christmas till the end of June. The same holds good with most things. What advantage can there be in trying to get Violets in bloom all the year round? Regarding our food, there are but few things we do not tire of. Good as many fruits are, we enjoy them most when they first come in. This is clear to market growers, as much higher prices can be obtained for most things when they first come in. Many years ago I had a weakness for



Grevillea robusta in a small pot, as grown for Covent Garden Market.

growing *Chrysanthemums* over as long a period as possible, and the same with a few other things. I soon tired of this, as they became too monotonous. I fail to see the advantage of spending a lot of labour on growing early *Chrysanthemums* in pots, while there is abundance of beautiful hardy flowers that can be had from the open garden. Rather would I grow kinds to brighten up conservatories or for cutting from through the last six and first six weeks of the year. J. CROOK.

CHRYSANTHEMUMS.

Early-flowering Chrysanthemum Mme. Marie Masse.—One of the best of garden *Chrysanthemums* is to be found in Mme. Marie Masse, a lilac-mauve. It commenced to bloom with me at the beginning of September, and from it I have cut many useful blossoms. *Crimson Mme. M. Masse* is equally beautiful, and is a desirable colour amongst early-flowering sorts for a border, whilst yet a

third, said to be a seedling, is *Orange Masse*, extremely dwarf, and commencing to bloom early in August. Plants of these, pinched once in May, make short, sturdy pot-plants, and often fill a gap in the greenhouse in September.—TOWNSMAN.

Thread-petalled Chrysanthemum.

—These are extremely graceful, and therefore well adapted for cutting. Many of them bloom after the mid-season varieties have come and gone, and one can cut blooms of them in December and January. A good number of them are dwarf, and, on this account, also, are suitable for amateurs' houses. Good varieties are: *Golden Shower*, reddish-bronze, fine, delicate florets; *Mme. Poiret*, pure white, late blooming; *Sann Caswell*, pink, late; *What Not*, pale yellow, curling florets; *Mignonette*, pale yellow, tipped bronze; *Novalty*, rosy-white; and *Titsuyetin*, silvery pink.—WOODBRASTWICK.

Outdoor Chrysanthemums.

—This spring I invested in a dozen early-flowering *Chrysanthemums*, planting eight in a border and four in pots. They have not done much, probably because they were severely set up by an unexpected gale in September. However, I did not expect much the first year. One or two are in full bloom, more in bud. What I would like to know is (1) will those in the border stand the winter without shelter? Kinds are *Crimson Pride*, *Crimson Mme. Masse*, *Flora*, *Harvest Home*, *C. Denny*, *Ly Stark*, *O. J. Quintus*, and *White O. J. Quintus*. I could cover them with straw after they die down. This is a cold district, with long frost usually after the New Year. I had regard to those in pots, but standing out, shall I place them out so long as the weather is open, and shall I cut them down when doing so? Or would it be better to keep them in pots in a frame until the spring? I have not room for them in the greenhouse now I have got the late-flowering kinds in. (2) My *Crimson Masse* seems to have named? Trusting you will be able to afford space for brief replies.—M. FALCONER, Elder Bank, Dux, N.H.

[You must lift those in the open after cutting down and put them into a box, standing them in a frame and protecting from severe weather, or putting into a house from which frost is excluded. Keep them thus till the spring, when you ought to divide them and pot them, putting them out again in May. 2, Cut down those in pots and store in the same position until the spring, when they can be treated in the same way. 3, We cannot say without seeing the flowers.]

GARDEN PESTS AND FRIENDS.

Thrips.—The habit of forestalling enemies is a very desirable one for cultivators to follow, especially when dealing with those troublesome insects called thrips. One may neglect scale and bug for a few days with no other immediate result than an increase in their numbers; but to let thrips get the upper hand means destruction to the foliage and a lowering of the vitality of the plant. These little masters require to be looked after now, when fires are necessary in plant-houses. Tobacco fumigation is the best remedy, to be followed up in such cases on alternate evenings till three generations have been given.

Insects on Apple-trees.—My Apple-trees are infested this spring with caterpillars. Will you kindly tell me how to make a lime-wash to be applied to stems and branches? Should it be applied hot?—ESTERHILL.

[For cleansing the stems and branches of all kinds of fruit-trees there is nothing better than the caustic alkali solution, for making which the following is the formula. If you only wish to make a small quantity, dissolve ½ lb. of caustic soda in a gallon of water, then add ½ lb. of commercial potash (pearlash), stir well, then mix both, adding enough water to make 5 gallons of solution. Apply to the large stems with a brush, to the small branches in the form of spray with an engine or syringe when the trees are dormant. Be careful that it does not touch the hands or the clothes.]

Tomatoes, eelworm in (Wood).—Your Tomatoes and Cucumbers have been badly attacked with the root-knot eelworm, and it is useless attempting to restore the roots to a more healthy condition. At once clear out the affected plants and every particle of soil and manure in which or near to which they have been growing, and start afresh with clean young plants and good fibrous loam. If growers would only use far less soil, top-dressing when necessary and feeding and watering freely, which are only possible when small quantities of soil are used, we should hear far less of the destruction caused by the eelworm.

TREES AND SHRUBS.

SOLANUM JASMINOIDES.

SOLANUM JASMINOIDES is surpassed by none of its race in the beauty of its flowers and in the lengthened period through which it blooms, it having been known to have been in bloom for a period of ten months. It is, naturally, only during exceptional seasons, even in the favoured south-west, that such an extended period of blooming can be looked for, but five or six months' flowering may be confidently expected, unless in cases where the plants have been cut hard back by exceptionally severe and prolonged frosts, when the commencement of their blossoming is delayed by fresh growths having to be made from the hard wood before flower-production is possible. When planted in good soil the growth of this subject is very rapid, a small rooted layer forming a plant that

by either of the first four. For cutting, this *Solanum* is valuable, its long, flower-laden sprays being especially effective when drooping gracefully from a tall vase.

NOTES AND REPLIES.

Hardy evergreen shrubs.—Would you kindly furnish me with a list of what you consider the twelve choicest evergreens, variegated or otherwise, suitable for the border of a front garden, say, 10 yards square?—**J. F. C.**

[Holly, Aucuba, *Choisya ternata*, *Olearia Haasti*, *Osmanthus ilicifolius*, *Andromeda floribunda*, *Skimmia*, *Kalmia* and *Rhododendron* (these two must have peaty soil), *Box*, *Berberis*, and *Yew*. You could also try the *Tamarisk*, and, as an edging, some of the hardy *Heaths*.]

Shrubs doing badly.—I planted about two acres in front of my house three years ago with all sorts of flowering shrubs. The ground was double dug before the plants were put in, but the grass has grown very thick

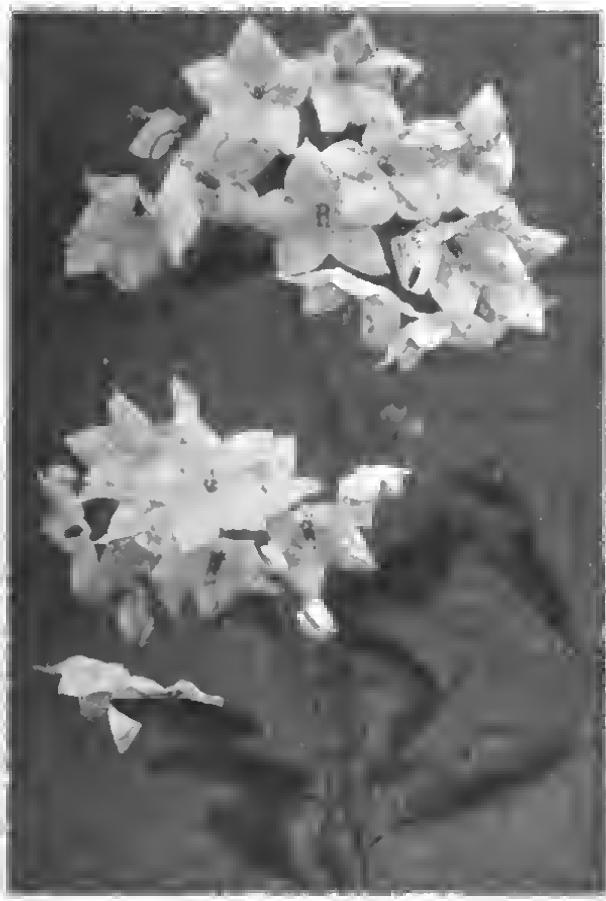
Rose climbing up it, as described on page 366, and handsome flowering shrubs scattered about, four good *Tree Paeonies* amongst them.—**R. S. STANBEN.**

[In order that you may partially make your own selection, we here append names of 20 good flowering shrubs, with their approximate heights, season of flowering, and colour of the blossoms. With your four *Tree-Paeonies* this will give you a choice of two dozen. *Berberis Darwinii*, 6 feet, May, orange-yellow; *Berberis stenophylla*, 11 feet, May, golden-yellow; *Cytisus Andreanus*, 6 feet, April and May, yellow and reddish-brown; *Doutzia crenata flore-pleno*, 6 feet, June, pinkish; *Forsythia suspensa*, 11 feet to 7 feet, March and April, yellow; *Hamamelis arborea*, 8 feet, January and February, yellowish; *Hydrangea paniculata grandiflora*, 4 feet to 5 feet, August, creamy-white; *Magnolia stellata*, 3 feet, April, white; *Philadelphus Lemoinei*, 4 feet, June, white; *Rhus cotinus*, 5 feet, July, purplish-brown; *Rubus deliciosus*, 4 feet, May, white; *Spiraea arguta*, 4 feet, April, white; *S. japonica*, 5 feet, June and July, carmine; *S. j. alba*, 2 feet, June to August, white; *S. j. Anthony Waterer*, 2 feet, June to August, crimson; *S. prunifolia flore-pleno*, 5 feet to 6 feet, April and May, white; *Viburnum plicatum*, 5 feet, May, white; *Weigela Abel Carriere*, 6 feet, May, rose; *W. caudata*, 6 feet, May, white; *W. Eva Rathke*, 5 feet, May to July, red.]

Bark of trees splitting.—When I wrote to you to inquire what might be the cause of the bark of my trees splitting, I did not give my own opinion; but as I differ from your correspondent "G.S.S.," who thinks it was frost, will you allow me to state the conclusion I have arrived at. I think the cracking is the result of a hot sun's rays and deficiency of moisture in the ground, because all the cracks are on the south side, both in my garden and in many nurseries where I have also seen them; and the last two summers have been extremely hot and dry. Further, the cracks and peeling off of bark become much worse when the trees are planted nearer to full grown ones, the roots of which may—as in *Elms* or *Poplars*—extend to them and suck up the rain. That frost is not the cause I believe, because I saw lately a long avenue of trees planted about two or three years ago at Cordova in Southern Spain, every one of which was injured thus, but only on the southern side. In Cordova there is a completely southern climate, and rarely frost; moreover, at my own residence on the south coast the climate is mild in winter.—**A. S. BURNELL.**

Raising hardy Heaths.—When staying at Plymouth this season I was very much struck with the Heather, of which I enclose a few sprigs. At the same time I took some seed. Will it grow inland? When, and what position had it better be sown in?—**H. CRICK.**

[The specimen sent is *Erica Tetralix* (Bell Heather), which occurs in a state of nature more or less plentifully throughout the greater portion of the British Isles. It will thrive perfectly inland as well as in proximity to the sea. From the minute character of the seed particular care is necessary in sowing it. In sowing it artificially, the quickest way is to take some shallow boxes or pans, and place some broken crocks or some other drainage material in the bottom, then fill to within half an inch of the rim with sandy peat passed through a sieve with half an inch mesh. This must be pressed down firmly, made quite level, and given a thorough watering through a fine rose. While still wet sprinkle the seed thinly thereon, and over it just a very little fine soil of the same quality as that with which the boxes or pans are filled. After this place in an ordinary garden frame, and keep watered always through a fine rose, when it will soon grow. When the young plants are about an inch high transplant them into pans or boxes as those in which the seeds have been sown, and when they become crowded plant them out. If no facilities exist for sowing the seed in this way it may be sown in the open air, choosing for the purpose a spot fairly sheltered both from cutting winds and direct sunshine. Should you have a common in your neighbourhood on which the Heather grows, a barrow-load of that soil mixed with the ordinary soil of the border will suffice. Take care that the seed after sowing is not allowed to get too dry, and that a fine rose is used in watering it, as it may otherwise, from its minute character, be



A flowering spray of *Solanum jasminoides*.

will reach to the eaves of a two-storied house in three years. For pergolas and archways this climber is equally valuable, its white flower-wreaths festooning them with graceful trails for many a week. In the northern districts of England it is, perhaps, of too tender a constitution to withstand the rigours of the climate in the open air, though it has been known to flourish in Dorsetshire. Where it is deemed unwise to trust it in the open, a situation in a glazed verandah or some such light and airy structure may be utilised for its reception. *Solanum jasminoides* lacks one merit, that of perfume, possessed by the *Wistaria*, *Jasmine*, *Honeysuckle*, *Clematis Flammula*, *Stauntonia latifolia*, and other flowering climbers, but its extended period of blossoming renders it infinitely more decorative in the garden than are the possessors of the more fugitive blooms already named, though, during their comparatively short flower season, few will be found to cavil at the picture presented

round them, and they are not making as much growth as they should, whilst the smaller plants, such as *Fuchsia*, are rather smothered. Can you advise me how to keep down the Grass? I cannot very well have the ground dug again, for fear of injuring the roots of the trees; besides, it is expensive work. Would it be any use to cart a lot of peat into the plantation? It might possibly weaken the Grass. I shall be much obliged for your advice.—**A.**

[You can clear the turf away round each tree, say a circle of 3 feet in diameter, and on this place a good mulching of manure, which will benefit the trees and encourage growth. You ought to do this soon, so that the winter snow and wet may wash the goodness out of the manure down to the roots of the trees. Keep the space clear always, and you will soon see a change in the shrubs. If the summer is dry water well and apply another dressing of manure.]

Flowering shrubs.—Will you kindly suggest about a dozen good flowering shrubs for a small piece of lawn, 20 yards by 10 yards? About three-fourths of it gets the sun (when there is any) all day; the other fourth, only the early morning and evening sun. I thought of having a lit pole for the centre, with *Honeysuckle* or a

washed away. In permanently planting this Heath it must be borne in mind that it grows naturally on breezy uplands, hence it should have as airy and sunny a spot as possible.]

GARDEN WORK.

Conservatory.—A little ventilation at night should be given as long as the Chrysanthemum remains one of the principal features, but cold draughts should be always avoided. Most gardeners nowadays grow more Chrysanthemums than can be accommodated without overcrowding, though this may be a good fault, as it permits of a selection being made; but it is not well to crowd plants in too closely, so as to destroy their foliage. Where there are numbers of glasshouses the plants can be arranged in separate sections until they are ready for the conservatory. It is quite certain that the late-flowering Chrysanthemums, if they are required to bloom at Christmas or later, must be kept cool. The latest kinds are still outside, but within reach of shelter in case of sudden frosts or strong gales of wind, which often do damage even when the plants are well supported. If the buds of Camellias have not been thinned attention should be given to them now where crowded. Weak soot-water is peculiarly suitable for Camellias and large specimen Azaleas which may require help. The water-pot should be in the hands of a very careful person now. Numbers of men and boys commence a gardening career and never find a permanent place or make their mark in it, because they are entirely devoid of the faculty of taking pains, and plant life is too important to be trifled with and neglected by careless people. The climbers now will have been reduced to the normal winter condition. There will, of course, be flowers on many things, and there will be others coming and going. Bougainvillea glabra will flower in the conservatory till late in autumn. Heliotropes, Ivy and other Geraniums, and Tea Roses planted out are also full of blossoms. Hahorthamnus in variety, Abutilons that were pruned back in July, will now be full of blossoms, and buds coming on in succession. These and other things of somewhat similar character may be regarded as the framework of the house, inside which will be grouped as tastefully as possible the pot stuff brought from other houses. The outside flowers will soon be over or in a non-presentable condition, and it becomes incumbent on the gardener to make the most he can of his glass structures.

The unheated conservatory.—As a rule, the owner of the cold glass-house, if he be a person of resource, and gifted with a philosophical temperament, will not be envious of those who grow more tender plants, and sit up at night to attend to the fires. There are very pretty plants which only require protection from the wind and rain in winter. To mention only a few things, Chrysanthomums, regarded merely as ornamental objects, and not too highly fed, will do very well with a glass roof over them. It is the highly-fed blooms which decay quickly if there is any dampness in the atmosphere. Very pretty also are several of the Japanese Grasses and shrubs in the cold-house. Well grown bushes of the Laurustinns and winter-flowering Jasmines require only shelter from the weather. The Christmas Roses are a charming feature in the cold-house. I have seen them in tubs very large and full of blossoms at Christmas. Bulbs potted early will flower early without forcing, especially such hardy things as Snowdrops, Crocuses, Narcissi of various kinds. Some of the pretty early-flowering alpine plants will be charming in a cool-house. Good potsfull of the new double-flowering Arabis will have some value for cutting, as the spikes are larger and longer than in the type. A very great deal can be done in a cool conservatory, especially if it is joined on to the dwelling and is not too small. The boiler and pipes almost double the ordinary cost of the structure and boilers wear out, and the cost of fuel and attendance are considerable.

Roses for forcing.—Strong plants, potted up now or towards the end of the month, should be placed on a coal-ash bed until tree-leaves in sufficient quantity can be

obtained to fill a pit, the Roses then to be pruned and plunged in the leaves to encourage new roots to form. Plants treated in this way will provide an abundant crop of flowers in March without much forcing. To obtain early flowers, the plants must be established in pots now, and be pruned ready for starting. There is no better medium for the encouragement of the production of both roots and growth, which means flowers in plenty later, than a bed of leaves in sufficient bulk to produce gentle heat, into which the pots can be plunged. The genial vapour arising from the bed of leaves gives force to the growth and size and brilliancy to the blossoms, and there is, under such circumstances, less trouble with insects.

Winter management of fruit-borders.—A very dry border in winter is injurious and unnatural, especially in the case of Peaches and other stone fruits, which make new roots in winter. Vines do not make progress in root formation after the leaves fall, and, therefore, they do not suffer so much from a dry condition of the soil as where life is more active. Though even Vine-roots in a perfectly dry state cannot carry on their work so well as when reasonably supplied with moisture, still many of the rich outside Vine-borders would be better if covered in winter and more freely supplied with water during the growing season in summer. The falling of the buds in Peaches and Nectarines might in most cases be traced to extreme dryness of the borders in modern Peach-houses during autumn and winter, especially in autumn whilst the buds are maturing. At this time, too, a little weak stimulant may be given with advantage.

Late vinery.—A little warmth in the pipes will be necessary to finish ripening of the late kinds and to thoroughly mature the wood. No leaves should be permitted to touch the glass to conduct the moisture down among the bunches. If the Grapes have to hang any time on the Vines, the borders should be mulched with clean straw to keep down dust and arrest evaporation. Use the scissors the moment a bad berry is seen.

Window gardening.—Cyclamens will do well in a light window. The earliest seedlings are now in 5-inch pots and coming into bloom, and, with careful management, will flower all the winter. Winter-flowering Heaths are not difficult to manage when the necessity for careful watering is understood. A pot or two of early-sown Mignonette just coming into bloom may be added. The window-boxes outside are getting shabby, and arrangements should be made for refilling them. The cheapest things are yellow Wallflowers and Forget-me-nots. Seedling Pansies are just coming into bloom, and may be mixed with Tulips.

Outdoor garden.—Sow a few Sweet Peas on a well drained site for early flowering, covering about 2 inches deep. In cold, clay districts sow in pots in cold-frame. After the available frames are filled up with Violets, which have been specially grown for the purpose, the remainder of the plants may be planted on a warm south border or in front of a thick hedge. A border on the south side of a Yew hedge will be a capital place. Get the positions for the early-flowering bulbs prepared as soon as possible. Crocuses, Snowdrops, early-flowering Narcissi, and early Tulips should be planted soon to flower well. The bulbs in the ground now are busy making roots. Plant spare bulbs of Snowdrops and Crocuses in retired spots on the lawn. They are lovely under trees, as they flower before the trees are in leaf in spring. Baro places under trees may be planted with the small-leaved Ivy, and the bulbs planted with a dibble among the Ivy. The Winter Aconite is lovely in a broad mass on a shelving bank. The Holly-leaved Berberis, a good plant for massing under trees, should be pruned annually after flowering, and then it forms a beautiful groundwork all winter, and the flowers in spring are among the brightest things in the garden. A decision will soon have to be come to respecting the Carnations. If the layers are well rooted and the beds ready, plant now, reserving duplicates to make good losses, if any. If the layers are not sufficiently rooted, they may either be left as they are on the plants, or potted up and placed in frames.

Fruit garden.—The best way of keeping Strawberry plants intended for forcing is to plunge the pots up to the rims in ashes. They will there ripen and rest until January or when forcing begins. They ought to be covered with old lights when severe or very wet weather comes. At present they are better exposed. In gathering Apples and Pears, the latter especially may have the season prolonged by gathering the ripest fruits first. Take the fruits from the south side of the trees first. Of course this can only be done in the case of pyramids or other trees in the open garden; but even with trees on walls the season may be prolonged by gathering the fruits first which have the ripest appearance. The practised eye can easily make a selection, and the season of any Pear may easily be extended by placing a few fruits in heat for a few days. Something more might be done with Blackberries. Give them a deep, well-worked soil, and put up a rough fence with Larch poles and wires, and let them ramble over it, cutting away the old canes or some of them after fruiting. I was in a garden lately where the Wineberry was fruiting very freely, and it was highly spoken of, more especially as a cooking fruit. Sites for young fruit-trees should be prepared soon. For early bearing, Apple-trees are best on a dwarfing stock. The English Paradise appears to suit pretty well all kinds of Apples. The Quince for Pears will suit some, but not all soils. The Quince loves moisture.

Vegetable garden.—This is the real time for taking up and storing roots of all kinds, except Parsnips and Salsify, which keep best in the ground. Jerusalem Artichokes are usually left in the ground, and the surface covered with litter to keep out frost, so that they can be lifted as required. Late Celery should be carefully earthed up in dry weather, when the soil, placed near the plants, can be well broken up with the fork. The sides of the ridges should be made true and smoothed down with the spade to throw off the rain. There will be a tendency in the green crops, Broccoli especially, to make luxuriant growth, and the plants of the late kinds will stand a better chance of passing the winter safely if they are laid down with their heads to the north. Cauliflowers are abundant and good, and, as frost may come at any time now, the hearts of those plants which are turning in should be protected by their own foliage. Later on the covering of foliage will not suffice, and the plants must be lifted with balls and planted elsewhere, where protection can be given. Thoro will in most cases be a considerable demand for salad plants, of which the most important are Lettuces and Endivo, which should be tied up to blanch. A supply also should be coming on in frames.

E. HOBDAV.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

October 15th.—Moved several evergreen trees and shrubs to fill central positions in new shrubbery. They had been cut round last year, and the trench filled with good soil, into which the fibres have entered. This is the best way to make sure work with large specimens. Sowed a lot of Fern spores, chiefly Pteris in pots of rather heavy loam made firm. The pots are placed in shallow pans in frame and kept close, with a temperature of 50 degs. to 55 degs. The last of the late Chrysanthemums have been placed indoors to be out of the wind, but lights will be left open all night.

October 16th.—Planted out more Cabbages and Brown Cos Lettuces. Earthed up late Celery. Apples and Pears are being gathered from time to time as they ripen. Azaleas, just arrived from Belgium, have been potted and placed in cold-pit for the present. The August-sown Cauliflowers have been pricked off into temporary pits where some lights can be placed over them. Another range of the same class of structures has been filled with Strawberries intended for forcing.

October 17th.—We have just finished planting late Tulips. Surplus bulbs have been planted in various parts of the grounds, and some of the double Daffodils have been put in along the hedge side in the orchard. We have root-pruned several Pear-trees that have made rather too

much wood. Several old trees have been condemned and will be grubbed up and the soil changed in readiness for young trees.

October 15th. — Rearranged conservatory, adding a considerable number of early-flowering Chrysanthemums in groups about the house. Fuchsias and Ivy-leaved Geraniums planted out are still very effective. Roses intended for forcing have been pruned, top-dressed, and placed under cover. More bulbs have been potted and fixed for forcing when required, but for the present they are outside making roots, covered with litter. Box edgings on one walk had become a little gappy. This has been taken up and relaid.

October 20th. — Gathered the last of the open-air Tomatoes and placed under glass to ripen. A few of the earliest potted Arum Lilies have been placed in gentle warmth to hasten the flowering, as we want blooms at Christmas. Potted Liliun Harrisii and plunged in Cocoa-fibre. We grow a few retarded bulbs of Liliun longiflorum, as we always like to have blooms of this or some other white Lily, and L. luncifolium is now just over. Potted up Spiraeas of various kinds for forcing.

October 23th. — Sowed Sweet Peas for early blooming very thinly, and covered the surface over the rows of seeds with sifted ashes to keep off mice and slugs. Roses are rather too full of growth to move just yet, but the beds are ready. Duplicates of Carnations planted out have been potted, and will be kept in cold-frames, the pots plunged in ashes before frost comes. Took up main crop of Carrots and Beet and stored in sand. Finished putting in cuttings of Roses.

LAW AND CUSTOM.

Flower show — responsibility of committee for prizes offered. — A flower show was recently held here, and in their prospectus the committee inserted the following condition: "The Society will only be responsible for the prizes so far as their funds will allow." This condition was printed in distinctive type. The committee have not now funds to pay in full the whole of the prize money offered and awarded. In the prospectus two special prizes were offered for competition, and these prizes were given by two gentlemen whose names were set out as the donors in the prospectus. Do these prizes fall within the operation of the above condition or rule, or must these be paid in full? — S.W.C.K.

[These special prizes were given for specific purposes and must be devoted to those purposes. Consequently, if the donors have paid the sums in question over to the committee, the committee must pay those prizes over in full to the competitors to whom they were awarded by the judges. — K. C. T.]

Forfeiture clause in tenancy agreement. — I took a piece of ground for nursery purposes for the term of five years at a rent to be paid quarterly, but when the first quarter's rent fell due I was unable to pay it. There is a clause in the agreement that if rent is in arrears for three days the agreement is cancelled. After my tenancy had lasted six months my landlord told me that if I continued in possession he should treat me as a trespasser. He has now sued me for six months' rent. Can he recover it? I have some shrubs and a greenhouse (not erected) on the ground. Can I counter-claim against him? — T. M. W.

[Yes, your landlord can recover the rent. It is not clear whether he has given you formal notice of a forfeiture, but I suppose he has done so. It is clear that you have forfeited your term, and he may re-let the place when he chooses. You have no ground for any counter-claim against your landlord. You should have taken your unerected greenhouse away. — K. C. T.]

Trespass by builder. — I am the owner of a small plot of garden ground (freehold), which adjoins a field on which a house is being built. My garden and the field are divided by an oak post-and-rail fence. During my absence the builder, without my permission, removed three lengths of the fence (my property), the more easily to build the back wall of a stable. The fence was very roughly removed and greatly damaged—in fact, is now practically useless—and the two ends of the fence left standing are without supporting posts. On my remonstrating with the builder, he seemed to think he was perfectly within his rights (he said he could not get a perfect building line while the fence was in the way), and, altogether, acted in a very high-handed manner; but he offered to apologise for trespass, at the same time absolutely declining to accede to my demand to pay the value of the lengths removed, which are now of no value to me. Have I any legal remedy? — WORKINGMAN.

[This builder had no right whatever to interfere with your fence. He has committed a trespass for which he is clearly responsible in damages. As he refuses to make good the fence, you should at once sue him in the County Court and claim from him at least double the sum it will cost you to make it

good. Such a man as he is should be taught a sharp lesson, and you can teach him one without difficulty. It is no concern of yours that he could not get a perfect building line without removing the fence—it did not matter if he could not get a line at all. — K. C. T.]

The rating of greenhouses. — Two and a half years ago I took some greenhouses on a yearly tenancy at the annual rental of £2 10s., and the greenhouses are rated to the general district rate at the same rate in the pound (2s. 10d.) as are houses. Is this correct? Poor-rates are made in each half year, but no poor-rate for either of the four half years of 1900 and 1901 was demanded of me until Feb. 25th last, when the assistant-overseer demanded all four half-years' rates at once. In each case the rate in the pound charged was the same (2s.) as is charged upon houses. Is this correct? I have refused payment. If incorrect, what should I do? — GARDENER.

[I presume these greenhouses are occupied by you for trade purposes, and if so they are none the less market gardens because the ground is wholly covered by them. I think, therefore, that the decision in Purser v. The Worthing Local Board governs the matter, and that the rating of the greenhouse to the district rate (I presume it is an urban district) is bad. You may, therefore, refuse payment, and if proceedings are taken against you to recover the rate, you should appear and show cause against the application. As regards the poor-rate, the decision in Smith v. Richmond governs the matter, and the greenhouses are properly rated to the poor-rate at the same amount in the pound as houses. There is no limitation of time as to the collection of poor-rates, and so these four half-year's rates must be paid. Perhaps if you refused and were summoned, the magistrates would refuse to issue their warrant of distress, but probably the warrant would issue. If I were in your place, I should appear at the next audit of poor-rates and state the circumstances to the auditor, as it is clear the assistant-overseer has grossly neglected his duty. I presume no demand notes were ever sent you, for if these were sent, they constituted a proper demand of the rates to which they referred. — K. C. T.]

POULTRY.

Death of young Turkeys (Evan Martin). — It is absolutely necessary that these birds should be kept on a light, dry soil, otherwise the mortality of the chicks is very great, and a Grass field into which a lot of sewage flows is about as bad a position for Turkey keeping as one could possibly choose. This would quite account for the death of so many of the young birds, and they will in all probability all die off if a more suitable run cannot be provided for them. Turkeys are of rembling habits, delighting to wander in search of insects, green herbage, Beech-mast, berries, and so forth, and will thrive upon these things, provided the land over which they wander is warm and dry. So susceptible of wet are the chicks (a sudden shower will sometimes prove fatal) that it is necessary to keep them cooped with the mother for quite two months, the coop being removed daily in dry weather, and placed on boards in a warm outhouse at night during wet weather. Even when well grown, the young birds should not be allowed to roam the fields while there is heavy dew or white frost upon the Grass. Nettles, Turnip-tops, Cabbage, Onions, Dock, and other green stuff, boiled down and mixed with Barley-meal or Oatmeal, form excellent food for the young birds, together with Barley, Buckwheat, Oats, Beans, and Sunflower-seeds, the last in small quantities. — S. S. G.

United Horticultural Benefit and Provident Society — postponement of Annual Dinner. — The Annual Dinner of this society, previously announced to be held on Tuesday, October 5th, has been unavoidably postponed. It will now be held on Thursday, October 16th, 1902, at 6.30 p.m., at the Holborn Restaurant (Threms Room), High Holborn, W.C. Arthur W. Sutton, Esq., F.L.S., V.M.H., will preside.

Photographs of Gardens, Plants, or Trees. — We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

This Prize Winners this week are: 1, Mr. W. Jasper, Menston-in-Wharfedale, Yorks, for Liliun festucaceum; 2, Mr. Geo. E. Low, for Polygatum at Mount Usher.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in GARDENING free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of GARDENING, 17, FURNIVAL-STREET, LONDON, E.C. Letters on business should be sent to the Publishers. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Roses and Dahlias (E. D.). — The dressing you propose giving your roses will answer well. 2. After the frost has killed the tops of the Dahlias cut them down and store away, pots and all, in a frost-proof cellar. Start into growth next spring, and grow on in the usual way until planting-out time comes round in the month of May.

Roses for fence (A. B.). — You would find the Rambler roses, such as Felicite-Perpetue, Bennett's Seedling, Aglala, and Crimson Rambler very suitable for such a fence. They would in time grow higher than the height you give, but perhaps you would not mind this. You might also try such as Gloire de Dijon, Mme. Serard, Bêve d'Or, Climbing Devoniana, or W. A. Richardson. Lay a good foundation in the way of good soil, etc., for all kinds of roses, including Chinas and Briers, and you will gain in the end.

Planting Pinks (M. H. Statelmu). — If you have well-rooted plants you should plant at once, 9 inches apart, in rich and well-trenched ground. If the winter is very severe, a little litter should be scattered among them, and in spring the surface of the bed silted and given a dressing of old manure and some guano. If you have to defer planting till spring, commence as soon as the weather permits, and when the plants begin to grow, treat as above with regard to mulching, etc. Dig the Cerastium in in the spring wherever you want to put it.

Galvay Clover (Medicago Fehina) (A. W. Cuppage). — This is a native of the South of France, and was introduced to this country in 1814. Sow the seed early in April in sandy soil in a pot. It will germinate in a sunny window. Pot off the seedlings singly, and you may either grow on in pots, shifting on when needed, or plant out in the open air. The only novelty about the plant is the seed-vessel, because if you begin to open the round half at the point where it was detached from the plant, you will find it unroll in the form of a narrow ribbon-like strip, leaving the seed loose in the hand. During growth it should have abundances of water, otherwise root-rot will probably attack it and spoil the foliage. It will die in the open air, but in pots the pods are more quickly formed, and thus the novelty aimed at in growing this Clover is more safely attained.

Lychnia, Michauxia, and Eremuri (A. Phil. Iydia). — Your specimen is insufficient for naming. Lychnia Haagiana is a true perennial, but is best treated as described by our correspondent, "E. J." In a recent issue. In these circumstances it is among the finest of summer-flowering plants, delighting always in a warm and very sandy soil. The Michauxia is best regarded as of biennial character—i.e., sow the seed from March to May, grow on quickly in 5-inch pots, and plant out in June or July. The plants bloom the following year, and usually perish after the flowering. The Eremuri may be grown in the herbaceous border, but we regard them as quite fitted for this, and better results ensue when beds are devoted to them or the plants isolated in some way or other. They are quite easily grown. October is a good planting time, and we may give a short note dealing with them in time for this.

Potting Aspidistras (C. F. G.). — As a rule these plants do not require repotting every year; in fact, some of the finest examples are those most pot-bound. As to how long a plant may remain without potting, however, has much to do with its condition, and equally how it was treated at the last potting. Given a good, free drainage and a soil not overcharged with fat manure, with firm potting, the plants would be quite safe for two years. The green variety certainly prefers a good soil, while the variegated kind is best in a somewhat poorer soil. In these respects they are by no means fastidious, and the free addition of charcoal will assist in keeping the soil sweet and good. There is no need to place these plants in a window; they are quite content often enough in a dark corner, a fact that renders them doubly valuable as room plants. The variegated form is a sport from the green variety, and not obtained by poor soil, will, however, help to retain the variegation.

Border plants for July and August (Peggy). — The following are all suitable: Rudbeckia Newmanii, 2 feet; R. purpurea (Winchmore Hill var.), 3 feet; any of the perennial Sunflowers, as Helianthus multiflorus pl., H. M. Soleil d'Or, H. M. maximus, H. rigidus in variety; 3 feet; 10 feet high; Verooka longifolia umbellata, 3 feet; blue; Kniphofia in variety; 3 feet high; Monarda didyma, 2 feet; Statice latifolia, 1 1/2 feet; Montrosia, 2 feet, very fine; Scabiosa caucasica and alba, 2 1/2 feet; Helianthus pumilus, 1 1/2 feet; H. autumnale, 3 feet; H. nudiflorus, 4 feet; 1 1/2 feet; H. multiflorus, 2 feet high, giving golden, mahogany, crimson, and chestnut coloured flowers; Phytolacca spicata, 2 feet; Phloxes in great

variety, scarlet, salmon, white, and endless intermediate shades; *Pentstemon Torreyi*, 3 feet; *Phyllis Franchetti*, 2 1/2 feet; *Stenactis speciosa*, 2 1/2 feet; *Liatris*, several kinds, 3 feet; *Zauschneria californica*, 1 foot; *Eryngium* and *Echinops*, any 3 feet to 4 feet; *Cimicifuga oerdfolia*, 4 feet; *C. racemosa*, 4 feet; *C. dahurica*, 3 1/2 feet; with *Anemone japonica*, in red, white, and pink, 3 feet high and more when established. These are a few of the many at the time mentioned.

Sauromatium guttatum (*Inselm* and *P. R. Stevens*).—This needs soil to grow in, the same as most of the Arums, to which it is nearly allied. The temperature of a sitting-room would be sufficient for it, but the unpleasant odour of the blossoms would soon cause its banishment therefrom. This *Sauromatium* is a native of the Himalayas, and succeeds perfectly at Kew planted out in a narrow south border in front of the Orchid-houses. The warmth from the houses prevents it from being frozen in the winter. The firm, solid bulb pushes up a solitary leaf, while the flower-stem (borne generally in the spring) has a peculiarly weird appearance. They are long and tapering, and in colour green, richly barred with chocolate-crimson, and in the end of a dull green hue. As a rule it attracts from its lizard-like appearance, but the odour of the blossoms is not suitable for confined places.

Boxes for exhibiting flowers (E. G.).—The National Dahlia Society's regulation with respect to show boxes or boards for twelve large flowers is that they be 21 inches by 15 inches, be 3 inches high in front and 9 inches in height behind. Generally the flowers are shown on flat boards, which have holes in them, at equal distances apart, and into these are let metal tubes to hold water for the flowers. The boards are supported on legs front and back, which will fold close to the board. Then in a box 28 inches deep three or four of these boards with the flowers in them can be carried to a show. In the box should be narrow ledges on which the boards slide to keep them secure in travelling. Asters may be shown on similar boards if found convenient, but if less long by 4 inches and deep by 2 inches they are ample. Roses are best shown in boxes 4 inches deep and 21 inches by 16 inches in area. These should have a top, but tubes should be shown at proper distances apart, then well packed with green moss. So shown the flowers keep fresh a long time. There is no such book as you ask for.

Dividing Kniphofia (H. H.).—The best time in the whole year for dividing *Kniphofia*, large or small, is in March or April, just as growth begins. At this time dig up the plants as carefully as possible, then lay it on its side, and by plunging a single prong of the garden fork into the solid portion of the clump, gently wrench it asunder in a direction opposite to which you place your left-hand resistance. Repeat the operation on the divided pieces, inserting the fork in the centre of the woody portion each time. If these are not small enough, repeat the division yet again, and the portions will be ready for replanting. With these things it is better for the ensuing flowering if the divisions are made rather small or medium-sized, and in place of planting back a solitary plant make a group of some three or five. In this way you ultimately establish an important clump, larger and decidedly more imposing than a single clump, because of its increased area. In the end, too, such a clump will last longer without disturbance, because of the greater spread and liberty of the crowns. You ought to plant your Tiger Lilies as soon as you can get the bulbs. See article and illustrations in the present issue.

Begonia semperflorens (P. B. S.).—To keep your *Begonia* through the winter they should be lifted as soon as possible, potted in some good soil, such as equal parts of loam and leaf-mould, with a little sand. The pots should be just large enough to take the roots comfortably and no more, for a large mass of soil is not needed. When potted, place in a good light position in the greenhouse, and give water enough to keep the soil fairly moist, but avoid too much moisture. As the roots become active they may be kept somewhat drier, and throughout the winter only water enough to keep the soil slightly moist should be given. A minimum temperature of 45 degs., rising 10 degs. or 15 degs. during the day, is very suitable for the *Begonia*. With regard to its propagation, the plants that are kept over the winter will, on the return of warmer weather, push forth new shoots, which, when from 3 to 4 inches long, can be taken as cuttings. If obliged into pots of sandy soil and kept in a close propagating-case, they root as readily as a *Verbena*. If you had taken cuttings of your plants about a month or six weeks ago, they would be well rooted by now, and would stand the winter better than old plants. Another way of increasing this *Begonia* is by seed. By sowing a pinch of seed in gentle heat about the end of February, a good stock can be raised before bedding-out time.

TIGERS AND SHRUBS.

Propagating Lavender (*Cosmopolitan*).—It is not at all difficult to propagate *Lavender* if a few pieces or branches be pulled off from old plants and set in the ground to one third their depth. You can do this in the autumn or early winter.

Hydrangea paniculata grandiflora (C. P. W.).—There are few finer autumn-blooming plants than this. It must have a good soil, and be well manured with manure in the winter. Cut it down hard next spring to within three or four eyes of the base, leaving only the strongest growth. Water well during the summer.

Shrubs for border (*John H. Galsford*).—The following shrubs should suit your purpose.—Evergreens: *Berberis Aquifolium*, whose deep green divided leaves and golden blossoms are very pretty in early spring; *Berberis Darwini*, orange-yellow, flowers in May; *Cerasus Lauro-cerasus rotundifolia*, the neatest form of the common Laurel, which, though evergreen in many gardens, is, for all that, a valuable evergreen; *Euonymus japonicus*, a well-known shrub that will succeed under various conditions. *Ligustrum ovalifolium* (oval-leaved Privet) and its golden-leaved form (*elegantissimum*) will hold their own almost anywhere; *Osmanthus ilicifolia*, a Holly-like shrub; and the Holly itself. *Deciduous*: *Berberis vulgaris* (common *Berberis*); *Deutzia crenata* (large-pleated pretty pinkish flowers in June); *Philadelphus coronarius* (Mock Orange) and the smaller variety (*plumifolius*); *Philadelphus Cotinus* (Wig. plant or Smoky Bush); *Ribes* (Golden-flowered Currant) and *Ribes sanguineum* (Flowering Currant); *Spiraea arguta*, white; *Spiraea callosa*, red; and *Spiraea prunifolia* (flower-pleno, white); *Symphoricarpos racemosus* (Snowberry), whose large white berries form such a notable autumn feature; *Viburnum plicatum* (Japanese Snowball-tree); and *Weigela* (of sorts). Some of the above will, under ordinary conditions, exceed the height given, but, at the same time, they may be readily kept down to the required limit.

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VEGETABLES.

Celery running to seed (*Mrs. S. Adkins*).—Celery, if sown very early and planted out, invariably bolts. If seed be sown about May—always soon enough for all ordinary purposes—the plants will not then bolt. Much, too, depends on how the young plants are treated, as, if allowed to become thick, starved, and weak in the pots or pans, the plants will often bolt or run to seed. Celery is a cross-feeding plant, and you cannot well have the ground too rich for it.

FRUIT.

Pears cracking (Anon).—Cracking of the fruit is invariably due to its getting into poor soil. Possibly your trees are worked on the Pear-stock, whilst your other trees are on Quince-stocks, and root shallow. Pear-cracking is caused by the fungus *Cladosporium*, but that would do no harm were the roots in good soil and kept nearer the surface. Grapes crack from drier causes. Roots too deep and in poor soil. They should be lifted and replanted shallow, good fresh soil being added. There has been great deficiency of sunshine this season, and the skins of the berries thin in consequence. Where borders are outside, roots at times have been heavily attacked. Muscat of Alexandria needs ample heat and sunshine.

Espalier Apples (*Thor*).—We do not know to what fruit catalogues you refer as being unable to find espalier-trained Apples there in them. Cordun trees generally have but one stem trained upright against a wall or fence, or else laid rather slantingly or in a horizontal position near the ground. Espalier trees have a centre stem erect, from which several branches radiate on either side horizontally. We think espalier trees admirable in any garden, and they are being more largely planted in this country. For large, keeping, later one is *Lane's Prince Albert*. A good Russet is *Brownlee's* or *Karamont*, both being good. A good early summer variety is *Irish Peach*, still one of the best for eating, and two good dessert varieties are *Allington Pippin* and *Ox's Orange Pippin*. These have fine flavour, and are handsome but not highly coloured.

Pruning Williams' Bon Chretien Pear (*W. H. Manning*).—As your standard Williams' Pear-tree, evidently some seven or eight years old, and, according to your sketch, 12 feet in height, was planted where it now is last November, the cause of its having thrown so few leaves is that the head was left unpruned when planted. That was a great mistake, as the few roots could not furnish sap to so large a head. Your best course shortly will be to shorten back from one-third to one-half all the leading branches, so as to greatly relieve the head, and thus enable the roots to furnish leaves next year. It there be any shoots that cross each other or grow inwards, cut those out. Then you must help the tree roots by placing over them a mat of long manure at once to wash in, and removing it in April to allow the spring to wash the soil. Replace with a fresh mulch 3 inches thick early in June, also in hot, dry weather give occasional soakings of water.

Planting garden walls (E. A. R. W.).—You may plant on east and west walls Pears and Plums, such Pears as Clapp's Favourite, Marie Louise, Louise Bonne, and Winter Nellis, and such Plums as *Czar*, *Victoria*, and *Monarch* for cooking, and *Transparent Gage*, *Jefferson*, and *Bralley's Gage* for dessert. On a north wall plant *Marble Cherries*. They do well there. The trees should be fully 10 feet apart, and if 12 feet, better still. On the south side of the house plant a *Moorpark Apricot*, an *Erlage Nectarine*, and a *Royal George Peach*, if there be room. Apple-trees in the vegetable garden should be in bush form on the Paradise-stock, and be planted either 4 feet from the paths, or else in rows across the quarters here and there. The trees should be 10 feet apart. Good varieties are *Loni Grosvenor*, *Pott's Seedling*, *Stirling Castle*, *Bismarck*, and *Lane's Prince Albert* of cookers, and *Irish Peach*, *King of the Pippins*, *Ox's Orange Pippin*, and *Sturmer Pippin* of dessert varieties.

SHORT REPLIES.

H. J. Guest.—No, the connection with the boiler must be from the top, otherwise there will be no circulation.
Rita.—We would advise you to relay the Box, following the directions we have given *Mrs. Walton*, p. 425.
Midland.—A good dressing of cow-manure dug in between the lines will be as good as anything you can apply.
Cosmopolitan.—You give us no idea as to your knowledge of the business, and without this, now-a-days, when there is so much co-operation, it is very difficult to realise any profit from growing plants in a small way, such as you suggest.
Legatee.—Not a gardening paper.
Woodward.—No, the *Malmesbury Carnations* are not suited for outdoor culture.
Miz.—If your Ferns are wooded, species no heat is necessary; if such as *Adiantum*, etc., then heat is required.
Constant Reader.—We suppose you mean the Willesden Paper and Canvas Works, Ltd., Willesden Junction, London, N.W.
Veritas.—We doubt very much whether you will be able to keep them. You might, however, try them in a room in the house, keeping them as near the light as you can, and not watering much.
J. H. W. Thomas.—You cannot do better than get "Hotday's Villa Gardening," from this office, price 6s. 6d., post free.
Inselm.—We know of no book dealing with manures for individual kinds of vegetables. You can never be wrong in using good cow or horse-manure in the garden, the former if your land is light, the other sowing best in heavy soils.
Arctic.—A. and B. Your best plan will be to use N.L. All, which is quite safe.
C. English Flower Garden—from this office, price 15s. 6d., post free.
Knutsford.—Mulch between the rows only, and close up and around the Strawberry plants.
Argyle.—1, Excavate the soil for the front path, and have two or three steps by which you can get round the back. No, do not use the frozen glass, as it darkens

the house too much, more especially for Tomatoes. Paint the trellis and the Roses will do all right. It is the acid from the galvanised wire that is the cause of the mischief.
Begonia.—A malformation and of no value.—*A. B.*
 If your Apple-tree has been planted as you say for ten years, it may be very doubtful if you will succeed in moving it. Better move the knees to another part of the garden.
Royal Siren.—See reply to "Hibernia," in our issue of Oct. 4, p. 407, re "Treatment of Hydrangea."
M. A. Harrison.—You say nothing as to your knowledge of the business, and there are so many things to consider that it is hard to say. Some good gardeners with business qualifications make a fair profit from such work, but the competition now-a-days is very great and poor prices are often obtained.
Winchester.—You must lift your Dahlias. See reply to "Flora," in our issue of Oct. 4, p. 418, re "Storing Dahlias."
E. A. R. W.—We should think that any of the climbing Roses would do well. Any of the Clematis family ought also to do well in such a position. Your only plan is to destroy the Hollyhock and start with a clean stock.—*An Old Reader*.—Your plan may appear to have suffered from mildew at some time, this no doubt causing the trouble. Have you had any rust on any of the plants?—*Dulcanarra*.—See article on "Autumn-flowering Roses," in our issue of Oct. 4, p. 418.—*Hartus*.—Yes, see reply to *Mrs. Walton*, p. 425, re "Lifting Box."
Tom.—See article in our issue of Aug. 11, p. 320, re "Plants for Cold Greenhouse in Winter." Yes, a Vine will do quite well in a cold-house—that is if you make a proper border.—*A Constant Reader*.—From the sample of bark you send, we fear that the tree will not recover. The tree was too large to move unless carefully done, and it would have been far better to have put in quite a young plant, which would have soon got established.
Brewood.—The two Pears you mention are both late, so you will have to put them on the market well you have, more especially in your district.—*John*.—We could find no insects on the Rose shoot you send. Your best way will be to cut out all the old and exhausted wood, and encourage new growth from the bottom.—*R. E. C.*—See article "Notes from a Rock Garden," in our issue of Sept. 6. You might grow *Arabis alpina*, *Aubrietia*, *Cerastium*, *Iberis*, *Myosotis*, *Phlox*, *Sisylia*, *Viola*, and many other things of a like nature.—*Thomas Hooper*.—It is impossible to suggest any means without further particulars as to treatment, etc.

NAMES OF PLANTS AND FRUIT.

*. Any communications respecting plants or fruit sent to name should always accompany the parcel, which should be addressed to the Editor of GARDENING ILLUSTRATED, 17, Farnival-street, Holborn, London, E.C. A number should also be firmly affixed to each specimen of flowers or fruit sent for naming. No more than four kinds of fruits or flowers for naming should be sent at one time.

Names of plants.—*Constant Reader*.—1, *W.* cannot name *Horista* flowers; 2, *Burbeckia hirta*; 3, *Golden Rod* (*Solidago Virgaurea*); 4, *Campanula*.—Quite impossible to say without seeing the flowers.—*E. B. W.*—*Fuchsia* Phenomenal.—*J. G.*—1, *Asplenium major*; 2, *Cornifolia varia*—*P. Shelley*.—*Asplenium latifolium*, *Miss Robinson*.—Specimen insufficient.—*G. G. Cook*.—1, *Aster ericoides*; 2, *Rudbeckia hirta*; 3, *Coreopsis tinctoria*. In sending specimens for name it is advisable to write the number on the outside of the paper enclosing the flowers.—*L. T.*—*Asparagus delavayi*.—*Henley*.—*Chrysanthemum maximum*.—*Ernest Ballard*.—1, *Crucianella pubescens*; 2, *Dianthus hybrid* form; 3 and 4, *Forms of Cyclamen europaeum*; 5, *Sisyrinchium striatum*.—*R. Greening*.—1, *Going out of bloom*, *Solidago Virgaurea*; the other, *S. canadensis*.—*Puzzled*.—Please send flowers.—*Holly*.—1 and 2, *Varieties of Clematis lanuginosa*. Remove the weak and overcrowded branches in February or March. 3, specimen insufficient.—*T. B. Burton*.—Rose had fallen to pieces but it is evidently *Réve d'Or*.—*E. J. M.*—*Abrotanum* elegans.—*A. M.*—*Aster Amellius hessarianus*.—*E. J. M.*—*Campanula celestis*.—*G. R. Parrell*.—*Althea Armeria*.—*A. W.*—*Recallonia sp.*, and 1 flower.—*G. M. S.*—*Caryopteris mastacanthus*.—*J. Hillier*.—*Retinospora pisifera aurea*. Yes, you can train it in doing this early in the spring.—*Monitor*.—Rose like *Maria Henrietta*.

Names of fruit.—*J. M.*—*Plum Kirke's*.—*W. L.*—1, *Grosse Mignonne*; 2, *Crimson Calande*. It is very difficult to name *Peaches* without seeing the young wood.—*Anon*.—1, *Tower of Glamis*; 2, *Yorkshire Breeding*; 3, *Small Emperor Alexander*.—*E. A. Langrish*.—*Apple* Waltham Abbey Seedling.—*Miss Thomas*.—*Apple No. 6*, *Loebach* of Oldenburg.—*John H. Trean*.—1, *Apple Warner's King*; 2, *Not recognised*.—*L. A.*—1, *Deux Sœurs*.—*Bateman, Mon.*—1, *Devonshire squar-den*; 2, *Boston Russet*; 3, *Beauty of Kent*; 4, *Beauty of Kent*; 5, *Local variety*; 6, *Cornish Aromatic*.—*E. S. Singlewell*.—1, *Beurre d'Amisais*; 2, *Emile d'Alençon*; 3, *Beurre Hardy*; 4, *Heliotte Panda*.—*R. M. W.*—*Humelov's Seedling*; 2, *Whittington Favourite*; 3, *Challe's Kernel*; 4, *Beauty of Kent*.—*Brewood*.—Quite impossible to say unless you can send us samples of the Apple you refer to.

Catalogues received.—*Haage and Schmidt, Erfurt*.—*Novelties of Seeds for 1903*.—The Four Oaks Nursery and Garden Sundries Co., Sutton Coldfield, Birmingham.—*Illustrated Price List of Underdale Nurseries*.—*Henry A. Drees*, 114, Chestnut-street, Philadelphia.—*Arthur H. Sargent*, 17, Wm. Sydney-street, Tanworth.—*Roses and List of Carnations and Pinks*.—*E. P. Dixon and Sons*, Hull.—*List of Fruit-trees*, *Roses*, etc.

Lavender culture.—Will any reader of GARDENING ILLUSTRATED inform me where I can purchase, and at what price, a reliable treatise or book on the "Cultivation of Lavender," including the harvesting of the crop and the distillation for the oil and for Lavender-water, with information where the necessary distilling apparatus can be obtained, and price of same? Information also asked as to the most suitable soil for Lavender, and whether the Australian climate would be too warm for its successful culture.—SOUTHERN CROSS.

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PLANTS AND FLOWERS.

OUTDOOR PLANTS.

THE WILD BOG GARDEN.

SOME twelve or fifteen years ago in a corner of the grounds at Wolsey was an untidy swamp, a disused pond, about a third of an acre in extent, surrounded by high banks, and beyond these by lofty trees and a few shrubs. The middle part was a regular swamp, overgrown with tall Nettles and common Sedges. In my childhood I can remember it used to be called the "Wilderness," and in the lofty Elms was a strong colony of rooks; these, alas! have long since forsaken the spot. Many were the suggestions for converting this untidy spot into something more beautiful. Some suggested a rock garden, but there was too much shade; others the remaking of the pond, but there was already quite enough water about the place, the River Trent flowing within a few yards of the house, and there being another fish pond close to it. At last I happened to come across "The Wild Garden," and after reading therein the charming descriptions of plants naturalised by brookside and in the bog garden, I formed the idea of converting this wilderness into a semi-wild bog garden.

The first thing was to cut a winding ditch through the centre of the bog, and this has ever since been a running stream, bordered with Ferns and other plants, and another ditch round the outside of the swamp to drain it, with a rough pathway all round and one skirting the stream through the centre, and to construct some rustic wooden bridges over the ditches. Then I planted several good clumps of Rhododendrons, a fair-sized clump of scarlet Dogwood, a few clusters of hardy Bamboos, and a few shrubby Spiraeas. I also planted with Azaleas a good-sized mound, raised from the soil out of the ditches. These formed the foundation for my bog garden, and between these clumps and on each side of the ditches I planted numerous patches of herbaceous and bog plants. Many of the former were obtained from the thinning out of the herbaceous border, and many more of both these and the latter were procured from the different woods and swamps about, such as Ferns, the brilliant Marsh Marigold, the common yellow Flags, Meadow Sweet, Loosestrife, some of the prettiest of the Sedges and Reeds, and many others. Then in the autumn I purchased several thousand bulbs, the banks being planted with Snowdrops, Winter Aconites, Snowflakes, Crocuses, Bluebells, Grape Hyacinths, Scillas, etc., whilst the sides of all the ditches were planted with Daffodils and Turk's-cap Lilies. In the north-eastern corner, from which one enters into the bog garden, I made a rough rock garden, and this is covered with various kinds of Ferns, and here the Oak and Beech Ferns flourish and seem really "at home," as also the Hart's-tongue and several other species.

Of course, as I put in all sorts of plants and bulbs at first, regardless of their suitability for

the situation, I had many failures and many died, but quite enough survived to encourage me to persevere, and gradually the untidy swamp assumed an appearance of beauty; and possibly now many would consider the bog garden the most interesting and beautiful part of the gardens. Many a plant which I have tried in vain to grow in the ordinary herbaceous garden here not only lives, but flourishes with scarcely any care. Phloxes, Delphiniums, Monk's-hoods, Asters, Day Lilies, Plantain Lilies, Torch Lilies, and, above all, the Trilliums or Wood Lilies, the Evening and other Primroses, all flourish here; nor must I forget the Japanese Iris, or Iris Kämpferi, which also does exceedingly well. Early in February, just as the snow disappears, some of the banks are clothed in white by the Snowdrops, with here and there a bright patch of Winter Aconite. Then, following these, the other banks break out into a mass of various colours as the Crocuses appear, and these, again, are succeeded by a mass of blue from the wild and Grape Hyacinths. Later on clumps of Tiger and Orange Lilies appear on these banks, then all along the ditches and other parts of the bog garden appear rows and groups of yellow Daffodils, followed by the Jonquils and Pheasant's-eye Narcissi. In other parts are groups of Primulas, Cowslips, Tulips, and the brilliant-coloured Marsh Marigold. Then one of the most successful effects is when the mass of Primula japonica comes into bloom, this plant growing like a common weed with flower-stalks 2½ feet high, and seeding itself in all directions, whilst amongst the scarlet Dogwood the ground is covered with the pretty little pink Claytonia, with here and there clumps of the graceful Solomon's Seal. The Ferns also luxuriate in the boggy, peaty soil; the common Lady Fern grows to a gigantic size, the Osmundas also, and the Onocleas, but, towering above all, the Ostrich-feather Fern (Struthiopteris germanica) here attains the extraordinary height of over 6 feet. In July, amongst the Ferns, and in large groups near them, appear gigantic white and spotted Foxgloves, forming, perhaps, one of the most striking effects of all. Then come the graceful feathery Spiraeas, the most beautiful of which to my mind is the crimson Spiraea palmata, which grows luxuriantly here. I must not omit to mention here the Californian Saxifraga peltata, which lines one of the ditches in front of the Ferns, and grows nearly 5 feet high, with its broad, tropical-looking leaves. I had great difficulty in establishing the Gunneras, but have succeeded at last, and they form quite a picture by the side of the stream in front of a tall group of Bamboos. In August some fine clumps of Phloxes and the Golden Rods produce some bright colouring, and finally, in September and October, appear the Torch Lilies, and some grand groups of Asters to finish up with.

Almost every week the picture changes, and for ten months in the year some part is bright and gay with flowers, and, even in December and January, the scarlet-barked Dogwood gives a bright and cheery effect, contrasting with the dark green Rhododendron clumps. This garden is a source of continuous amusement and occu-

pation to me, and, as I not only planned and constructed the whole, but also do all the work of replanting and weeding myself, I look upon it far more than any other part of the gardens as especially my own garden.

Wolsey, Stafford.

C. M. WILSELEY.

PLANTING NORTH BORDER.

I wish to plant a border against a house wall, aspect north. Would Day Lilies, Monarda, Tritoma, etc., be suitable? I want a late summer and autumn effect, and a good deal of strong colour. Are there any Lilies which would flourish in such a situation? Kindly advise as to suitable plants.—E. M.

[You do not tell us the width of the border, and we run the risk of suggesting unsuitable things. We take it you can enrich the border in question, and otherwise prepare it by deep digging and the like. Of the plants mentioned below, the average height is given that you may discard any that would be unsuitable. We would not include Day Lilies in this border, but Monarda and Tritomas certainly as among the finest of late summer flowers. The former are not usually more than 3 feet high, but the Tritomas, which were fully described and figured in a recent issue, vary from 3½ feet to 6 feet, or even more. Anemone japonica, in white, red, and pink, is excellent, growing 4 feet high, and flowering profusely. Galtonia candicans, large white bells, 3½ feet; Stenactis speciosa, blue-mauve, 2½ feet; Gaillardia in variety, 2½ feet to 3½ feet, and very showy; Eryngium amethystinum, 3 feet; Echinops ruthenicus, 3 feet; Rudbeckia Newmanii, 2 feet; R. purpurea (Winchmore Hill variety), 4 feet; Harpalium rigidum, H. r. præcox, both 3 feet; such Helianthus as H. multiflorus, H. m. plicatus, H. m. Soleil d'Or, all about 4 feet high; Scabiosa caucasica and S. e. alba, 3 feet; Veronica longifolia subsessilis, fine blue, 2½ feet, a grand plant for massing; and equally good Aster Amellus, A. acris, A. leucogentis, A. densus, 2 feet; A. N. A. ruber, A. N. A. Melpomene, and A. N. A. Mrs. Raynor, 4 feet, are showy and well suited to effective grouping generally. The following Lilliums could also be planted: L. tigrinum and its varieties splendens, Fortuncii, and fl. pl.; L. speciosum album, L. s. rubrum, L. s. Melpomene, L. chalcidonicum, etc. You may with advantage also plant the seedling hybrids of Gladiolus gamlavensis, G. Childs, or G. Lemoine, the two latter sorts being much harder than the first-named, and containing some really remarkable as well as novel shades of colour. Apart from the above, there still remains quite a host of good things in herbaceous Phloxes.]

Calystegia pubescens fl. pl.—I have never known this pretty trailer flower so profusely as it has done this season, which fact is the more remarkable as the summer has not been a particularly bright one. Some of the trails are quite 9 feet in length, and have been clothed, as they grew, with an abundance of pretty pale rose blossoms which are always so much admired. It is of easy culture and is useful for training on fences, arbours, verandahs, and similar places for creating a summer display.—W. V.

THE KNOTWEEDS (POLYGONUMS).

Now that beauty of form is appreciated, many plants of graceful habit that were formerly discarded as worthless, either on account of

rather slender, but well furnished with stem-clasping leaves, with deeply veined surfaces and tapering points. Its slender flower-spikes, which rise a foot or more above the main body of the foliage, are crimson. A variety of this

green leaves, with a dark blotch in the centre of each, and numerous heads of pink flowers. When once established in light warm soils, it appears every year from self-sown seeds. Its neat habit and the delicacy of its flowers are attractive.

P. CUSPIDATUM is a plant of sterling merit, now common. Its shoots are speckled with purple; its broadly-ovate leaves, which are of a dark dull green, are frequently variegated with faint silvery blotches, and its creamy-white flowers are borne in profusion. Its stately habit of growth, combined with the luxuriance of its foliage, are attractions of no ordinary character. The best place for this plant is by the margin of water, in a shrubbery ditch, or any like place, as once in the flower-garden it is very hard to get it out.

P. ORIENTALE.—A tall, free-growing annual, reaching a height of 8 feet to 10 feet. Its stems are very robust, and it has slender spikes of crimson flowers, which continue until the frosts. To obtain a good development of its foliage, it should be grown as a single specimen and without shade to induce it to bloom freely, when it makes a fine ornament. There is a variety of this with white flowers, though rarely met with. It is a native of Northern India.

P. POLYSTACHYUM.—This forms a thicket of stout, erect stems, which root strongly from the first few joints above the ground. Its leaves, which are somewhat crowded, have a light-coloured under-surface. It reaches the height of 5 feet to 6 feet, including the flower-spikes, which are slender and greenish. The qualities that recommend it are its bold, erect habit, and dense, woolly foliage. It is a Himalayan species, flowers pure white, sweetly scented.

P. SACHALINENSE.—A native of the Island of Sachalin, and often attaining the height of 10 feet to 12 feet, with broadly-oblong leaves upwards of a foot in length, and of a bright green. Its flowers are rather inconspicuous, greenish-white, and disposed in slender drooping racemes. It luxuriates in a moist subsoil, near the margin of water, where it is very effective in company with grassy vegetation. It also makes a fine, bold feature.



Polygonum baldschuanicum.

their gross habit or inconspicuous flowers, get a place. Polygonums are of the easiest culture, thriving in any ordinary garden soil, but are greatly improved by cultivation. All those of a bushy habit should be so planted as to have a clear space all round, in order to give the foliage all the air and light possible, as overcrowding is frequently the cause of naked stems and a straggling habit, to remedy which tying-in has to be resorted to, which detracts much from their natural appearance, their beauty consisting in the innumerable flower-spikes rising above a gracefully developed mass of foliage continuous to the ground. Those of the *P. cuspidatum* type produce stems of sufficient strength to support their spreading crowns of foliage. The annuals, unless grown as single specimens, and in sheltered situations, will require support, and the dwarf perennials, most of which are evergreen, need very little attention beyond an occasional trimming. The stems of all the tall hardy species, being of annual duration, die off in the autumn, and, as the succeeding ones do not appear before April or May, this must be taken into consideration when planting for effect.

P. AMPLEXICAULIS.—This usually reaches the height of 4 feet to 5 feet. Its stem is

named oxyphyllum differs in having white flowers with conspicuous red anthers.

P. BALDSCHUANICUM.—This is one of the finest in the genus. Its chief claim to distinction is that it is a climber, coiling itself around any support that may be given it. In a few weeks and before it comes into bloom it will attain a height of from 12 feet to 18 feet, provided the supports are of sufficient length. The flowers are of a creamy-white and tinged with rosy pink. It is practically a deciduous climber, which in severe weather may be cut to the earth to break away freely in the spring again. In mild winters the twining stems also retain their vitality and send forth fresh growths in spring from axillary buds along the stem. Apart from its value as a climbing plant, the sprays of bloom are very useful for cutting. It commences to bloom about the end of June and continues flowering for several weeks.

P. BRUNONIS.—Of the known evergreen species this is probably the best. Its leaves, which have a white under surface, are so numerous as to form a dense cushion, from which arise the crimson spikes. It is a pretty border plant, and a native of the Himalayas.

P. CAPITATUM.—This is a charming little annual of a spreading habit, with oval greyish



P. vacinifolium.

either planted on the turf or in a good position where it can develop its noble proportions; but it is too rank for the flower garden.

P. VACINIFOLIUM.—Few plants surpass this for rock work. It differs widely from all its

congeners at present in cultivation, unless *P. crispum*, which resembles it in its twiggy habit. It is quite hardy, and thrives in almost any moist soil, and is seen to the best advantage where its shoots can ramble over stones or tree-stumps. Under favourable

of garden one may see the natural form of a plant, whereas with perhaps a hundred little bunches of the same length on the same plane it is impossible.

The Society itself might do something to prevent such "exhibitions," as it is in its

seedlings with a firm hand, and in spring sow the patches rather thickly with Grass seed and white Clover. By a rather free sowing of the Clover its quick growth should overcome the weed in question. It is quite possible the latter has been introduced with the soil which you have used as a top-dressing. Generally, however, the Clover is strong enough to overcome ordinary weeds, and the same applies to the Daisies of which you speak. A perfect lawn requires much attention before it is perfect.

Hedgehogs in gardens.—I have always heard that hedgehogs are useful animals in gardens, but for some time past a hedgehog that has his home in my garden has been in the habit of coming out every night, and has studded my lawn with holes about an inch in diameter and 2 inches in depth. I do not want to drive him out if he is useful, but I do not want any more holes. Can you advise me in the matter, and suggest to me what he is looking for and what I ought to do?—INOLKNOOK.

[Hedgehogs are, as a rule, useful creatures in gardens, as they feed on insects, slugs, and worms. Their diet is, however, very varied, as they do not despise small animals, birds' eggs, snakes, roots, and fruit. I imagine that your visitor makes the holes in your lawn in search of grubs or other insects, or perhaps there is some weed growing on the lawn to the roots of which it is particularly partial. I can suggest no other reason, and while it is free to roam over the lawn I do not see what can be done to prevent it from grubbing about.—(C. S. S.)]

Spring gardening.—Where beds have been occupied with summer subjects, there is nothing to be gained by keeping the plants therein any longer, as by this time they present a worn-out and bettered appearance. If it is not intended to supersede them by other plants for spring blooming, it is, at any rate, desirable that an early clearance should be made. Now is the time to remove into their final quarters Wallflowers, Daisies, Forget-me-nots, Primroses, Aubrietias, etc. Tufted Pansies also make a brave show in spring, and, if planted on a warm border, will blossom in company with Hyacinths and Tulips. Cuttings of Tufted Pansies, struck a few weeks ago, may be safely removed to a sheltered border.—LEAHURST.

Aubrietias.—The past season has suited rock plants like Aubrietias admirably, as there has been no long spell of drought to burn them up. Even in a dry summer it is wonderful how quickly these old flowering plants pick up in the autumn, and, when the first spring sunshine has come, they are all aflame. It seems unnecessary, therefore, to recommend any particular culture for the Rock Cresses when they will grow almost anywhere; but, if I had to plant this autumn, I would, if possible, give



The great Japanese Knotweed (*P. cuspidatum*) by water.

conditions it grows rapidly, and produces its Whortleberry-like leaves and rosy flower-spikes in profusion. This is also a native of the Himalayas.

HARDY FLOWERS AT THE DRILL HALL.

The way in which many beautiful plants now in bloom were shown by the nurserymen at the last Horticultural Society's meeting was far from one to show their beauty fairly. The plants were jumbled together like so much hay, and no attempt was made to separate the good things, or to take care of the colours. Flowers were picked up and squashed together and all shown on the same level, the natural forms of plants being by this means suppressed. Amongst the worst cases was Mr. Forbes, of Hawick, who showed a number of seedling *Phloxes* in the poorest and worst colours, and Mr. Ladhams, of Southampton, had excellent hardy plants, but packed together so that the eye could not separate them. Messrs. Barr were nearly as bad. If these gentlemen and all like them cannot see their own way to better effect, they would do well to employ some of the young ladies in the London flower shops.

On the other hand, outdoor Chrysanthemums gathered in the open air were arranged very well by Mr. Wells, of Redhill. Some attempt was made to get a little variety, light and shade, into the group, and the colours were very nicely kept.

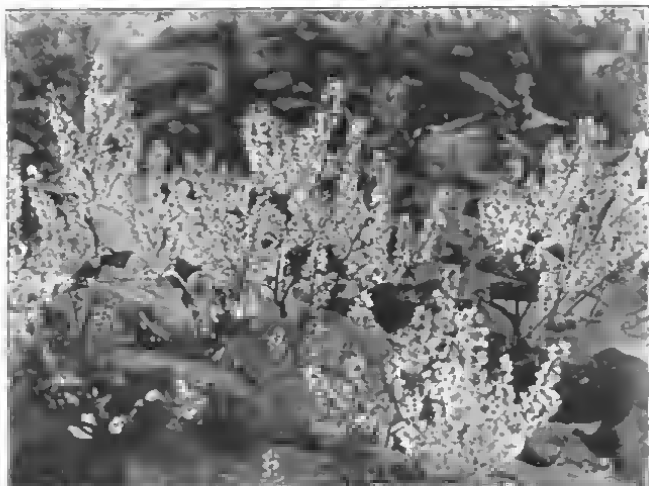
In addition to bad arrangements there is also bad choice. For example, Messrs. Barr showed an immense number of Michaelmas Daisies, and about six of these would have been better than the whole lot, each of the six shown rightly, with its natural form and a little "air" about it.

Some of the so-called new kinds of Michaelmas Daisies are very poor. We have now so many beautiful hardy flowers that it is a pity to show (in an exhibition, too!) plants of quite inferior merit, poor in colour, and often poor in form. It may be said that it is a question of taste, which it is not the nurseryman's business to supply. But two things that would help a good deal might easily be done; that is, leave out weedy sorts and bad colours. We are not asking for anything but what is reasonable, as in nature and in even the worst kind

interest as well as that of the public that the plants should be seen with their true and natural effect at the meetings.

NOTES AND REPLIES.

Lawn weed (C. H. W.).—We received the sample of the weed, crushed beyond recognition. We can only suggest that the weed is in all probability an annual and of a very free-seeding type. If we are correct, it will be more easy to get rid of it by keeping watch over its flowering, and thus prevent any of the plants seeding. What you send appear small seedlings that have germinated in late summer from seeds probably ripened about June. It may be a species of *Polygonum*, but we cannot



P. polystachyum.

be sure. To get rid of it, it would be best to dig out the seedlings and burn them. As a further precaution you might take out some of the soil, though we do not advise this unless the pest is very bad. Anyway, clear out the

them the benefit of cool niches and ledges of limestone and sandstone, of which my rockery is composed. If variety is wanted, then Royal Purple, Fire King (crimson), and Souv. de W. Ingram (rose) might be tried.—W. F. D.

ROSES.

SOME NEW ROSES.

As I was this year unable to attend the summer shows of the N.R.S., I shall be greatly obliged if you can give, as on previous occasions, a list of new Roses for 1901 and 1902, with notes thereon. I do not know if such a list has been recently published. If so, I fear I have missed it.—FRANK THOMAS, *Kingston-on-Thames*.

[There was nothing very startling exhibited at the Temple Show of the National Rose Society this year, excepting Mildred Grant. Those who saw the bloom that received a special medal as the best Hybrid Tea in the show can safely say they never saw a finer flower. Of Roses not yet in commerce I thought well of Princess Victoria, although perhaps rather too near Viscountess Folkestone; and Dr. Campbell Hall, something after La Fraicheur. Sir Robert Stout resembles Charles Lefebvre, and will be very welcome, for we want dark Roses, and if they are Hybrid Teas so much the better. There was also shown a white sport from Lawrence Allen, which should be valuable if it retains the good form of its parent. Somehow the boxes of new Roses usually seen at shows cut a sorry figure, and they often libel a Rose, for how can one obtain a good bloom from a plant perhaps weakened through propagating. Many Roses are now introduced which, taken as individual flowers, fall short of the exhibitor's ideal, but the profusion of bloom and their late-flowering character give them a value which all who desire their gardens to be gay in autumn are ready to admit. Taking the varieties alphabetically, my first is

ALICE LINDBELL (H.T.), a gold medal Rose having creamy-white flowers with pink centre, petals of great substance.

BEN CANT (H.P.).—A grand flower, colour deep crimson with dark flushes in the centre. It is of the Victor Hugo type, being a cross between that variety and Suzanne M. Rodocanachi. It is very sweet, very perpetual, and a good grower.

BOADICEA (Tea-scented).—In colour pale peach with rich pink shading. The flowers are high centred, petals large and stiff. It is somewhat after the style of Mme. de Watteville, but a deeper and really handsomer flower. It is sweet-scented and a strong, vigorous grower.

DOROTHY PERKINS.—A hybrid of that interesting Rose K. Wichuriana, and from its exquisitely-formed blossoms in huge panicles and lovely pink colour will be valuable as a pillar Rose. Unlike the type this Rose grows erect in the way of Crimson Rambler, and will be a useful companion to it.

DR. FELIX GUYON.—A Tea Rose of charming form, orange in colour with apricot shading, very double, will make a good show bloom.

DUCHESS OF PORTLAND (Hybrid Tea).—Rather too near Kaiserin Augusta Victoria—in fact, it seems a glorified form of that grand Rose.

FRAU KARL DRUSCHKI (H.P.).—Snowy white, deep conical buds of splendid appearance. Open flowers are large, not too double, consequently expand freely.

FUSION.—This is a seedling from Mme. Eugene Verdier, but more vigorous, consequently will make a good wall Rosa. Colour deep chamois-yellow.

LADY BATTERSEA (H.T.).—This, a cross between Mrs. W. J. Grant and Mme. Abel Chatenay, has a finely-formed bud, but the open flowers are rather disappointing. Colour cherry-red, tinted orange.

LADY MORA BRACLERG (H.T.).—A valuable forcing and show Rosa, rich madder pink. Very distinct, free-blooming and free-growing.

LADY ROBERTS.—A charming and highly-coloured sport from Anna Ollivier. Colour rich apricot with coppery-red base to petals.

MME. ANTOINE MARI (Tea-scented).—One of the prettiest new Roses I have seen for a long time, the buds are so perfectly moulded and the colour rose washed and shaded white, being most attractive. The open flowers are nearly as large as those of G. Nabonnand.

MME. C. MONNER.—A semi-climbing Hybrid Tea of great merit. Flowers rosy-flesh, centre yellow with salmon and orange shading. Like many of the Hybrid Teas, in autumn or when forced, the flowers come almost entirely orange-yellow.

MME. JEAN DUPUY.—This Tea will, I think, become as popular as Mme. Lambert. The colour is a reddish-yellow in centre, outer petals suffused with rose-pink. The growth, too, is vigorous.

MME. MARIE CROIBIER may be described as a deeply-coloured Caroline Testout. This, with the type and the white sport Admiral Dewey, should make a charming trio.

MME. VERMOREL (Tea-scented) is one of the best Teas we have had for some time. It opens well outdoors, and the blossoms are of great substance. Colour coppery-yellow with rose shading. It is a good grower.

MAMIE (H.T.).—A little wanting in brightness, otherwise a beautiful shapely bloom of great depth. A fine grower, colour rosy-carmine with yellowish base.

MERCKES.—A soft rosy-pink coloured Rugosa Rose, as lovely in form as a Tea Rose, and the colour equally as delicate.

MILDRED GRANT (H.T.).—A noble flower for the show board, but I should prefer to test it further in the open before pronouncing an opinion as to its merits in the garden. The colour is blush-white, tinted pink. Enormous petals like large shells.

MORNING GLOW (Tea-scented), rosy-crimson, shaded orange and fawn, is a splendid grower, and will be much sought after for its colour. It is also of large size.

NOELLE NABONNAND.—A climbing Hybrid Tea, even more vigorous than Reine Marie Henriette. It is a fine semi-double flower of the Barlow Job type, colour velvety-crimson, shaded violet.

PAULINE BENSEN (H.T.).—Creamy-white with yellow centre, fine buds, good grower, very promising.

PEACE.—A white-flowered sport of G. Nabonnand, possessing the fine characteristics of this excellent Rose.

PERLE VON GODESBERG (H.T.).—A sport from Kaiserin Augusta Victoria, colour golden-yellow. I believe this Rose will be much wanted, but should prefer to see a little more of it before giving a definite opinion.

PRINCE DE BELGIQUE (H.T.).—Colour silvery-flesh with salmon shading.

QUEEN ALEXANDRA.—A rambler Rose that has given much satisfaction. Its colour is rich rose-pink. Fine trusses like Crimson Rambler, and equally free in growth.

ROBERT SCOTT (H.T.).—This looks like a glorified Comtesse de Serceny, and its fine bold flowers are useful either for show or cutting. The growth is somewhat stumpy, as one might expect from a cross between Merveille de Lyon and Mrs. W. J. Grant.

SOLEIL D'OR.—This fine break will be in demand presently. It is a fine garden Rose, and blooms freely in autumn. It is a hardy kind, and will be useful for its colour in districts where it is not safe to grow the Tea Roses.

SOUVENIR DE PIERRE NOTTING.—I expected to see a grand flower from a cross between Marsechal Niel and Maman Cochet, but as seen up to the present I cannot say much for it.—ROSA.]

NOTES AND REPLIES.

Roses for low wall.—Will you kindly give me the names of six Roses suitable for a wall only 7 feet high, facing S.E., and well protected from E., soil good and deep? Would strong growers, such as Duke of Edinburgh, Charles Lefebvre, etc., do better than real climbers?—W. J. R.

[The strong-growing Hybrid Perpetuals you name would do well against this 7-foot wall. Another brilliant Rose would be Gruss an Teplitz. Three varieties of lighter shades we can recommend are: Gloire Lyonnaise, Marie Van Houtte, and Billiard et Barré.]

Roses in bad health.—I shall be obliged if you will kindly tell me in your next issue what the pests are that are on my Rose-trees in the greenhouse, and the best way to destroy them. I am sending you a few of the leaves with the insects on; they are very small. The trees are making a lot of new wood, but I cannot get clear of the pests.—YORKSHIREMAN.

[Your Roses have been badly attacked by thrips, and there is also some red-spider. For the thrips the best cure is to fumigate the house two or three nights in succession, or syringe the tree with a solution of Quassia-chips and soft-soap, while for the other, the best way is to syringe it freely with rain-water, if you can get it.]

Roses for arches.—In centre of wall garden there is a pond, four paths leading to it. I should like a wire arch at end of each path for Roses. How high should

they be, how wide, and what eight Roses would you suggest? A red, pink, yellow, and white I should like. It is a sheltered, sunny spot. I am anxious to make a good thing of it.—L. B. GAGE.

[The arches should be from 7 feet to 8 feet high. We have no fancy for the wirework arrangements usually erected, but would prefer an arch of stout iron about the thickness of gas piping. The arches may be made to span the path according to width of latter. You must trench the ground deeply and add some good farmyard-manure, but see that this be not brought into close contact with the roots when planting. Some of the best Roses for arches are summer-blooming only, but you could plant one of these and an autumnal bloomer against each arch, so that you obtain blossom late as well as early. We give you the names of eight of each. *Summer Bloomers*.—Red: Crimson Rambler, Amadis. Pink: Flora, Queen Alexandra. Yellow: Electra, Claire Jacquier. White: Felicite-Perpetue, Bennet's Seedling. *Autumnals*.—Red: Reine Marie Henriette, Longworth Rambler. Pink: Mme. Marie Lavallee, Climbing Captain Christy. Yellow: Gloire de Dijon, Mme. Berard. White: Mme. Alfred Carriere, Aimée Vibert. There is a climbing Moss Rose named Cumberland Belle which would do well for a pink summer-blooming variety.]

Climbing Roses on stable walls.—I have some old Rose-trees on walls in my stable yard. They have grown very tall and are rather bare at the base, but have an enormous growth at the top which hangs over. What ought I to do to them, and when ought they to be pruned? One did not flower at all this summer. Another is the white Cluster Rose, semi-double, small flowers with pink underneath—I think Felicite-Perpetue. It flowered splendidly, but all at the top.—HELVY.

[Many of the fast-growing Roses are inclined to this bareness at the base which you complain of. We should advise you to unfasten one or two of the main growths and retrain them to the wall in a zig-zag fashion. By so doing you encourage basal eyes to start into growth, and in a year or two there should be several young growths. Another plan is to cut down to the ground one of the oldest growths each year, but where there are only one or two such growths, then the former method is best. The Rose you describe is undoubtedly Felicite-Perpetue. There should be no difficulty in securing a bushy base to this Rose if you adopt one of the methods described above. The long growths at the top should be thinned out in March, shortening such of the others as are retained and that are extra long. By leaving them as long as is practicable the hush growths will be considerably assisted.]

Yellow climbing Roses for pillar.—Will you be kind enough to name in an early number of your valuable paper five climbing yellow Tea Roses of the same class, and, if possible, as free flowering and beautiful as Mme. Berard. I want to plant them in a border facing south, to be trained to strong stakes about 6 feet high, as I have no walls available. I have already Gloire de Dijon, Mme. Berard, and W. A. Richardson trained in this way, with good results. The soil is rich and manure plentiful. The climate here (Swansea Bay) is mild, and I have seldom seen snow and ice during the six years I have lived here. I had thought of including *Prie des Jardins*, but hardly enough for outside, and would also like your opinion of the Hybrid Tea Souvenir de Mme. Eugene Verdier. Is it a good grower and a free-flowering Rose?—GLAMORGAN.

[You should be able to succeed with yellow Roses, such as one could not advise for exposed and bleak situations. Your plan, too, of growing the vigorous Teas and Noisettes against poles has much to recommend it, for some of these Roses make most beautiful pillars. You might find climbing Perle des Jardins hardly enough in South Wales; if so, it would be a valuable kind, as plenty of handsome blossoms is produced. Five other good kinds would be: Duchesse d'Auerstedt, Billiard and Barré, Belle Lyonnaise, Mme. Moreau, and Réve d'Or. The variety Souvenir de Mme. Eugene Verdier is a Hybrid Tea of dwarf growth. Probably you refer to Mme. Eugene Verdier, a charming Tea Rose, rich orange and yellow in colour, but scarcely strong enough for a 6-foot pillar.]

Rose Countess of Oxford.—This Hybrid Perpetual is never seen better than it is in autumn, and, like its sport, Pride of Waltham, the very large flowers show up well on the plant. The colour of Countess of Oxford is bright carmine-red, a glowing tint, free from all suspicion of magenta or purple. The foliage is very showy, and in the wood the variety is very distinct, as not a thorn is to be seen. It can be propagated readily from cut-

tings, but the finest blooms are cut from plants on the seedling Brier. It is a pity such a gorgeous Rose has no fragrance, but it shares with the majority of the Victor Verdier race this distinction.—Rosa.

FRUIT.

APPLE BLENHEIM ORANGE.

PROBABLY no Apple is so popular as the Blenheim Orange. It is a large and handsome fruit of good quality and texture, and may be used either for cooking or for dessert about Christmas and the New Year—a period of the year when Apples are in great request. According to the Royal Horticultural Society's classification it is to be known as a dessert Apple, although full-grown specimens are beyond the size generally considered best for the dessert, but its very handsome proportions and appearance command admiration, and its flavour is

cankers badly, but this is generally when the soil has been over-matured at planting time, or where the staple is cold, wet, and undrained. Apply no manure of any kind to the soil when planting, but rely entirely on top-feeding. If the orchard is on Grass it is a good plan to clear away the rough Grass round the trees every winter as far as the feeding-roots go and apply a top-dressing in the early spring, adding, when the fruit has set and is beginning to swell, a further mulch of good cow-manure and watering freely if the weather is at all dry and the ground porous. Those who are not prepared to allow the trees of Blenheim Orange plenty of head-room had better leave this Apple out of their calculations when planting.

Like many other popular Apples, it is claimed for the Blenheim that there is more than one variety, and attempts have been made to describe them, but these so-called varieties of the Apple have turned out to be some totally distinct and generally inferior variety, though

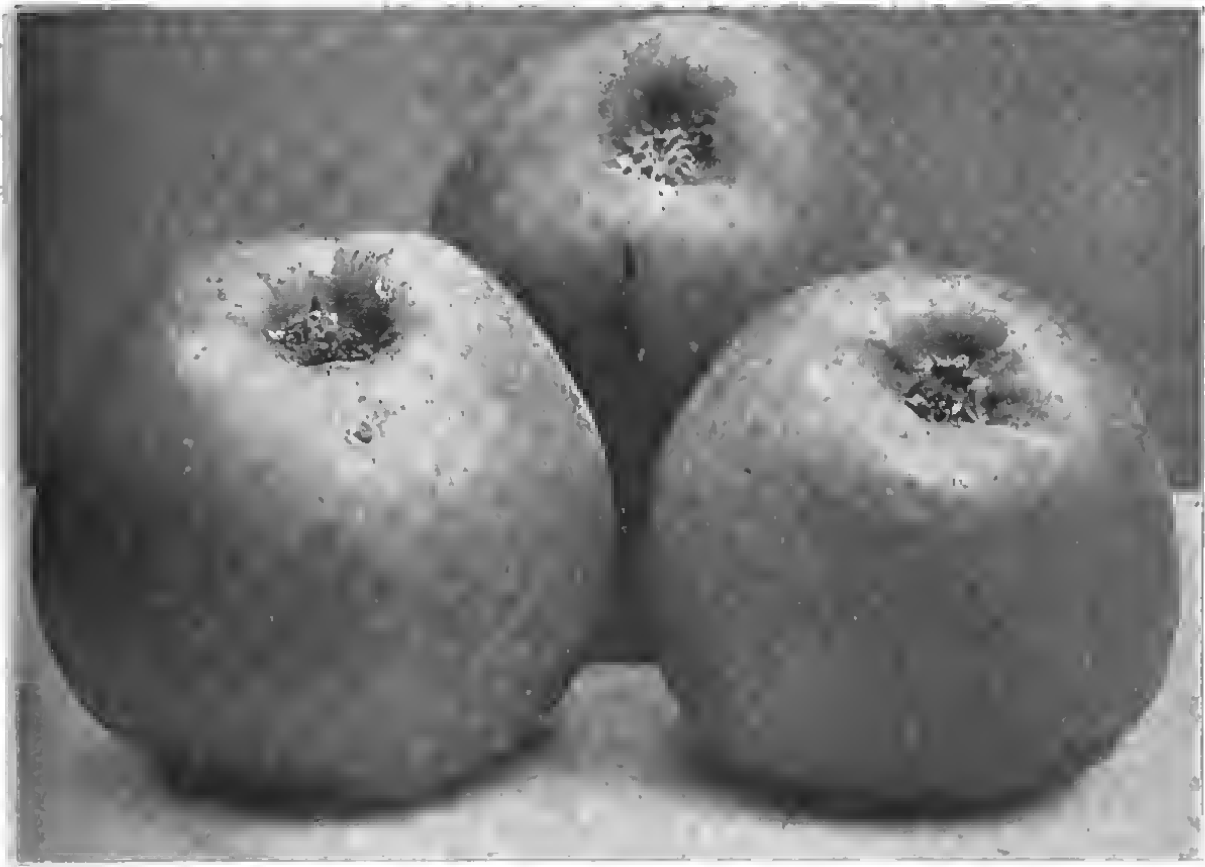
in some cases stock influences have contributed to a slight change of form or colouring. We understand there is a form of this Apple grown in Gloucestershire which is called the "Green Blenheim," and about it we should be glad if any of our correspondents would send us some information. At the great Apple Conference at Chiswick in 1883, the best fruits of Blenheim were sent by Messrs. Jefferies and Son, of Oxford, and the true and best type is supposed to be mostly found in that neighbourhood, having been raised in a garden belonging to a baker at Old Woodstock, near Oxford. It is found under many names in various parts of the country, some of its synonyms being Beauty of Hauts, Droggo's Fame, Gloster Pippin, Northampton, Prince of Wales, and Ward's Pippin.

NOTES AND REPLIES.

Crop of Pears.—Mr. E. O. Hancock, of Warmminster, Wilts, has a pyramid Pear-tree in his garden at the present time (October 15th) on which are five distinct crops of fruit, ranging from full-sized, perfect specimens to those from which the blossom has only recently fallen. All are, for their age, perfect fruits of five distinct sizes. The season is too far advanced for more than two lots to ripen.—M. H. SMITH.

Strawberries for succession.—I should be much obliged if you would give the names of the best Strawberries for succession, in order to have pickings as early and as late as possible, with a good supply all through the season for home consumption.—THOMAS LUNAN.

[A good selection would be Vicomtesse H. de Thury, Royal Sovereign, Sir J. Paxton, Sir C. Napier, and Oxonian.]



Apple Blenheim Orange, said to be on own roots.

very pleasant if not over-piquant. As a cooking Apple, except for making whole, it seems to lack acidity, though this very fact commends it to many people. From the grower's point of view it is not always satisfactory for the tree, except when in bush form on the Paradise-stock, takes many years to come into bearing, and even when it has commenced to fruit it is by no means certain. As a close-pruned garden tree it is one of the worst of bearers, and in this form it is useless to plant it, because its nature of growth and fruit-bud formation make it imperative that to produce crops of fruit it shall be allowed freedom of growth. The most satisfactory trees are those planted in cultivated orchards where they are allowed to spread themselves without limit in bush form and pruned simply to keep the branches thin. The tree when on the free-stock requires a great amount of head room. The best and most fruitful trees have heads with a diameter of over 30 feet, and will spreading. In some orchards the Blenheim

in some cases stock influences have contributed to a slight change of form or colouring. We understand there is a form of this Apple grown in Gloucestershire which is called the "Green Blenheim," and about it we should be glad if any of our correspondents would send us some information. At the great Apple Conference at Chiswick in 1883, the best fruits of Blenheim were sent by Messrs. Jefferies and Son, of Oxford, and the true and best type is supposed to be mostly found in that neighbourhood, having been raised in a garden belonging to a baker at Old Woodstock, near Oxford. It is found under many names in various parts of the country, some of its synonyms being Beauty of Hauts, Droggo's Fame, Gloster Pippin, Northampton, Prince of Wales, and Ward's Pippin.

The Apples figured were gathered in a small garden at Epsom from a tree supposed to be on its own roots, and somewhat old. It has not been very prolific for some years, but last year the wood was very heavily thinned, in conse-

Planting fruit orchard (J. T. N.).—As you wish entle to run occasionally in your orchard on Grass, it is evident that you must have your trees as standards on stems and heads 6 feet from the ground. For that reason only free or Crab-stocks can be used, but these will not force trees to fruit so soon as will bush trees on the Paradise-stock. That, however, cannot be helped. Of course, each tree-stem must be firmly staked and protected by wire or bushes from harm by cattle. You had better get, of Apples, Lord Suffield, Lord Grosvenor, Warner's King, Waltham Abbey Seedling, Newton Wonder, and Wellington. These are cookers, covering, as placed, a long season. Of eating Apples plant Mr. Gladstone, Worcester Purnain, King of the Pippins, Fearn's Pippin, and Sturmer Pippin, early and late varieties. The best Pears to plant would be Williams' Bon Chrétien, Louise Bonne, and Durodean, with the fine baking Pear Catillac. Plant of Plums Rivers' Early Prolific, Czar, and Wredale, and Crittenden and Bradley's

King Damsons. Apples should be 20 feet apart, Pears 18 feet, and Plums 15 feet at least, but all would be better if rather wider. In the garden, get for your 21 feet high wall Peaches Amsden June, Early Gros Mignonne, Royal George, and Ilymond, and Nectarines Lord Napier and Elruge on tall stems as riders, so as to have dwarf-trained Apricot and Peaches beneath the others. Plant the tall riders 16 feet apart, and one flat-trained tree between each. Brown Turkey is the best outdoor Fig, wanting a warm corner. Reine Olga and Sweetwater are the best Grapes for your verandah. Get all ground for fruit-trees deeply dug, but add very little manure. Plant so soon as you can get the trees now. The Corsican Pine will be the best evergreen trees to hide a building quickly.

CHRYSANTHEMUMS.

EARLY-FLOWERING CHRYSANTHEMUMS AT TAMWORTH.

THE trial of these, made by Mr. William Sydenham, at Tamworth, has brought to light many excellent varieties of which comparatively little was known. The high quality of many of the Japanese and Pompon sorts proved the value in the open garden of the early-flowering Chrysanthemums in the dull autumn months. Some three thousand plants, in about two hundred and fifty varieties, were grown, plants being secured from almost every available source, thus making the display a most comprehensive one. The plants were put out in long rows, with a space between each plant of about 3 feet. Between each two rows of plants a good pathway was provided, and this enabled the visitors to inspect the collection with the greatest ease. Being arranged in alphabetical order, it was an easy matter to fix the name of any sort. It must be admitted that in planting in alphabetical order the best effects were not obtained. For instance, a plant some 4 feet to 5 feet in height was followed by another some 18 inches to 2 feet in height, but then the general convenience of the visitors and others was the first consideration. A fact which was apparent to all was the natural lateness of many so-called early sorts. Quite a large number in the collection will not come into flower until the end of October, and others are likely to be still later. In making known these facts, Mr. William Sydenham will be conferring an immenso benefit on all who are now disposed to take up the cultivation of these plants. It is his intention to delete from his list sorts which fail to blossom within the prescribed period, beginning in August and concluding about the second or third week in October. Synonymous sorts are abundant in most lists of the early-flowering varieties, and to get these properly bracketed and the stocks brought under one name is an effort for which Mr. Sydenham deserves the best thanks. Some of the varieties of recent origin, which were sent out with a flourish of trumpets, have little in them to commend them. Many sorts which were certificated in recent years are not yet in flower, and there is little likelihood of their being in bloom for some time to come. This proves that new sorts should not be recognised unless they are represented as flowering from a terminal bud selection—i.e., the termination of the plant's growth. For the benefit of readers of GARDENING ILLUSTRATED, a brief description of some of the best Japanese sorts is appended:—

FRANÇOIS VILHEMNET.—A bushy plant, free flowering. Colour, lilac-rose. Height, about 2½ feet. In flower late September.

GOACHER'S CRIMSON.—A plant developing large blooms on stout, erect footstalks of good length, without disbudbing. Colour, rich crimson, golden reverse. Height, 3 feet. In flower during September.

CRIMSON MARIE MASSE.—One of the best of the earliest, free flowering. Colour, chestnut-crimson, passing to bronze with age. Habit, bushy and branching. Height, 3 feet. In flower from August till October.

PARISIANA.—A sparsely-flowered plant, developing larger blooms than most of the early sorts. It is a promising white sort, with long flower-stalks. Height, 3 feet. Period of flowering, September.

CHATEAU ST. VICTOR.—A useful plant, developing freely magenta flowers of pleasing form. Height, 3 feet. In flower September.

BRONZE PRINCE.—An English raised seedling of proved merit. The plant is fairly free flowering. Colour, old gold, shaded cerise. Period of flowering, mid-September to mid-October. Height, 3 feet.

Mons. GUSTAVE GRUNERWALD.—A useful plant for early displays. flowers large and of good form. Colour, silvery-pink, shaded rose. Fairly good habit, free flowering. Height, 18 inches. In flower August and September.

RABRIE BURNS.—One of the prettiest sports from Mme. Marie Masse; a profuse bloomer, each flower on a useful footstalk. Colour, salmon-pink. Habit, bushy and branching. Height, 3 feet. Blossoms from August till October.

BENJAMIN GUINDREAU.—A plant of which little has been heard. Pretty blossoms of a purple-amaranth colour. Habit, bushy and sturdy. In flower during September.

ARTHUR KEDZIE.—An English raised, promising seedling with pretty little blossoms of much value for decoration. Colour, bluish-pink, shaded salmon in the centre. Dwarf and sturdy habit. Height, 2 feet. In flower during September.

ALBERT ROSE.—This produces a dense mass of blossoms of a distinct shade of rose colour. Habit, bushy. Height, 3 feet. In full blossom during September.

M. LEVEQUE PERE.—A very dwarf plant, developing large blooms. Colour, crimson and bronze. Sturdy grower. Height, 18 inches. In flower mid-September to mid-October. This variety is considered by many to be the same as Gladys Irene Harkness.

ERNEST MATHURU.—This is a very bushy and free-flowering plant. Colour, light salmon, shaded yellow. Height, 3½ feet. In flower from early September till October is well advanced.

DURHAM KING.—A very useful plant, producing bunches of reflexed blossoms. Colour, deep pink, striped light pink. Height, 2 feet. In flower during September.

DORIS PETO.—An English raised seedling of considerable promise. The blossoms are of good form and pure white, and each bloom has a good length of flower-stem. This variety is generally considered to be an improvement on Mychett White. Height, 2½ feet. In flower during September.

MME. CASIMIR PERRIER.—In this plant we have a variety of high merit. Little has been heard of it, yet the plant may be regarded as one of the best. Bushy and free flowering. Colour, creamy white, freely tinted pink. It is also a flower of beautiful form. Height, 3 feet. Period of flowering, September and early October.

LOUIS LEMAIRE.—This is a sport from Mons. G. Grunerwald, and partakes of all the excellent qualities of the parent; flowers large. Colour, yellow, shaded orange. In flower August and September. Height, 2 feet.

LEONARD PETO.—A seedling from Lenon Queen, and which should be in all gardens. The plant is literally smothered with dainty bright yellow blossoms. Habit, bushy and branching. Height, 3 feet. In flower during the whole of September.

LEMON QUEEN.—A valuable plant for late September and October displays. Flowers large and of good form, withstanding wet weather well. Colour, orange-yellow. Height, 3 feet. A profuse bloomer.

IRENE HUNT.—In this variety we have a distinct acquisition. Its chestnut and gold colour stands out distinct from all others. Very free. Height, 3½ feet. In flower during September and early October.

HORACE MARTIN.—A rich yellow sport from Crimson Marie Masse. This variety is the finest acquisition to the early-flowering section for many years, and no garden should be without it. Habit, branching and free flowering. Height, 3 feet. In blossom from August till October. W. V. T.

Request to readers of "Gardening."—Readers, both amateur and in the trade, will kindly remember that we are always very glad to see interesting specimens of plants or flowers to illustrate, if they will kindly send them to our office in as good a state as possible.

GARDEN PESTS AND FRIENDS.

American-blight on Apple-trees.—I should feel obliged if you will kindly advise me what to do to get rid of the insect, a sample of which I send you. The tree is covered with them, and has borne no fruit this year. It was lined at the beginning of the year, but that had no effect, and I am afraid of its spreading over the garden. J. H. DICKSON.

[The insect which is attacking your Apple-trees is American-blight. Get a little paraffin, and with a brush daub it well in where the insects are. A little later wash them out with strong soapy water, then mix a little soap, clay, and paraffin to make a paste, and daub it into any cracks or wounds in the bark where the insects are. If any appear later—and the summer is the chief season for them—follow up with the treatment first advised.]

The Gooseberry Caterpillar.—These last two seasons I have been plagued with the caterpillar on my Gooseberry-bushes and Currants, and have had to see fellows go to destroy them, and also hand-pick them. Can I do anything now to prevent this occurring next season? Would dressing the ground with gas-lime below the bushes help? I would be glad of your advice.—E. H. GOSWELL STRILAND.

—The foliage of my Gooseberry-bushes is just now being devoured by a small green caterpillar with black head and small black spots. On many of the bushes not a single leaf is left. I should be glad to know how best to get rid of this pest.—H. L.

[At this time of the year all caterpillars that infest your bushes are hibernating in the soil as chrysalides. If you could fork up the soil round the bushes so soon as the leaves fall, and could turn fowls in among them, they would destroy great numbers. You could fork again a few weeks later. Failing this, let the soil over all the same, then strew about beneath the bushes gas-lime well broken up. Put on at the rate of half a bucket per rod, but let it be thickest close under the bushes. In the spring, after the flowers have set take advantage of a damp evening and smother the bushes with soot.]

Woodlice in Peach-house.—Many of the Peach-trees in a cold-house are each season destroyed by woodlice. The walls (which are of old brick) were plastered last winter, in the hope of getting rid of these insects, but they seem to come up out of the ground. I managed to keep them in check to some extent this year by the use of woodlice powder. I should like, however, to know if it is possible to do anything towards really exterminating them before next fruiting season?—H. L.

[One of the best ways of destroying woodlice is to pour boiling water over them, as it kills them in a wholesale manner if you can find out where they congregate. They are fond of hiding under bricks, slates, tiles, pieces of board, etc. Lay some of these about and lift them every morning. They may be poisoned by boiling small pieces of Potato in water in which arsenic has been boiled. One part of Steiner's vormin paste mixed with three parts of Barley-meal, and put in small quantities on to pieces of slate, card, etc., has been very strongly recommended, also phosphorus paste spread on pieces of bread and butter. They may also be trapped by folding long strips of brown paper in half lengthwise, and smearing one side with treacle and beer, and laying them about in the haunts of the woodlice. They will creep into this shelter, and can easily be shaken into boiling water.]

Wireworm in garden.—My kitchen garden is so badly infested with wireworm that everything is eaten up. I have tried soil, salt, lime, but all to no purpose. I have not tried gas-lime, as I have been told that for twelve or eighteen months everything grown in it will taste of tar. Is this a fact? Can I do anything else to kill the wireworm? I have been advised to lay the garden down in Grass for two or three years, at the end of which time the wireworm will have disappeared. Is this so? If so, I should be glad if you would give me some idea as to whether it would be advisable to turn, say, one-third of it into a sort of rabbit-paddock or court (size 20 yards by 15 yards) I have no use for the Grass otherwise.—WARREN.

[You need not be in the least afraid to employ gas-lime as a dressing in your garden. There is no tar in it. Its chief constituent other than lime used to purify the gas is sulphuric acid; but any harmful effects that may have on crops is quite minimised if properly treated. Spread it so soon as ground is vacant at the rate of a bushel per rod, well breaking it, letting it be exposed on the surface for four weeks, and, as it breaks or pulverises, more evenly spreading it with a big rake, then digging it in to well mix it with the soil. It is the most potent destroyer of wireworm we have. You may give a dressing of manure, if you wish to do so, in February or March, well digging it in, and crap at once with perfect

safety. Laying down in Grass is the primary cause of wireworms, as the fly so readily deposits its eggs in the Grass, and birds cannot get at the wireworms.]

INDOOR PLANTS.

THE SCARBOROUGH LILY (VALLOTA PURPUREA).

This is one of the few Cape bulbs that have retained a hold on public estimation, and one often sees better grown plants of it in a cottager's window than are generally found in large gardens. One of the main secrets in its culture is to allow the bulbs to become thoroughly established. It dislikes frequent shifts, and never flowers so freely and strongly as when in a root-bound condition. It must have plenty of food during the growing season. From the time the plants start into growth until the flowers appear frequent supplies of

PROPAGATION.—To increase this it is only necessary to take off the small bulbs that form round the parent and put them into some sandy soil. If a dozen little bulbs are dibbled into a small pot and shifted on as they fill the pot with roots, never attempting to disturb them in any way, they will make rapid progress, and a large specimen will soon be had. It can also be easily increased from seed, which should be sown as soon as it is ripe.

POTTING should be done when there are signs of growth commencing, after which a little warmth for a week or two would be beneficial. Care should be taken that the plants are never overpotted, as greater success in flowering always follows if the bulbs are crowding one another out of the pots.

NOTES AND REPLIES.

Primulas.—Primulas of the *obconica*, *stellata*, and *sinensis* types should now be allowed to form their flower spikes, and may get a little liquid-manure occasionally.

of starting into growth, and directly this is soon they must be shaken clear of the old soil and repotted. As these Arums are liberal feeders, a mixture of 2 parts loam to 1 part each of leaf-mould and well-decayed manure, with a little sand, will suit them well. During the growing period they need a temperature above that of an ordinary greenhouse—indeed, filling an intermediate structure, they may be grown in the coolest part of the stove and hardened off to a greenhouse as spring advances. Take particular care that aphides do not attack the foliage.]

Amaryllis Johnsoni.—Enclosed is a flower from a spike of a bulb. Will you kindly tell me its name, how to grow the bulbs successfully, and when I should report them, and if I manage to save some seed when it should be sown, and when to expect seedlings to flower? I have three 5-inch pots full of the bulbs, of various sizes, as they increase very rapidly. In each pot are the same sizes of bulbs, and though all have been similarly treated—grown in a very sunny window—for some reason only one bulb has bloomed, with three spikes on as many bulbs. The first spike to flower had twenty-one blossoms, the first to open being 7 inches long, 8 inches wide (much larger than the one sent). I found, if repotted, all the roots died, so I have left them untouched three years. They have had water all the year, being evergreen, with much water and liquid-manure during spring and summer. But as I have been growing these bigger bulbs for six years, I consider they should have flowered before now, and should therefore be grateful for your advice.—FRANK H. W.

[The flower sent is that of *Amaryllis Johnsoni*, one of the oldest hybrids in cultivation, and, of course, vastly inferior to the newer forms. It is very free-flowering, but needs more heat than a sunny window to induce it to bloom regularly. The cultivation of the different hybrid *Amaryllises* has been so often dwelt upon in *GARDENING ILLUSTRATED* that little need be said on that point, but, briefly speaking, they are kept dry during the winter in a temperature of 50 degs. or thereabouts, then, with increased heat in the spring, they throw up their leaves and flowers. After blooming they are fully exposed to the sun in the warmest part of the greenhouse, and kept watered, till towards the end of the summer or in early autumn the leaves die off, after which they are kept dry throughout the winter. This is by far the most successful way of flowering them, the thorough ripening of the bulbs thus ensured being very necessary. If treated as evergreens, very few flowers are ever borne. Repotting is done early in the season before the bulbs start into growth, but this need not be done annually; indeed, they will often stand for several years and flower well without being potted. Your plants are flowering unusually late, so that there will be little time to ripen off the bulbs this autumn. We should, however, advise them to be kept dry throughout the winter, when, with the return of spring, if given more moisture at the roots, they will in all probability start into growth and flower earlier next year. The seed should be sown in the spring in, if possible, a temperature of about 60 degs., and if grown on freely the strongest bulbs will take three years to flower. The young plants must not be rested during the first winter, and only to a partial extent the second. The word is pronounced *Amaryllis*.]

Bulbs.—This is the month for bulbs, and if it is wished to succeed well, every precaution should be taken as advised in a previous number of *GARDENING ILLUSTRATED*. Often when one is uncovering his pots after six weeks' plunging, the delicate green shoot of the



The Scarborough Lily (*Vallota purpurea*).

guano, root, or manure-water are very beneficial. The *Vallota* should never be dried off. As the winter advances, the supplies of water have, as in the case of most other plants, to be lessened, but moisture at the roots should never be entirely withheld. A certain amount of foliage should be left to draw up the sap and start the bulb into fresh growth early in the spring. Another important point during the winter is to see that the plants have plenty of light, as it has been found that plants which enjoyed a maximum of light during the dull months of the year have invariably flowered the best. Where any quantity of bulbs is grown, a succession of bloom may be kept up by placing a few new and again in heat in the early spring.

Soil.—With respect to soil the *Vallota* is not at all fastidious, a mixture of loam and peat with some sand suiting it well. A porous compost is indispensable, as the roots being thick and fleshy cannot well exist in soil that is of a close nature.

The first-named does in a cool-house, but the others require some heat, say 50 degs. to 55 degs., to flower them properly.—D. G. McIVER, *Bridge-of-Weir, S. B.*

Growing yellow Arums.—I have just had sent me four bulbs of a yellow Arum from South Africa, and should be glad to know how they should be grown. I have been very successful with white Arums, and have a greenhouse with no heat, except a small stove in very cold weather. The bulbs are beginning to shoot.—J. V.

[Failures in the culture of the yellow Arums are frequent, the principal cause being that they are often spoken of as, except in colour, a counterpart of the common Lily of the Nile, whereas in reality they require totally different treatment. In the first place, they are natives of a much warmer district than the white-flowered kind, which occurs in Cape Colony, whereas the yellow-flowered forms come from much further north. Then they form a roundish tuber, which pushes up its foliage early in the year, then flowers, and towards the end of the summer goes to rest, during which it should be kept quite dry. About the end of the year they will generally show signs

be done annually; indeed, they will often stand for several years and flower well without being potted. Your plants are flowering unusually late, so that there will be little time to ripen off the bulbs this autumn. We should, however, advise them to be kept dry throughout the winter, when, with the return of spring, if given more moisture at the roots, they will in all probability start into growth and flower earlier next year. The seed should be sown in the spring in, if possible, a temperature of about 60 degs., and if grown on freely the strongest bulbs will take three years to flower. The young plants must not be rested during the first winter, and only to a partial extent the second. The word is pronounced *Amaryllis*.]

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Hyacinth, or whatever it may be, is bruised and broken. To prevent this place a thumb-pot over the bulb after potting, or if there is a number of bulbs invert a pot of the same size as the bulbs are in over them, which will ensure their safety. This system is much in vogue with exhibitors, but I fail to see why it should not be adopted by gardeners and amateurs alike. Roman Hyacinths which were potted or boxed at the beginning of last month may now be removed to heat, shading them for a few days till they are somewhat murred to the light.—D. G. M.F.

TREES AND SHRUBS.

RHODODENDRON AUCKLANDI (GRIF-FITHIANUM) AND ITS HYBRIDS.

Rhododendron Aucklandi is one of the finest members of the family, but being tender and requiring a good-sized structure for its development, it is uncommon. Though unsuited for outdoor culture, some of the limited number of hybrids raised from it are quite hardy and valuable from their distinct character. Such an one is Pink Pearl, of which R.

Veitch and Son between *R. Aucklandi* and a garden form known as *allanum grandiflorum*. It is a very pretty variety, whose saucer-shaped blooms are pure white, except a few roddish spots on the inside. Many other cultivators have obtained hybrids between *R. Aucklandi* and other forms, but they have not become generally cultivated; indeed, of those above-mentioned the only ones that are readily obtainable are Pink Pearl and Manglesi.

Their cultural requirements in no way differ from those of the other garden forms of hybrid *Rhododendrons*—that is to say, a fairly moist soil, containing at least a good proportion of vegetable matter, while if they can be planted so as to be partially sheltered from spring frosts, so much the better, as *Kewense* at least is rather apt to start early. T.

CLIMBERS FOR COTTAGE.

I HAVE a long, low, double cottage (sketch enclosed), naked slope, in Swiss cottage style, in a northern county in Ireland, which I should like to stow with choice creepers, and, not knowing enough about plants to arrange a scheme of foliage and bloom which would give a picturesque effect summer and winter, I should feel obliged by the Editor's kind assistance. My idea would be to work out a scheme which would make the long frontage one harmonious stretch of varied tints of foliage

and lavender shades; Anderson's Henry, white, very free; Lady Caroline Neville, white, suffused red; Mme. Van Houtte, large white, free; Jackmani, snow white, are the best whites. If you plant Clematises alone, the better way would be to plant two of each to obtain quicker results. Of Roses, Aimée Vibert, white; Alister Stella Gray, orange-yellow and straw yellow; Mme. Carnot, golden-yellow; Climbing Perle des Jardins, yellow; and W. A. Richardson, orange and yellow. You may also increase the number of *Pyrus japonica* (the red kind), and, if the conditions favour, you may employ the pretty blue-flowered *Ceanothuses*, that should do quite well in your case. If you prefer it, the Roses and Clematises may be planted in conjunction with each other. It may also be possible in the central part to plant the free-growing Crimson Rambler Rose, which is a great success where it obtains room. The strong-growing Virginian Creeper—i.e., *Ampelopsis hederacea*—you do not appear to have room for, unless you could allow it on the roof. If this were permissible we would like to name two fine plants giving snow-white masses of bloom—*Clematis montana* in spring, and *Clematis Viticella alba* in late summer. Of the latter we have in mind an instance where it covers the small-leaved Virginian Creeper with its pure blossoms, and makes a picture of rare beauty indeed.]

Flowering climbers.—Your correspondent, "S. W. F.," in his very interesting article on "Flowering climbers," in your issue of the 20th of September does not mention a creeper which I have lately seen growing and flowering in the greatest profusion. I allude to *Solanum jasminoides*, a plant which will not, of course, grow everywhere. I have recently been staying at Minehead, and between that town and Porlock Weir several cottages were partially covered with this climber in full blossom, the large bunches of white flowers having the most charming appearance, reminding one of white *Plumbago* more than of anything else. I had never seen it growing out-of-doors before, and was much struck by its effectiveness when grown against the wall of an old cottage, climbing about at its own sweet will. To judge by the way many plants grow, the climate of Minehead and the neighbourhood must be a very mild one; the plants in all the gardens seemed to grow in the greatest luxuriance. At Dunster Castle there are two Palms near the Castle which are said to stand out all the year, and there is also a Banksian Rose growing to a height, and hanging in festoons in a way I have never seen before. Close by it is a very fine *Wistaria*, which also grows to a great height; against one of the walls is trained a Lemon tree, some 9 feet or so high, bearing a very fair crop of fruit, some of which are quite ripe. In the winter, however, it is protected by some glass lights, which are placed in front of it. There are some common Laurels in the grounds which have grown into trees, and quite puzzled some of the visitors who were being shown round as to what they might be. They were fruiting well, some of the berries resembling small Cherries, which also caused surprise.—G. S. S.

Hardy herbaceous plants.—In planting new borders with hardy herbaceous subjects, or in replanting old ones, from the second week in October to the middle of December, provided frost does not hinder, is the best time of the year to proceed with the work. In old borders, for instance, one can generally locate the whereabouts of certain specimens, because of the foliage, etc., which still remains; but when one puts off the matter until spring there is a likelihood of thrusting the spade through clumps, unless each root has its own labels, a precaution which is not always followed; moreover, the plants which are divided, say, in November, and placed in new quarters, get established by spring fairly well, and, this being so, their chances of blooming another season are much greater than newly-planted stuff. That it is needful for many plants of a herbaceous nature to have an overhauled and dividing at stated periods is admitted, and one has only to leave for a few



Rhododendron Pink Pearl.

Aucklandi is one of the parents. The flowers of this, which are borne in somewhat loose trusses, are individually about 4 inches across, and of a delightful shade of clear rose-pink, with but a few small brownish spots upon the upper segment. It has, within the last two or three years, made great headway in popular favour, and the demand for it is so extensive that it still realises a comparatively high price. It was raised and distributed by Messrs. John Waterer and Sons, of Bagshot, and was first shown by them in the spring of 1887, when it was given an award of merit by the Royal Horticultural Society. Three years later this was increased to a first-class certificate.

A beautiful series of hybrids between *R. Aucklandi* and *R. Hookeri* was raised at Kew, and the different members have proved to be perfectly hardy there. To this group the collective name of *Kewense* has been applied. In these different forms the flowers vary from pure white to a deep clear rose, which last is almost crimson when in the bud state. In all of these the flowers are shallow and the trusses loose, as in the typical *R. Aucklandi*. There is undoubtedly a great future before the members of this group, but up to the present they are scarcely to be obtained from nurseries. The variety *R. Manglesi* was raised by Messrs.

and contrasting blooms, and which would not be very bare in the winter. I have already some very scarlet *Pyrus japonica* and a young variegated Ivy. Would the Editor kindly suggest a combination of creepers that would suit this peculiarly long and low frontage, and bring out strongly the high parts in the centre? One half of the frontage might be a duplicate of the other, starting from the centre. I have a fancy for the light-colored Clematises, Virginian Creepers, Roses, and Vines (for foliage only). The aspect is very sunny, and sheltered from cold winds. It is south-west, nearly south.—T. B. D., Ireland.

You could with advantage employ any of the following plants, all of which are good for walls, and not too luxuriant. For the highest portion you could use the Coloured Vine (*Vitis Cœlestis*) or the purplish-leaved form of the small Virginian Creeper, both notable for colour effect in autumn. Other good plants may include *Lupinus arboreus*, yellow, very free, requires slight fixing. Any of the *Weigelas* are good, flowers of varying rose and red tints. *Cratægus Pyracantha* and its variety *C. Lelandi* are docket with scarlet berries a long time in autumn, and very fine in effect. The finest silver-leaved Ivy is *Hedera madeirensis* fol. var., or *Euonymus radicans variegata* is more than its equal as a silver-leaved wall plant, self-adherent too. Light-colored Clematises should include *Lady Lonsdaleborough*, *Wm. Kennett*, *Lord Lonsdaleborough*, *Lady Boville*, all of the silver-crested

years clumps of Rudbeckias, Starworts, Delphiniums, Phloxes, etc., to find out how ungainly they become, and, what is as bad, how they degenerate in the quality of their blossoms.—LEAURST.

VEGETABLES.

THE POTATO CROP.

Now the crop is being lifted we shall be able to form some opinion as to what extent the disease has extended among the tubers, and it would be interesting reading did the many writers in *GARDENING ILLUSTRATED* tell us how their crops have turned out and what varieties have taken the disease the worst. It would be more to the point did they tell us what kind of soil they have to contend with. I do not grow many varieties for late crops, and stick to those I find do best after some years' trial, of course, keeping flavour uppermost, however good a cropper a variety may be. *Magnum Bonum* used to be the standard sort, but of late it has not done so well as formerly, though I am not sure whether I shall not have to hark back and give it another chance. This year many of us will be tempted to give *Northern Star* a trial. It appears to be disease-resisting; if so, and the flavour not so good as could be wished, perhaps some of our raisers will improve matters in this direction.

From my experience the Potato crop is not

been very much better in quality and less free of disease had artificial manures been used. This is why I think contributions from your many readers would prove instructive if they would kindly name the sort of soil, manures used, and varieties planted. I think a great mistake is made in not changing the seed oftener than is done, procuring it from quite a different soil from that in which one has to grow tubers. EAST DEVON.

WINTER PROSPECTS FOR VEGETABLES.

I HAVE been taking stock of my garden crops, and, so far, think that generally the prospects for the winter are very fair. All my Potatoes have been lifted, and these, I regret to say, are my poorest crop. The Potato crop has been very disappointing; with the early ones many seed-tubers failed to decay, and, as is always the case, the crop of new tubers was poor on all those plants. Quite one-third of the plants came very weak—a general feature with Potatoes this year—and last of all there is a good deal of disease in the late ones, so that the general crop is from one-third to one-half less than has been lifted in some previous years. The Parsnip breadth is a good one, the roots being of good size and sound. Maincrop Carrots, too, are good, although not over-large, which is no defect, and I have from a July sowing a bed of young Carrots, from which very many pullings of soft, sweet young roots

There is in the garden a nice breadth of Snowball Turnips now being pulled from a July sowing, and a second sowing made in August has been thinned and hoed, and will give plenty of nice bulbs in a week or two. Besides these I have a few rows of Golden Globo Swede Turnip, sown late to secure medium-sized bulbs for cooking in the winter. These, if not large, make very nice food indeed. Late Peas are over, but there is yet plenty of Runner and Dwarf Kidney Beans from late sowings. At this time of the year early sowings of Runners are often over, but it is then that a June sowing proves to be so useful. This sowing is always made in a sheltered position to enable the Beans to escape early white frosts. I hope to have plenty both of Runners and of Dwarfs by covering up the latter at night till the end of October. Marrows have of late felt the cold nights very much, and are practically done, yet they have, during the all too short season, rendered good service. If a few plants could be protected early in September under a large frame, fruit might be had until the middle of October at least.

All outdoor Tomatoes have failed, owing to the coldness of the summer. Next year I shall put out plants only that have been got into 6-inch pots, are 18 inches in height, and, if possible, have set one truss of bloom. That can be done in a greenhouse. The Tomato plants in the greenhouse have given a good crop, but they will soon have to come out as the house is wanted for other things.

The great winter crop is, of course, the Cabbage tribe. Of late winter plants, there is plenty yet to be got out during October. There is a breadth of *Ellam's Early* well established to give small heads in February, and there is a small breadth of *St. John's Day* Cabbage ready for cutting now. Savoys will be plentiful later, but they are yet small. With a wealth of Autumn Giant Cauliflower turning in, Savoys are not wanted, and there will soon be plenty of Brussels Sprouts, for growth is remarkably good. I have nice Blood Red Cabbages. There is plenty also of late Kales, Sprouting and White Broccolis. Not least, there are several rows of good Celery. So far my garden gives every hope of supplying an abundance of vegetables all the winter.

GARDENER.

PREVENTION OF THE ONION FLY.

GENERALLY the plot intended for the Onions is that which was previously occupied by Cabbage or some of the Brassica family. Very likely it will have the refuse of the previous crop left on it for the purpose of being dug in. If there has hitherto been a difficulty in securing a clean crop of Onions, this is a very questionable proceeding, as amongst such refuse the pupæ are apt to harbour, and the better method is to clear it off. The soil should be dug deeply with forks and thrown up roughly, and immediately afterwards have a light dressing of gas-lime—not a heavy dressing by any means, as this might have as bad an effect upon the Onions as the grub, but just sufficient to colour the surface. The soil should then be forked over, and if possible again during the winter. This forking over will bring the pupæ to the surface to be acted upon by frost. If gas-lime is not procurable, use freshly-slaked lime. More surface will be exposed if the soil is ridged, the frost also working right through it. The fault with trenched soil for Onions is that it is apt to favour thick necks and late maturing, especially if the season should be wet. If trenching is intended, rather depend upon bastard trenching, which should be done in the autumn. The manuring should take place about a month before the time intended for sowing, at which time the spring precautions should commence. These will consist of dressing with wood-ashes, soot, and a little salt, each of which, besides being of great value in combating the fly, is also a capital fertiliser. Lime should not be used at this time; not that it would prove injurious, but it would counteract the influences of the soot and salt. Soot is very distasteful to the fly, and a freer use of it would prove beneficial in those gardens where these insects cause such destruction. With salt more care is needed, but a little used judiciously is of great benefit.



Potato White Elephant.

nearly so bad as some writers would have us believe, though my soil being fairly light, no doubt I have fared better than those who have a retentive soil to deal with. I am speaking now of the main crop grown out in the field, which only comprises three varieties—namely, *White Elephant*, *Up-to-Date*, and *Imperator*, the first turning out by far the best and with fewer small ones than for many years past. This is of good quality, and usually fetches a much better price than any other variety grown around here, and is more cultivated than the other two varieties put together. For the past two or three seasons, while being fairly free from disease, the tubers of *White Elephant*, or a great many of them, when cut have a dark ring round them, and last year scores of bags were quite unsaleable on this account. *Up-to-Date* proves a good late Potato and keeps well into June or even July. *Imperator* crops heavily and is good in quality late in spring. Earlier varieties grown in the garden, such as *Sharpe's Victor*, *Puritan*, *Improved Ashleaf*, *Reliance*, *Surprise*, and *Satisfaction*, were, with the exception of the first, badly diseased. *Improved Ashleaf* and *Satisfaction* are more heavily cropped. The ground in garden and field had a fair dressing of stable-manure and partly decomposed leaf-soil, not by any means heavy; but there is not the least doubt, could anyone have foreseen the cold, sunless season we have had, Potatoes in general would have

will be had during the winter. There are also a few rows of the far from commonly-grown root *Salsafy*, which, when well grown, is delicious if properly cooked. I wonder in how many gardens can be found a few rows of *Witloof Chicory*? Of this I have several, because the roots, after the leaves have died down, are lifted and placed, a few at a time as wanted, into a dark, warm place in soil, and well watered, produce a blanched and most delicious form of salading. As for *Seakale*, I have a breadth of some 500 plants. These, again, will, during the winter, the roots being treated as is the *Chicory*, give stem growth well blanched, tender, and of the nicest possible description. It is but needful, as the roots are lifted later, to cut off all the side roots, make them into root cuttings, lay them in thickly for the winter, then dibble them out into well-prepared soil in rows about 20 inches apart, to have plenty of fine *Seakale*-roots and crowns next year. Another good root crop is *Beet*. The globo-rooted ones have been pulled and eaten long since, and now the top-rooted ones are being used. Still, these will, if left, continue to grow well till the end of November, and then they will be lifted and stored in sand for use as needed. Good *Beet* ranks amongst the most nutritious as well as pleasant eating of all roots when properly cooked. I grow the *Cheltenham Green Top* and *Blood Red*, both having the grain and rich colour.

Before the soil is broken down after being laid up to the action of frost, the burned refuse should be first spread on and then a good dressing of soot, the whole being now knocked over with a coarse rake, this operation working the ingredients into the top 2 inches of surface. The whole surface having now been equally trodden over, a mere sprinkling, or about an ounce to the square yard, of salt should be applied. The drills having been drawn and the seeds sown, nothing more will be necessary until the young Onions have grown 2 inches or 3 inches. At about this period the fly emerges from its pupæ stage, and soon commences to look about for a suitable place to lay its eggs. This is just within the outer edge of the skin of the young Onions and close to the ground. When attacks are known to have previously taken place, it is unwise to wait until the effects of the injury are visible before applying a remedy. It is better by far to adopt the same tactics as with Celery—viz., dusting the foliage over with soot, or syringing with well-diluted petroleum. A decoction of Quassia, and a suitable insecticide mixed with it, would be useful. If the whole quarter is syringed over at weekly intervals, the flies would not care to settle.

There is no mistaking the presence of the grub when once the work of destruction has begun, for the young Onions take on a yellow cast and the tops fall over. When this occurs, although there is not much likelihood of making a clearance, it may be checked considerably by digging up all affected plants and burning them. If merely pulled, the grubs are apt to be left behind. As there are two or three generations until the season occurs for them to enter the pupæ stage, remedial or preventive measures should be persisted in up till mid-summer. As the Onions are harvested take care that all trimmings are cleared away and burnt.

Transplanted Onions are seldom, if ever, affected, and this has led to the plan, where the grub is such a pest, of sowing the seed in a prepared cold-frame, and as the plants become large enough they are transplanted. Onions treated in this way grow to a large size, and they also ripen up well.

SOME LETTUCE OF THE SUMMER.

THE demand for Lettuce is governed in some seasons very much by the state of the weather. Thus, while in hot weather they are much sought for, in cool summers they are not so much in request. Few can complain of the great heat of the past summer, though for a short period the temperature certainly did assume a tropical nature. Previous to and since that short term there have only been fitful summer periods, cloud and wet more than drought preponderating. One would naturally expect that the demand for Lettuces would continue at low ebb. This, according to my experience, has not been so, but, instead, fewer heads were wasted than usual, from the fact of the demand being equal to the supply, despite, too, that from twenty to thirty dozen were cut weekly throughout the summer months. Names of Lettuces are legion, all more or less distinct and good. I do not propose giving a list that would suit any or every summer or any kind of soil, because that would be almost impossible, for the variation of weather and its influence on land and crop render a good Lettuce in one season almost worthless one in another. Transplanted Lettuces usually are more prone to run to seed prematurely than are those sown on the land they are intended to occupy, and for this reason I invariably sow permanently during the later months of the summer. I am not quite sure, but to me it seems no crop so markedly shows the influence of a declining sun. In the summer, given favourable weather and treatment, Lettuces go forward and soon come to maturity. In the autumn it is different, for unless they have a good open site their growth becomes, at any rate in the Cos section, attenuated and thin. There is an absence of the full heart which one so much enjoys and expects in summer, outer leaves taking precedence over the tender, unfolded and easily-digested hearts, and a greater length of

time is required to get them ready for use. The different kinds of Superb White Cos have this summer been exceedingly good and of large size. A most distinct and wonderfully good Cos Lettuce is Little Gem. No variety that I have grown has pleased me so much as this. On the ground it may, in some stages of its growth, be taken for a Cabbage variety, but a closer examination of it will soon decide its class. Continuity, which in a dry season is so good, did not develop the same fullness of head this year. It is a good drought resister, and Marvel, which is slightly darker, is similar. Perfect Gem is fine for early summer, and so are Favourite and New York, two curled-leaved Lettuces. Intermediate, a dark-leaved kind, said to be the result of a cross between a Cos and Cabbage, is a good summer and autumn Lettuce. For early summer use Commodore Nutt and Paris Market are good, while the good old sort, All-the-Year-Round, must certainly not be despised. Though Hicks' Hardy White is a good winter and spring variety it is also a very good summer one. The multiplication of varieties is scarcely called for, when the perusal of catalogues from the best seed houses reveals the better and more profitable kinds. The season, however, has taught one useful lesson, which is not to depend on any one kind with the hope of finding it suitable for every season alike, wet or dry. W. S.

NOTES AND REPLIES.

Pea Gladstone.—I enclose four pods of Gladstone Pea, from a dish picked to-day, October 6th, in confirmation of your remarks upon this fine kind in a recent issue; nor is this the last gathering from the row.—A. HOBKINSON, *Frame*.

[Pods fresh and green, each containing on an average nine fully developed Peas of excellent flavour.]

Potatoes on meadow land.—I am hoping to plant Potatoes on new ground—meadow land—which is to be double dug. The soil is sandy. Would you advise me to have any manure dug in? I shall have the turf dug in.—TODD'AY.

[You should have no difficulty in securing a good crop of Potatoes from meadowland, the turf being well buried down. If in doing that you can well smother the turf when thus put down deep with plenty of fresh soot, it would later both act as manure, and help to destroy wireworms, should there be any, as is so commonly the case with old turf. If you can get that done early in the autumn it would be good policy to top-dress and fork in early in March a light top-dressing of stable-manure, rather short, and a few times turned before it is added. Then, being a sandy soil it should be easy to dibble in the tubers early in April. Take care and have good sound, well-stored seed-tubers, plant all about 5 inches deep, and give ample room. Crowding Potatoes in planting is bad policy.]

Cabbage for spring use.—Assuming that seeds were sown early last month, the little plants ought to be ready to transplant into nursery lines 4 to 6 inches apart by now. I always prefer to prick them out, instead of waiting until they are ready to be transferred from the seedling bed to their permanent quarters, especially the first sowing, as by so doing nice sturdy plants with good balls of soil attached to the roots can be got by the middle of October, when the removal will cause little or no check to the plant. Usually Cabbage follows Spring Onions and a wise course too, as the ground was got in good heart for that crop. After the quarter has been cleaned, fork up a piece large enough to take the plants, set them out with a dibber, afterwards applying water, if necessary, and scattering a little slaked lime if slugs abound. Most gardeners have their favourites, and after many trials I have failed to find a better early Cabbage than "Ellam's," very few bolting, as a rule. It is quite large enough for a gentleman's table, and it still has another advantage as closer planting than for larger varieties can be practised. I give 18 inches each way when put out in permanent quarters. As soon as the plants make a fresh start the soil should be stirred among them, and a watch kept for slugs; when towards the first fortnight in October they should be ready to transplant into drills, taken out with a mattock on the said Onion ground without any further digging. Loose soil should be well trodden before planting, Cabbage enjoying a firm root.

BOOKS.

"THE PRIMROSE AND DARWINISM."

Those who accept the Darwinians at their own valuation would be very much enlightened by reading this little book, which shows the shallow methods and hasty reasonings of much of the school of Darwin and Lubbock, not to speak of their wild followers, like the late Mr. Grant Allen. Darwinism was a sort of craze, and the followers of Darwin were pretty much like the florists of old, who would be inclined to knock anybody on the head who did not accept their little formulae. Darwin, as the result of observations made by him on the fertilisation of flowers, in the manner to be described later, drew several conclusions, out of which we select two, in order to show in part the author's method in dealing with them:—

"The first and most important . . . is that, generally, cross-fertilisation is beneficial and self-fertilisation often injurious." And, again: "Scarcely any result from my experiments has surprised me so much as this of the prepotency of pollen from a distinct individual over each plant's own pollen, as proved by the greater constitutional vigour of crossed seedlings." Furthermore: "The simple fact of the necessity in many cases of extraneous help for the transport of pollen renders it highly probable that some great benefit is gained; and this conclusion has now been firmly established by the proved superiority in growth, vigour, and fertility of crossed parentage over those of self-fertilised parentage."

We should here point out that by self-fertilisation is meant that the pollen of its own flower (or of a flower on this same root) fertilises its own stigma. By cross-fertilisation is meant that pollen from a flower growing on a different root (in case of heterostyled plants one of a different form) was applied to the stigma. Now Darwin, in making his experiments, made use of the following plan, as described by himself: "A single plant, if it produced a sufficiency of flowers, or two or three plants, were placed under a net stretched on a frame. On the plants thus protected" (from the visits of bees and other insects) "several flowers were marked, and were fertilised with their own pollen, and an equal number on the same plants were at the same time crossed with pollen from a distinct plant. The crossed plants had not their anthers removed."

To the efficacy of this method for giving any certain results the author makes the following objections:—

"The cross-fertilised plants had a great advantage. The self-fertilised plants had only their own pollen, and that developed under a net to fertilise them; but the cross-fertilised plants had not only their own pollen—their anthers were not removed—but pollen from another plant applied to them as well, and that, too, grown naturally outside the net; for Darwin wished, by leaving the flowers their own pollen, and, at the same time, crossing them with other pollen, 'to make the experiments as like as possible to what occurs under Nature, with plants fertilised by the aid of insects.' The cross-fertilised had, consequently, two sets of pollen to choose between, and whichever happened to be most in its prime, that would exercise a 'propotent' influence in the fertilisation. But the flowers fertilised with their own pollen had no other pollen but their own to depend upon, and that developed under a net, which must fertilise them or none at all."

Moreover, as the author points out, the flowers under the net were under the further disadvantage of being excluded from the full influence of the wind, whilst, on the other hand, a still further advantage was given to some of the crossed, in that, as Darwin says, they were "allowed to be freely crossed by the insects which incessantly visited them;" and this, as the author remarks, though the seedlings, which were raised from the seeds produced from the two sets, were afterwards to be compared in order to estimate the potency of self and cross-fertilisation.

"The influence of the solar rays, too, would

"The Primrose and Darwinism," by "A Field Naturalist," M.A., Camb. London: Grant Richards.

be greatly diminished in passing through a closely-meshed net, and consequently they would be much debarred from exercising their full maturing power on the anthers, and so on the pollen of the self-fertilised flowers. Radiation would likewise be almost entirely prevented by the net, and the dew would consequently fail to fall on the anthers. The importance of this influence cannot be over-estimated. In the mornings of early spring, after clear and still nights, we have frequently found the flowers of the Primrose bedrenched with dew. Occasionally the dew deposited on the anthers of the short-styled form has been so great as to lie upon the anthers and entirely to fill the orifice of the corolla. Thus the anthers of neither form could attain under such conditions their natural condition for fertilisation. The stigmas would likewise be similarly affected, as the cups of their flowers were likewise very frequently filled with dew."

As regards the other chapters of the book, we regret we have not space to attempt to do justice to the author's very clear and incisive arguments, notably Chapter XX., in which the Darwinian theory of a special relation between the stamens and petals of the same length in trimorphic flowers (different flowers of the same species, in which there are three different lengths of styles and stamens) is shown to be untenable. The book presents a clear case for the side opposed to many of Darwin's "facts." It is a plea for naturalism as against "net-ism."

GARDEN WORK.

Conservatory.—Tuberous Begonias and Gloxinias have now ceased for the most part to be attractive, and should be removed and encouraged to go gradually to rest for the winter. If kept dry, Gloxinias, though regarded as stove plants, do not require a stove temperature when at rest. They may be kept quite safely under the greenhouse stage, the pots being laid on their side till there is some sign of growth. The fibrous-rooted Begonias are now coming in, and will take the place of the tuberous-rooted kinds. Though the flowers of the winter-flowering sorts are smaller, they are produced very abundantly, especially such kinds as *Gloire de Lorraine*, which is one of the brightest plants for the winter in a moderately warm conservatory. As soon as the plants are fairly settled in their winter quarters it will be necessary to be on the look-out for insects. Green-fly is pretty sure to be present as soon as fires are lighted, if not before, and, if not destroyed, they will spoil the flowers and damage the health of the plants generally. Nicotine is the best remedy for insects, and the best mode of using it is to fill the house with the vapour, which is easily done in a simple way with a spirit lamp and a copper dish supplied by the manufacturers of the nicotine. It has been discovered that spraying with nicotine mixed with water is as effective as vaporising. Thus, if only two or three plants are attacked and if these are promptly dealt with, the insect attack may be nipped in the bud, so to speak, and a considerable saving effected. In the case of a conservatory attached to the dwelling-house, there is no danger of the fumes of the nicotine entering the dwelling-house and producing unpleasant consequences. When Cape Hosts and other hard-wooded plants are taken to the conservatory, they should be placed in a light position and be lifted up off the damp border or placed on a stage, if there is a stage or stand of any kind in the house, and the watering must have special attention. Hard-wooded plants do not require more water than other plants, but, if neglected, they will die. Other plants will recover from a deficient supply of water, but Cape Hosts seldom altogether get over a thorough drying, though they may linger some time. *Crowea saligna latifolia* is a pretty pink-flowered greenhouse hard-wooded plant in bloom just now, and not difficult to manage. *Salvia grandiflora* is very bright now, and a group or two will contrast favourably with the *Chrysanthemums*. Cuttings of this *Salvia*, rooted in February or later, will make good flowering plants the same season.

Stove.—Summer-flowering climbers, where trained under the roof, should have the growth reduced, as no shade is required for glass-

houses now. Even Ferns want all the light they can get now to harden growth. In pruning *Stephanotis floribunda* at this season thin out weak shoots, leaving strong ones a good length to flower, and training them in thinly to ripen. Get rid of mosly-bug by some means or other. Vaporising with nicotine will get rid of some of the old insects, and spraying with a solution of nicotine will be even more effective. There is a spraying apparatus in the market now which does not waste the mixture, and which will be found useful for dealing with single plants. Introduce a few pots of *Eucharis* from time to time from the cooler houses where they have been resting, and plunge in bottom-heat or stand the pots on a warm surface. Weak liquid-manure will give strength to the spikes and size to the blossoms. The usual winter-flowering plants will be coming on now in a night temperature of 65 degs., and, as many of these things may afterwards have to be taken to the conservatory, it will be better not to force too hard. Regulate the atmospheric moisture by the inside temperature and the heat of the pipes. Hard forcing will scarcely be needed yet to keep up the requisite temperature. The same rule applies to watering. Each plant must be treated separately and the knuckles brought to bear before applying the water-pot. Mistakes in watering now may have a far-reaching effect. *Achimenes*, *Gloxinias*, and *Caladiums* are now going to rest, and will require less water, but the drying-off should not be too sudden.

Pines.—Bottom-heat should range from 80 degs. to 85 degs.; atmospheric heat, fruiting houses, at night, 65 degs. to 70 degs.; successions, 60 degs. to 65 degs. The lowest point will usually be reached about sunrise, and the highest about the time fires are made up at night. The watering must be in careful hands; there is more danger in giving too much than too little, though either course should be avoided. Dew the plants over lightly with the syringe on fine days, and damp floors to give the necessary atmospheric humidity when required. Liquid-manure of the same temperature as the house should be given to plants swelling fruit until ripening commences. A look over twice a week will be sufficient now, and later, water may be required less frequently by plants plunged in moist bottom-heat-bed. Tree leaves form good plunging material mixed with tan, if tan is available.

Pruning early Peaches.—When Peaches are forced early, the trees must be pruned early, and it is not necessary to wait for the last leaf to fall, though early forced trees will probably be leafless now. Most gardeners nowadays go over the trees when the last fruits are gathered, and remove any of the wood which is not likely to be required, so that there will not be so much to do now. The main object is to keep the tree sufficiently filled with bearing wood in all its parts. The usual course is to remove all ties, and, when the pruning is finished, the branches are trained in such a manner as to completely fill the trellis. Before tying in the branches they are generally washed with warm soap and water, or a solution of Gishurst-compound is used. Apply it with a brush to the thick branches, and a piece of sponge to the smaller shoots, as it is important that the buds should not be injured. The sponge is drawn the same way as the buds project after the trees are pruned, washed, and trained, and the walls lime-washed. The borders should be top-dressed, removing some of the dry, exhausted soil from the surfaces before applying the fresh loam. The latter may be mixed with bone-meal. All fruits rovel in boxes in any form.

Cucumbers are now growing freely, and these plants set out early will be bearing. Only a light crop should be taken if the plants are expected to last through the winter. Night temperature, 65 degs. to 70 degs.; day, 75 degs. to 85 degs., according to outside conditions. Not much air will be required now, as it only wastes the fires.

Window gardening.—Fill window-boxes with small shrubs, or such hardy plants as Tulips, Crocuses, Narcissus, Wallflowers, Forget-me-nots, Violas. The new double-flowered *Arabis* makes an effective mass in a window-box, and a very cheap spring show may

be had by planting autumn-sown hardy annuals.

Outdoor garden.—There is plenty of good cuttings springing up from the centre of Pansies, which in many instances may be detached with roots, and if planted in a cold-frame in sandy loam, with a little leaf-mould, will make good plants in a short time. All kinds of improvements may be carried out now in the way of planting and turfing. The most important work in connection with planting operations is in the preparation of the ground. Nothing should be planted without breaking up the ground deeply. Even when single plants are dropped into an established shrubbery, a hole large enough to spread out all the roots and something more should be made. The time is at hand for clearing the beds of their summer occupants and filling in with spring flowers. Up to the present the beds of *Geraniums*, etc., have been very bright, and though there have been one or two light frosts no great harm has been done, and we are reluctant to pull up plants till the flowers fall. Beds can be cheaply filled with spring flowers by using autumn sown annuals and such biennials as *Forget-me-nots*, *Wallflowers*, *Cantorbury Bells*, and other *Campanulas*, especially the blue and white varieties of *C. carpatica*. *Primroses* and *Polyanthuses* sown early in heat and then pricked out in a shady border are now strong plants, and will flower in the spring. Though bulbs are cheaper than they were, if many beds have to be planted a good deal of money can be sunk in them. The cheapest things are Tulips and Crocuses. White Fox-gloves make charming masses among shrubs in the wilderness, and may be planted during the autumn.

Fruit garden.—Root-pruning, where necessary, should be done early in the autumn. Begin far enough away from the trunk of the tree, and sove as many of the smaller roots as possible. The work is usually spread over two years, but in careful hands the roots all round may be lifted and trimmed. Green Gage Plums when young seem on most soils to require root lifting and pruning a little to bring them into bearing. The Transparent Gage and Oullin's Golden Gage are more reliable than the old Gage. The latter only does well on certain soils. On the whole, this season has not been a good one for either the fruit grower or the consumer, as the fruit has been lacking in flavour from the absence of sunshine. There is no better bearing or handsomer Plum than the Victoria. It comes at a time when there is likely to be a glut in the market, but even then it pays better than most other kinds, and the tree is so vigorous and healthy. Monarch is a good Plum, and there is no better dessert Plum than *Coe's Golden Drop*. The two best dessert Apples in my opinion are *Cox's Orange Pippin* and *Lord Burgible*. The latter is in season from Christmas till March or later. Both require a deep, warm loam, and I have had them do well on the Paradise-stock.

Vegetable garden.—Look after Cauliflowers turning in; frost may come suddenly. Root crops may be lifted and stored. All roots, including Potatoes, retain their proper flavour best when covered with earth. If kept in a shed Beet and Carrots should be packed in sand. A stock of Horseradish should be lifted before bad weather comes and laid in on the north side of a wall where it can be easily covered. If any seeds of Peas remain in the seed-bags use them for producing green tops for flavouring. Sow them rather thickly in boxes any time during winter; but the later sowings should have a little heat under glass. The present dry, cooler weather will check the growth of late Broccoli, and if planted in firm ground, and dwarf and sturdy, they may pass through the winter safely without disturbance, but it is generally safer to hoist them over with heads to the north not later than the end of October. Those who want green Basil and Sweet Marjoram during winter will have potted up a few of the best plants and will keep them under glass, where a little warmth can be given. Beetroot is harder than is commonly supposed, but it is not wise to leave it exposed to severe frost. Lift at once, if not already out of the ground, and pack in sand in a stove or clamp the roots like Potatoes covered with earth. Those who desire early Asparagus

should prepare hot-beds now, and lift strong roots as soon as the bed is ready. Young roots four or five years old which have been specially grown for the purpose are best for early forcing. Prick off the early-sown Cauliflowers into frames for standing the winter. For the present only use the lights to keep out cold rains. E. HOBDAV.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

October 13th.—Fruit-gathering is receiving attention every fine day. One need hardly say, this being a season of comparative scarcity, the fruits are handled carefully. The fruit-room was thoroughly cleaned before fruit-gathering commenced, and all wall surfaces lime-washed. Ventilation is given as required. Finished earthing up Celery and Caroons. Geranium and other cuttings have been moved on to shelves in houses, and for the present no fire will be used.

October 14th.—Cleared beds of the summer-flowering plants, and planted bulbs and other spring flowers. We are partial to Tulips, and usually plant decided colours, such as masses of scarlet, white, and yellow. Winter Aconites also are massed in open places under trees, and Snowdrops and Daffodils in open places anywhere. One never has too many Snowdrops, Scillas, or Chionodoxa Luciliae, and these can seldom be wrongly placed if in retired spots.

October 15th.—Made up a hot-bed for Asparagus with leaves and stable-manure. It takes rather a brisk heat to start the first batch of roots, but with five-year-old plants, which have not been cut from, the growth is early, and is always ready to start in warmth. We are always prepared to cover a bed of dwarf French Beans on a south border. A few lengths of builders' laths have been fixed temporarily to carry the covering, and, as they still bear freely, are worth a little trouble.

October 16th.—Another stir up with the fork has been given to the beds intended for the new Roses, and a little soot scattered over the surface and forked in. The ground at the season when the surface is dry cannot be too much stirred up and intermixed. More attention is given to planting in masses of one kind, especially where the beds are on the lawn; the beds are better filled and the effect is better. A hedge of rambling climbing Roses will also be planted. In fact, more will be done with Roses in many forms.

October 17th.—Lifted main bed of Carrots and stood in sand. Late-sown Early Horn will remain in the ground, and be covered with dry leaves and litter when frost sets in. Caniflowers are being watched with a view to afford protection when frost is expected. Of course, some plants have been lifted with balls and planted in deep pit to be safe in case of emergency. Potted and boxed more bulbs, especially Narcissus of sorts, Tulips, and Hyacinths. Green-fly is watched for in plant houses and the vapouriser used.

October 18th.—We are still doing some root-pruning among over-luxuriant fruit-trees, and stations for the planting of young trees have been prepared. Change of soil in the case of wall trees and espaliers is always carried out. Dwarf Apples are on the English Paradise-stock, and will soon begin bearing, but the best principle to work on is to give a plot of ground wholly to the trees, and mulch freely during summer with manure. This keeps the roots near the surface.

BIRDS.

Death of canary (P. H. Bearnley).—Inflammation of the bowels appears to have been the immediate cause of the death of this bird. This may have been brought about through its having taken a chill during its moult, or from the bird having partaken too freely of egg-food. Chills and draughts should be particularly guarded against during the moulting period, otherwise a check in the moult may result, causing illness or even death, and at the best leaving the sufferer ragged in its plumage for weeks. There is always the risk of a bird taking cold if placed at a window, as in such a position there is sure to be a certain amount of

draught. Yes, the moulting should proceed continuously, and a break of two or three weeks in the case of your bird would point to cold having been contracted at this critical period. Although food of a more nourishing character than the ordinary diet should be allowed a bird that is moulting, care is necessary lest an undue proportion of stimulating food be partaken of to the injury of the internal organs. It is not advisable to give egg-food oftener than twice a week. The seed at this period should consist of Canary, a little German Rape, and Linseed, with a pinch of Maw-seed occasionally. A tonic in the drinking water, such as a rusty nail or a little piece of sulphate of iron the size of a small Pea, will do good.—S. S. G.

POULTRY.

Young cockerels for table (J. Brown).—Cockerels at the age of five or six months should be in perfection for eating, and although they are liable to lose flesh as their bones develop, they certainly do not become tough till a much later period in their lives. Your feeding and treatment are excellent, and poultry that have been constantly well fed from their birth are not only always ready for table, but their flesh is superior in juiciness and flavour to that of those that have been specially fattened up. The killing of your cockerels two or three days before being required for table would still further reduce the possibility of their proving tough. There must be some fault in the cooking. If, in killing, fowls are bled to death, it may in some instances cause the flesh to become dry and insipid, but bleeding ensures great whiteness of flesh.—S. S. G.

BEES.

AUTUMN TREATMENT.

It is found that when Bees are fed late in the autumn they are often from the lowering of the temperature unable to elaborate wax for the capping of the cells or to evaporate the superfluous moisture from the food supplied. The consumption of unsealed, watery food during the winter is likely to produce dysentery in the hive, and, therefore, all good Bee-keepers ascertain the condition of their lives early in the autumn, and feed up where necessary without delay, that all may be in good wintering condition before cold weather sets in. Again, weak stocks are subject to this disease from their being obliged to consume an excessive quantity of food in order to maintain the necessary temperature within the hive. This may be obviated by making all colonies strong for wintering by joining two or more or adding them to stronger stocks. Colonies thus strengthened pass the winter safely, and are ready for work at the earliest possible moment in the following spring. Another cause of dysentery is dampness, arising either from lack of ample protection from the weather or from improper ventilation of the interior of the hive. In the case of the roofs of frame-hives, where not absolutely weather-proof, tarred brown paper makes an excellent overall. The old-fashioned straw-hackle makes a most excellent winter cover for skeps, as does roofing felt, which is very durable and impervious to water. When new it is stiff and hard, but it can be fitted to any hive by first warming it; but whatever kind of covering is used, care should be taken that it is so arranged that no drip shall fall upon the floor-board. Where the hive sides rest upon the floor-board the wet is often drawn under them, causing dampness within the hive. All causes of dampness should be removed as soon as discovered, and where a hive has become saturated with moisture the best thing to do is to change the frames of comb and Bees to a clean, dry, warm one.

The worst disease Bees suffer from is foul brood, which spreads very rapidly, so that in one season a whole neighbourhood may become infected with it. A colony attacked by this disease rapidly dwindles and dies out from inability to rear brood; other Bees pilfer the honey of the diseased hive, and so spread the infection. The cappings of cells containing

healthy brood are slightly raised, while the lids of those containing foul brood are somewhat concave and pierced. The latter appear singly on the brood combs, and are of a dark colour. Hives containing old combs appear to be more subject to this disease than those containing new, clean combs; it is well, therefore, to occasionally examine hives of old combs. Every endeavour should be made to stamp out on its first appearance a disease of so formidable a character, threatening as it does the destruction of the whole of the stocks in the apiary, to insure which the total destruction of all the combs in the hive is to be recommended. The hive should then be thoroughly scuffed, and washed well over with salicylic solution, made in the following proportions: Salicylic acid, 1 oz., soda borax, 1 oz., water, 4 pints.

As soon as the income of honey ceases, the queen discontinues laying, but brood-rearing may be encouraged after this period by stimulative feeding, whereby the population is increased till the latest period in the season consistent with safety, which is about the first week in October. After that time all colonies possessing less than 20 lb. of stores should be rapidly fed till that weight is made up. The syrup should be composed of sugar and water in the proportion of 10 lb. of sugar to 5 pints of water. In a general way each hive should contain 2 square feet of sealed honeycomb as well as that which is uncapped; the latter will serve as provision for the Bees till they settle down for the winter, although it is safer to remove all unsealed honey at this season lest it should cause dampness in the hive, and promote dysentery among the Bees. A piece of camphor, about the size of a Walnut, wrapped in some thin material, and placed on the floor-board of the hive, is most efficacious in warding off disease. The camphor evaporates slowly, and can be renewed as it disappears. To enable the Bees to easily pass from one comb to another, and to reach their stores, some apiarians form passage holes through each comb about 2 inches from the top, and $\frac{1}{2}$ inch in diameter. When, however, sugar-cake or caudry is given to winter upon, these passages are not necessary, as the space thus occupied gives the Bees passage way over the frames and under the quilts. Ordinary sugar-candy of trade is also good winter Bee food. S. S. G.

Colour of honey (C. B. Rigge).—There is great variety in the colour of honey, according to the particular flower from which it is gathered. Thus honey collected from white Clover is of a light straw colour, that from fruit blossoms a beautiful orange colour, from Heather of a dark reddish-brown hue, from Sainfoin, yellow, from Beans, brown, from Plum blossoms, a clear amber, while that from Lime blossoms is of a greenish shade, and of a strong flavour. The honey you describe was, no doubt, obtained from Lime blossoms. It would appear that in each of its excursions a Bee confines its foraging operations to one species of flower, and this would, of course, account for the distinct character of various honeys. The honey produced from ordinary feeding-syrup is of a light straw colour; if, however, dark sugar were used in artificial feeding, it might present a greenish tint in the comb. Honeydew, the product of various species of aphid, is a sweet, sticky substance found in dry seasons on the leaves of the Sycamore, Lime, Oak, etc. This, in times of scarcity of honey, is gathered by the Bees and stored in quantity. It is of a dark colour, has a strong odour, and is most disagreeable to the palate. Rhododendrons and Azaleas are said to yield honey of a crimson or reddish-brown colour, which is poisonous, and acts as a narcotic.—S. S. G.

LAW AND CUSTOM.

A market gardener's notice.—I took for market-garden purposes a garden and two greenhouses, but without the dwelling-house, and I am quitting, pursuant to proper notice, on October 11th. Can my landlady prohibit me from selling my goods by public auction on the premises? These are mainly pot plants. Can I claim compensation for growing crops?—T. C.

[If you have no written agreement of tenancy, nor any verbal stipulation to that effect, your landlady cannot prevent you from

selling your stock on the premises at any time before your tenancy expires. As you do not say what kind of growing crops are referred to, I may say that you cannot claim under the Market Gardeners' Compensation Act for any growing crops planted during the last year of tenancy and since notice to quit was given. You may claim under that Act for crops planted earlier, and which continue productive for two or more years. You may claim under the Allotments and Cottage Gardens Crops Act for growing crops planted in any year.—K. C. T.]

Right to minerals (A. B. F.).—An easement may be described as the right of the owner to exercise a certain privilege over the land of another owner. A "profit a prendre" is something in the nature of an easement. It is, however, something more, as it is a right to parts of the soil or the produce of the soil of another, such as a right to take turf, Grass, etc., from a common. Restrictive covenants, in this case, mean some covenant restricting the use to which the land may be put. For instance, a covenant prohibiting the erection of a particular kind of building, or of a building of a particular height, or a covenant not to erect a building in such a situation as to deprive some adjoining property of access of light, are restrictive covenants. I cannot tell without seeing the conveyance whether a right to take the minerals underlying the property is reserved either to the vendor or to a third party. Why do you not ask the solicitor who is acting for you in the matter? Unless the minerals are expressly or impliedly reserved, neither the vendor nor anyone else but yourself will have a right to them. Your solicitor should have ascertained by enquiry whether the vendor acquired the property subject to any such reservation, and your enquiry must be addressed to him.—K. C. T.]

Ownership of wall.—Fifty years ago my father bought a house which stood back some 30 feet from the road. There was then no wall dividing the plot of ground in front of the house from the plot in front of the adjoining house—or at most but a very short wall. My father built front walls, and ran out the dividing wall as an extension of the party wall of the houses. The owner of the adjoining house raised no objection, neither did he in any way interfere at any time. My father always regarded the wall up to his death, ten years ago. The house is now mine, and as the front walls of the garden fall I have had them rebuilt, and I repaired the dividing wall and put in a gate-post or pillar of the same width as the wall itself (15 inches). The present owner of the adjoining house caused his solicitor to write and charge me with interfering with his wall, but he admits certain rights of usage on my part. I have an idea he wants to extend in front of my property, and to use this dividing wall as his own. My deeds go back ninety years and contain no mention of these walls, but my neighbour's solicitor says his deeds go back 130 years, to a time when my house was not built. I believe, however, that both the houses belonged to my grandfather, and were then but one house. Can my neighbour claim any right to the wall either to build upon or for any purpose? When they found I was not willing to meet them in any way, they wrote that they would be willing the wall should be regarded as a party-wall or a half-wall rather than go to law. Your advice will oblige.—K. C. T.]

[On proof of the facts stated, that the wall was wholly or partially built by your father some fifty years ago, and that over since that time it has been solely maintained and repaired by your father and yourself, and that up to the present time your neighbour has never made any claim to any right or ownership to the wall, his claim must inevitably fail. No action can be brought to recover from any person possession of any land which he has held as of right for over twelve years, and for which he has paid no rent, given no acknowledgment, etc. You and your father have had undisputed possession of this wall for fifty years, and it is perfectly idle for your neighbour to make any claim to it. No matter what his original title may have been he has lost any interest in this wall that he or his predecessors in title may at one time have possessed.—K. C. T.]

Photographs of Gardens, Plants, of Trees.—We offer each week a copy of the latest edition of the "English Flower Garden" for the best photograph of a garden or any of its contents, indoors or outdoors, sent to us in any one week. Second prize, Half a Guinea.

The Prize Winners this week are: 1, Mrs. Bayldon, Dawlish, Devon, for Lillium longiflorum; 2, Mrs. Kennedy Erskine, B. ley, Montrose, for Rose Crimson Rambler.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in GARDENING ILLUSTRATED free of charge if correspondents follow these rules:—All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of GARDENING ILLUSTRATED, 11, Finsbury Street, London, E.C. Letters on business should be sent to the PUBLISHERS. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING ILLUSTRATED is sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of ripeness, or of the same kind, are greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Earwigs on Chrysanthemums (W.).—Place a few small pots on sticks. Invert the pots, and put a little dry Moss inside. The earwigs will shelter here during daytime, and may be easily caught. Also put a few pieces of dry mat or sacking near the pots of the Chrysanthemums as further traps and shelter.

Lifting Arums (T.).—Lift the Callas at once, giving them a compost of rich loam and stable manure in equal parts, the latter to be well decayed. Use a pot 6 inches in diameter at top, and if the soil be rich and liquid-manure used when coming into blossom they will thrive well. We would stand them in a frame for a month or so after potting.

Dandelions on lawns (H. E.).—Cut the crown off the Dandelion, and cover the wounded part left in the ground with salt, or drop into it two or three drops of sulphuric acid. The remedy is a tedious one; but there is no better way. At the same time prevent the Dandelions in waste places near, if any, from seeding, as the seeds will travel with the wind for a long distance.

Roses for conservatory roof (F. Hand).—If you mean Marie Van Houtte, this would do for the conservatory roof, but would not cover the space so fast as a climbing Rose, of the type of Marshal Niel, etc. Purley and Robert Duncan are scarcely suitable, but would do on the back wall. Climbing Niphetos and W. A. Richardson would be two good fast-growing kinds.

Lifting and storing Gladioli (M. S.).—Early lifting is, we think, very injurious, for so long as the foliage is green the bulbs are gaining in size and weight. Lift the bulbs carefully with forks, cut off the tops a few inches from the bulb, and place in flat baskets, which should be carried to a cool underground cellar and spread on the cool floor. In this position they are as moist and cool as in the open ground, and at the same time are quite safe from frost.

Keeping Salvia patens (M. S.).—The plants should be lifted from the open ground, and after the soil has been well shaken off the roots be placed in fine dry soil in a greenhouse or in a cold-frame, and protected in such a way that frost does not reach them. In this way the roots keep better than when dried and put away in a shed or on a shelf. If your plants are in pots they should be cut down and be stood under a greenhouse stage till March. These, if brought into the light early in the year, will start into growth and the young shoots make fine cuttings, which may be planted out in spring.

Plants for shady garden (T.).—Try Gaillardia grandiflora, Delphiniums, Coreopsis grandiflora, Lupines, Yucca filifera, the Welsh Poppy (Meconopsis cambrica), Scabiosa caucasica, Double White Rocket, Pentstemon, Lily of the Valley, Christmas Roses, the Double Periwinkle. Many annuals will do fairly well in partial shade—Blue Cornflowers, White Antirrhinum, and Scarlet Zinnias, for instance—while the Biennial Columbinas and Foxgloves are seen at their best beneath over-shadowing boughs, and grow most naturally under such conditions.

Keeping Marguerites (Venus).—These are often lifted from the open before frost comes, but if you cannot secure a good ball of soil around the roots they often fail to survive. Water any plants you may think of lifting both before and after lifting, pot them carefully, and shade for a time. When established they may be stood with Pelargonium during the winter in a house with a temperature of about 45 degs. Do not over-water during the winter, and in the spring, if all goes well, they will soon produce plenty of cuttings, which can be rooted in the same way as Geraniums, etc.

Position for Christmas Roses (Breewood).—The soil best suited for these is a good fibrous loam, to which have been added some fibry peat, well rotted manure, and coarse sand, taking care that the site is well drained. A moist and sheltered situation, where the plants can obtain partial shade, such as the margin of a shrubbery, is best, but care should be taken to keep the roots of shrubs from exhausting the border. A top-dressing of well decayed manure and a little liquid-manure might be given during the growing season when the plants are making their leafage, as upon the size and substance of the leaves will depend the size of the flowers.

Montbretias, culture of (Eric).—Montbretias succeed best in a rather light, loamy compost, and require good drainage. The soil should be enriched with well decomposed manure, dug in deeply, and if a little leaf-mould and road grit be added all the better. The corms should be carefully lifted and sorted in February or March, according to the weather, and planted, the larger ones 3 inches apart, in rows 5 inches or 9 inches apart, the smaller ones being a trifle closer. This will allow of their

being mulched with spent Mushroom-manure or similar material to retain the moisture. Several waterings with liquid-manure are also beneficial. Montbretias require plenty of sunshine.

Roses attacked with orange-fungus (A Rose Lover).—Many Roses of the Hybrid Perpetual race are very prone to this fungus, but as it rarely appears until after the first blossoming, Rose growers do not pay much heed to it. It may be kept in check by carefully raking off dead leaves and burning them, also any prunings. A dressing of lime and soot in the soil is also beneficial if applied now. Probably your soil is a very hot one, and the Roses under such circumstances would benefit by transplanting, taking care to deeply dig the soil. In the spring the bushes should be severely pruned.

Mildew on Roses (Lady W.).—When mildew appears so late in the season, growers seldom pay much heed to it. It will not affect the welfare of the plants another year, but the spores remain on all decaying foliage, and will reappear again next season unless checked when first observed. Gather up all the fallen leaves and burn them. If any signs of mildew appear next spring, dissolve a ounce of sulphide of potassium in a gallon of hot water, then add enough cold water to make 3 gallons. Apply it as soon as you see the least trace of mildew with a syringe, taking care that the underside of the leaf is thoroughly wetted.

Growing bulbs in a glass bowl (J. B.).—Balls of the Chinese Sacred Lily succeed remarkably well in bowls if planted in the following manner: Place 1 inch or 2 inches of clean gravel or pebbles in the bottom of the bowl, and on this arrange the bulbs with care. Pour in sufficient water to cover the pebbles and also to rise about 4 inch up the bulbs. As this is absorbed make up the loss from time to time. When completed the bowl should be placed in a cupboard to encourage root-formation, returning it to the light when the green shoots appear. Crocuses and Hyacinths may be grown in damp Moss in a similar receptacle. Stand the bulbs on a layer of this material and surround them with the same, pressing them moderately firm into position.

Jasmine for winter-flowering (B. C. J.).—We presume that you refer to the Jasmine Souhai, a plant which requires a warm-house. The plants should be potted in April into a nice, well-landed compost of equal parts loam and peat, keeping them near the glass throughout the summer, admitting air in hot weather, and maintaining the atmosphere in a moist condition. Towards the latter end of the summer admit a more free circulation of air in order to well ripen the wood, and winter the plants in a temperature of 55 degs. to 60 degs.

Rose General Jacquemont not flowering (A Rose Lover).—Instead of allowing these long-growing to attain such a length, they could have their points pinched out when about 4 feet long, which would assist in the proper ripening of the wood. It is rarely this old Rose that flowers so satisfactorily, but you must not place much reliance on the growth formed late in the year, rather fostering the thin yet hard shoots, and shortening these to five or six eyes. It is just probable the soil is too rich. An application of lime would have a beneficial effect, and would be more helpful than manure. If the bushes have been in their present quarters three or four years, you might transplant them with much advantage.

Oleanders not opening their buds (B.).—In answer to this correspondent, I would suggest that May is much too early to turn them outside, unless "B." lives in the south or west, of which I have no experience. In Kent I never put them outside until after they have completed the flowering. I grew the double pink, single white, semi-double white, and apricot. The double pink is a direct descendant of the plant brought from Paris in 1800 by a member of my family, and the year before last (1899) it had almost as many heads of bloom as last year. The flowers are very sweet-scented, and so is the semi-double white, but the single white and the apricot have no scent. I keep my Oleanders in the greenhouse all the year until they have done blooming, then I stand them out in the sunniest place I can find and keep them well watered.—A. C. RICHMOND.

Making a lawn (J. Hillton).—Go over your present weedy lawn carefully and dig out all the bad weeds. Then pare off the surface, and when dry burn it, keeping the ashes to spread over the top when the grass seeds are sown. Give it a good dressing of the manure you have, all mixed together, and dig it in to a depth of 12 inches, taking care to well bury the manure. Let it lie rough till early in April, then break it down fine, and having well tined it, make it level, scatter the seeds from the fire heap, and sow thickly with good Grass seed (not that from a hayloft, which contains too many weeds). Rake this over again to incorporate the Grass seeds with the soil, then when dry roll with a fairly heavy roller. If there are any birds it may be well to stretch some black cotton at about 6 inches from the ground to prevent them destroying the seeds. When ready for cutting use the scythe until the Grass gets established, when you can use the mowing-machine, setting it fairly high for a time.

Planting Roses (Max Kirchmeyer).—In answer to your inquiries we have pleasure to reply as follows: 1, Gloire de Dijon and Marshal Niel planted this autumn would not give you many blossoms next year, for it should be your endeavour to induce them to form good buds, then could you expect a tolerable quantity of the following season. Plants established in pots planted out in the spring would give you some bloom, but we should advise the planting of ground plants this or next month. 2, No special manure is required when planting. The ground should be deeply dug, and some good farm-yard manure mixed with the soil. Manure from a cow-yard would be better than fresh manure from stables. 3, By all means plant the Roses for the arches this autumn. You can tie them to a good stake until the arches are placed in position. A few good Roses for the purpose are: Crimson Rambler, Euphrosyne, Felicite Perpetue, F. Mrs. Alice Tibert, Mme. de la Roche, Gloire de Dijon, Madame Marie, Indelicte, Rive d'Or, Carmine Pillar, Benne's Seedling, and Electra.

Select Cactus Dahlias (Dahlin).—It would be useless to give you the names of any of the new varieties of Cactus Dahlias of this year, as, however good, they will

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FRUIT.

FIGS.

TO THE EDITOR OF "GARDENING ILLUSTRATED."

SIR,—I notice that there are no less than five queries and articles on "Fig-trees and their Culture" in the issue of October 11th. The general complaint is that Figs are by no means a certain crop. One thing is certain this year, and that is, that it is a bad season for them. As I live in S. Devon, where Fig-trees are treated like elder Apple-trees, and are a great deal larger, I may be able to help your querists a little. What I cannot understand is why you say the Brown Turkey is the best. The fruit is coarse, skin thick, colour uninviting, and size small. The Brunswick Fig is greatly to be preferred, as it is very delicate and sweet in flavour, the skin is thin, and the fruit is handsome, both in shape and colour, whilst the size makes it noticeable, well-grown fruit weighing about 8 oz. I also have a large white Fig, with pale pink flesh, and a grass-green one with white flesh. I do not know their names.

It is of but little use to try and grow Figs, such as I gather by hundreds from the big old trees, unless the grower can reproduce in a measure some of the conditions of their native habitat. Asia Minor, if not their home, is the ideal place for them, with bare, dry, strong soil and no rain during the growing and ripening periods, for Figs fruit three times a year in such a climate. Three crops are also gathered in Texas, U.S.A., and I think it is not unusual to gather two crops a year from old trees in the west of Cornwall. With me the trees also set a second crop, but fail to ripen it, January and February being far too damp and cold. Given soil and climate, Fig-trees only ask for one other thing for themselves and one from their owner. The first is to be left severely alone—no pruning, no "tying-in," no manure, no water, just a wholesome neglect. From their owner they demand patience. When the Fig-tree is young, say twenty-five years old, the fruit is dry and harsh. There is a reason for this, for it is when the trees are young that the seed is at its highest fertility; the "envelope" or pulp is but secondary. With age the tree ceases to set much fertile seed, so the "envelope" becomes fruit in our meaning of the word. As Fig-trees have a long life in front of them, they devote their childhood to growth. If a sapling is planted in ordinary soil and left unpruned for a quarter of a century, it will not have any weak or unproductive wood, for, in building up its branches it will have taken up all the too strong constituents of the soil, and by the time it is old enough to bear really good fruit the soil is poor and hard enough to prevent course growth, and the annual growth will be short-jointed, hard, and thick. E. E. Biggs asks about his Fig-trees bearing quantities of immature fruit. Young trees do this for a good many years before they have strength to push them to their full size. Six years ago I had some young Fig-trees turned out of pots,

in which they had been fruited under glass, yet, though they have set fruit each summer, it has not developed to full size, though each season it gets rather larger. I hope I shall not be misunderstood, and be thought to have made out that Fig-trees will only fruit when old. I mean they will only crop regularly, giving quantities of rich, luscious fruit of refined flavour when they are full-grown.

Fruiting under glass is quite a different matter; but if anyone were to pick one of my half-pound Brunswick Figs, hot with the sun, and eat it at once, and then try the best fruit grown on young trees under glass, he would note the difference. The first that can be seen externally of the future "Fig" is the minute fruit pushing through in the same way that a flower or leaf-bud does on, say, an Apple-tree. This will show "H. N. G." that his theory is wrong as to different sexes in Fig-trees. His so-called "males" are nothing but either barren trees or backward ones that need more time to develop. "Ficus" might have "variabilis" added to its name, from the difference of foliage. For indoor culture there are many far more valuable Figs than Brown Turkey or Brunswick. These are only for outdoor culture. A little Fig, called in the Southern States, U.S.A., "Sugar-drop," is exquisite. The flesh is nearly scarlet. The white, also purple, Ischia are also excellent.

Dartford, S. Devon.

A. BULLMAN.

STRAWBERRY CULTURE.

THERE are many people whose garden space is limited, and though they are able to change the ground on which they grow their vegetables, yet still, like myself, there is only one part they run set aside for this delicious fruit. My plants have been grown for years on the same piece of ground, and no fruit could be finer or more abundant. I have thirty rows, about 9 yards long, and every year ten rows are lifted, so that any bed is never more than three years old. A trench 2 feet deep is dug, and this soil is moved to the other end of the bed, and the bottom forked up. The old plants which have been removed, and any garden rubbish, such as decayed vegetables, Cabbage stalks, Pea haulm, Grass cuttings, in fact, anything to get it out of the way—is put at the bottom of this trench. Then the soil for the next trench is put on, so that the top soil of this year goes to the bottom on the rubbish, and so lies for three years, and so on till the bed is done, and the ground is manured on the top in the usual way going along. The runners are left on the other beds till well on in September, when they are carefully lifted with the earth and planted in rows 3 feet apart. These fruit next year, and if they have been properly lifted should never lose a leaf. It will be seen from this plan that when the third year comes round the bottom of the trench, from all this decayed vegetable matter, is quite new soil. I grow Royal Sovereign, but find it too soft in a wet season for the soil, which is a still better; it does well in a dry season. The best all-round kind for all seasons is Sir Joseph Paxton. It is large, well

flavoured, and an abundant cropper. From these thirty rows I have pulled this season 330 lb., and it has been one of the worst years for weather possible, and so for fruit. When I have all the best runners lifted and made the new bed, the edges of the rows in the other two beds are trimmed up with a spade, the runners left, dug in, and the ground left rough for the winter.

Rushleigh, N.B.

NOTES AND REPLIES.

Fruit-trees for garden.—I am just about to fill up the empty places in a garden belonging to a country house (which is now vacant) before the incoming tenant enters, and shall be much obliged if you will give me names of the six largest upright-growing gooseberries, names of the two largest Peaches ripening in August, names of four large Kitchen Apples for winter use as standard standards? When should Medlars be gathered?—W. THOMAS, DUNDEE.

[Very few Gooseberries, especially large ones, have erect growth, and nearly all are of spreading habit. Even if not so naturally, the weight of fruit of a good crop helps to bring the shoots out laterally. You will find, for your purpose, Lancashire Lad and Crown Bob, reds; Gunner, green; and Whitesmith, white; to be as good a selection as you can desire. You will find in Conker and Early Grossa Mignonne good Peaches for your purpose. Of kitchen Apples for winter use as standards have Waltham Abbey Seedling, Wollington, Newton Wonder, and Northern Greening. Medlar fruits should be allowed to hang into November before they are gathered, or otherwise they shrivel and have little flavour, when a few weeks later they become soft and are eatable. Spread the fruits out on a shelf thinly, so that the soft, ripe fruits can be picked out as they are ready. Your note came too late for immediate reply, as we go to press early. Get your planting done at once.]

Defoliating Vines too early a mistake.—Nowadays, when there is such a demand for cut flowers, more especially from November till May, many growers have to strain every nerve to keep up the supply. In gardens where the glass accommodation is small it is a choice of two evils—either keeping the Chrysanthemums, etc., in the open too long, or reducing the shoots and leafage of the Vines too much. I can remember, before this craze for large Chrysanthemum flowers began, how easy it was to rest fruit-trees in houses. I have noticed during the past decade that in many gardens there has been a falling off in the quality of Grapes, and I believe the practice of having to fill these structures early in the autumn with plants is responsible for much of it. It is no uncommon thing during September to go into vineeries where the leafage is quite green and see most of the shoots cut back to within two or three eyes of the main stem. This is unnatural, and cannot be productive of good. Recently I was in a garden where some of the finest Grapes in the country used to be grown. About ten years ago Chrysanthemums were taken up and the early cutting back of the Vines shoots began. From that date a gradual decline in the quality of the crop began.—J. CLIBBOK.

BANA-CHAMPAIGN

VEGETABLES.

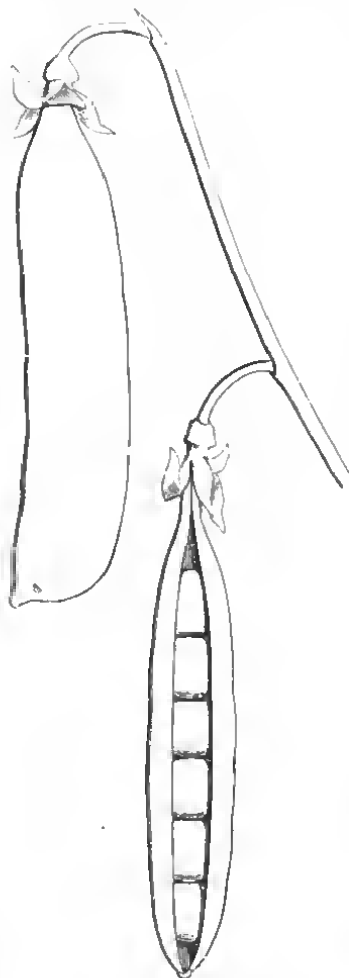
LATE PEAS.

PEAS are equally valuable in autumn as in the earlier months of the year, and though greater skill is perhaps required to secure them late in the season, their culture is rendered much more easy now with the many late varieties we have. We now have a goodly number of sorts to select from, and these of sterling merit, so that it is possible from among them to choose one or more that will answer in most districts—at any rate, wherever the Pea can be grown in autumn. At one time late Peas were of very tall growth, which necessitated the employment of long sticks to support them; but in recent years raisers have given us varieties which do not exceed 4 feet and 5 feet in height, and some, such, for instance, as Sturdy, do not grow so tall as that. The greatest gain of all is in the improvement of quality that has been effected in late Peas, for we now have—to quote one instance—the splendid flavour and quality of the old No Plus Ultra combined with a much dwarfer habit of growth. In some gardens No Plus Ultra, however the gardener may try, does badly, yet when, for instance, such a variety as Autocrat is employed, which partakes largely of the foregoing variety, the results are satisfactory. The Pea just quoted is, in fact, such a fine autumn variety that if I were compelled to grow but one sort that would be my selection. Other old late varieties have also been used for the hybridising and raising of new sorts with excellent results, some of which will be mentioned below. As Autocrat has already been alluded to, this is, as many of your readers well know, a handsome dark green Pea; a very heavy cropper, pods

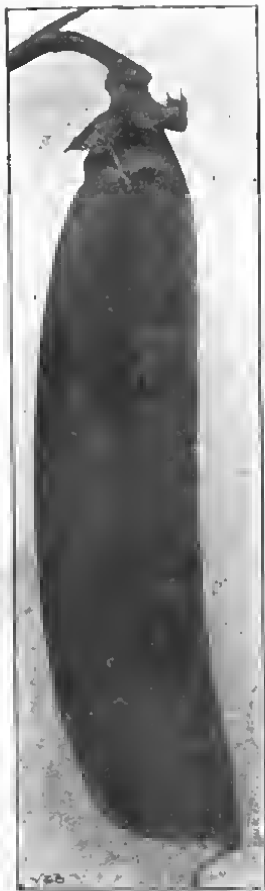
pois of this are similar to those of No Plus Ultra in shape, but longer, and the quality is first-rate when cooked. This, like the foregoing, lasts in good condition for a long period, and is not so subject to mildew as some are. Sturdy, already mentioned, grows 3 feet to

cannot be surpassed for table qualities. Goldfinder is another of the same class of Pea. Twenty years ago Walker's Perpetual Bearer was largely cultivated, and a very good Pea it is, and is still listed by some firms. It attains a height of 4 feet to 5 feet, and is a very heavy cropper. British Queen where it will succeed is very highly esteemed. This is a fine white Marrowfat of splendid flavour, growing to a height of 6 feet, and must be well supported. On the heavy soil I have to contend with it is but an indifferent success. Yorkshire Hero, a wrinkled Marrow, used formerly to meet with more favour than it does now for late work. This is similar to Veitch's Perfection, but rather later, while it is equally as prolific and fine flavoured. Champion of England is another fine prolific variety for late use, but, unfortunately, it does not do well in every garden. When the soil does suit it, and plenty of sticks may be had to support the robust haulm, there can be no better Pea grown. Fortyfold is considered by some to be superior to the last named, and is rather a taller grower. Captain Cuttle has been highly spoken of, and has received an A.M. from the R.H.S., but, not having grown it, I am not in a position to speak of its merits. Among the above enumerated I consider Autocrat, Sturdy, Late Queen, Michaelmas, No Plus Ultra, and Chelsoian to be the best half dozen Peas in cultivation. If six more were required I should add Omega, Magnum Bonum, Goldfinder, British Queen, Captain Cuttle, and Fortyfold or Champion of England. If British Queen will not succeed, substitute Yorkshire Hero or Walker's Perpetual Bearer for it.

CULTURE.—Peas generally require careful cultivation to bring out all their good qualities, and the late varieties more particularly so, otherwise success may be looked for in vain. The soil must be deeply worked and well manured for them, and two other details that need the greatest attention are the supplying of the roots with an abundance of water during



Pea Champion of England.



Pea Michaelmas.

4 feet in height, the haulm being much branched, and very productive. The Peas are dark green in colour, and deliciously flavoured when cooked. I have heard of this Pea not doing well in some places, but with me, on a heavy loamy soil, it was a great success, and, like Autocrat, continued to yield well high to the end of October. Late Queen is another desirable variety, from 3 feet to 4 feet in height. This bears large, handsome pods, and the Peas are of first-rate table quality. Perpetual has a fine constitution, and continues to yield long after many sorts sown with it are past. This attains the same height as the last named, as does also Magnum Bonum. This is most satisfactory this season, and has been unaffected by the drought. Another late Pea that should be given a trial by all who have to keep up a supply for as long as they can be had is named Michaelmas. It is of dwarf habit—a fact which will at once commend it to amateurs—is very prolific, and is, moreover, a good drought and mildew resister, and its qualities when prepared for table are unquestionable. I class this as being next to Autocrat and Sturdy a suitable Pea for small gardens. Laxton's Omega, although not so often grown now, is, all the same, an excellent dwarf-growing late kind, and previous to the introduction of Sturdy was a favourite with most cultivators. Among the taller growers No Plus Ultra stands pre-eminent, but, as has already been remarked, it does not always give satisfaction. However, where it will succeed no finer Pea can be grown, for it yields abundantly over a long season, and its

long and well filled, flavour all that can be wished for when cooked, and it continues to yield over a long period, even in a dry season. It grows about 4 feet high and the haulm branches well. Chelsoian is another first-rate late kind, but dwarf in habit, and grows to



Pea Veitch's Perfection.

periods of drought and placing a good mulching of litter on either side of the rows. Attention to these two important matters means the prolongation of the bearing period and the warding off to a great extent of mildew attacks. The best method of growing late Peas where time and labour will admit is in trenches prepared in the same manner as for Celery. Care must, however, be taken to place none but thoroughly decomposed manure in the bottom of the trenches for the roots to work into, as half-rotted manure is worse than useless. The

trenches, too, should be filled not nearer the ground level when returning the soil on the top of the manure than 3 inches to 4 inches. This will leave space for applying the mulching material and for flooding the roots with water whenever necessary without any running to waste. The site for late Peas should be free from shade of any description, and the rows should never stand nearer together than 6 feet apart, 12 feet being preferable, as light and air can then have free play on either side. The ground between the rows can in this case be cropped with some other vegetable, such as autumn Cauliflowers. A. W.

NOTES AND REPLIES:

Late Broad Beans.—These are useful in many places over a long season. Personally, I enjoy a dish, when nice and young, as much as Peas or Runner Beans, and I always endeavour to have them over a long period. I sow frequently, and this year I have had them till the middle of September. My late sowing is generally made by throwing a few seeds amongst the late Potato drills in the field before earthing the Potatoes up.—J. CROOK.

Cucumber disease.—I enclose you a small Cucumber grown in a cool greenhouse. I have a lot more the same, rotting at the flower. During the past two months I have had fruit on this same vine grow to a foot in length and then go off as enclosed one; but on the same plant I have had a fine lot of fruit grow to 17 inches and 18 inches in length without showing any such signs, and have a few now quite 13 inches with no such sign. Can you give me the reason? I formerly had a frame, and this is my first attempt in a greenhouse.—NOVICK.

[The blackened points of the small Cucumber fruits set on your plant show that they are severely affected by a fungoid disease, although its scientific appellation may not be easy to determine. No doubt this disease has been generated through the general absence of sun heat and low temperature that have so long prevailed, especially that yours is an unheated greenhouse. Damp settles on the flowers when there is an absence of heat to assist proper fertilisation, then as the plants grow the mould preys on them and soon kills them. You will do well to remove all your plants now, also all the soil in the beds, then give the house a severe fumigation by burning sulphur in it to create fumes of a powerful anti-fungoid nature. If the house be shut up after you have fumigated it, no trace of the fungus will be left. But to do this the house must be emptied of all plants, as the sulphur fumes are deadly.]

Vegetable Marrows.—The fruit and vegetable committee of the Royal Horticultural Society have invited the council of that body to hold in their gardens at Chiswick next year an extensive trial of Vegetable Marrows. Whilst it is known that there is an immense variety of what are called ornamental Gourds and Pumpkins or Squashes, the number of really edible Marrows seems not to be well understood. Probably when the trial is conducted at Chiswick it will be found that there are some 40 or 50 varieties, all of edible quality. Because of what may be described as market prescriptions, the general public seldom have the chance offered them to purchase or to taste Marrows in the best and freshest condition, as market fruits are nearly all of the long white or green varieties, and, as a rule, are cut too old and large. At the Temple Show last May a pretty green round Marrow, the name of which I forget, was exhibited, but it seemed to have in it some of the texture of the Ohio Squash, a delicious variety eaten young. Since then I have been able to taste this variety, and found its flesh to be much superior to that of the market varieties. We want not large fruited, but varieties that bear very freely. Such ones as Pen-y-byd, Hibbard's Cream, Moore's Prolific, and others are of this character, but somehow they are not widely grown, the popular favour being for the long fruited. We have to train the public taste in favour rather of smaller fruits cut young and cooked whole, even the rind not being removed. In that way the true merit and flavour of the fruits are strictly preserved. It is to be hoped that the Marrow trial at Chiswick, if the council sanction it and every useful variety be represented, will do something to educate the public at large in reference to Vegetable Marrow variety and excellence.—A. W.

PLANTS AND FLOWERS.

ROSES.

HYBRID PERPETUAL ROSE FRAU KARL DRUSCHKI.

This is probably the finest white Rose in cultivation. The growth of the plant is strong and sturdy, flowering at every shoot; and after the first flush is over it immediately makes a second growth, which in turn flowers abundantly, and with fine weather in late autumn even a third crop of blooms may be anticipated. The Rose is pure white, but in the very young bud state a slight splash of blush is noticed on the outside petals. This entirely disappears as the flower expands, and when in the three-quarter expanded form (the most perfect phase of its possible beauty) no Rose is so white or more exquisitely shaped. The petals are of great substance, consequently of good lasting power, ever growing larger and more rounded as the flower develops. The plant requires a little attention in the way of

then replant in November. It is extremely risky to move Roses when in full leaf, but doubtless the plants would not have suffered so much if heeled in as mentioned. We should advise you to cut back the current season's shoots at once to within about 6 inches or 9 inches of their base, and remove all foliage. In the spring a further slight shortening should take place.]

Rose Jeannie Dickson (H.P.).—The old and formerly popular Victor Verdier must submit to being ousted from our collection in favour of the above-named Rose. It is a splendid bold flower, huge petals, and of a most pleasing colour, rosy-pink with silvery shading. The petals, being so stout, can withstand rain to a greater degree than many Roses, and on this account it is useful. It is of a much better habit of growth than Victor Verdier, and it makes an excellent companion to vigorous H.P. Roses of the type of Mrs. John Laing, Ulrich Brunner, etc. I hope raisers will not go on sowing us scentless Roses, for, however splendid they are, they do not fully satisfy. Unfortunately, Jeannie



A fine white H.P. Rose—Frau Karl Druschki.

disbudding, as it is prone to flower almost too abundantly. The clusters of buds should be thinned in order that individual flowers may have sufficient room to open and develop without injuring each other.

This variety received an award of merit from the floral committee of the Royal Horticultural Society, London, when exhibited by Benjamin K. Cant and Sons, the Old Rose Gardens, Colchester.

NOTES AND REPLIES.

Roses moved in August.—Could you kindly advise me with regard to my Roses? I had to move in August to a new house. I took up a Margaret Dickson, Aug. Guinollesau, some Mosses, L'Idéal, a China Rose, a Crimson Rambler, and some others, the names of which I have lost. I dug them up very carefully and put them in a puddle of clay and water, and planted them in a day or two. The foliage of all of them withered almost immediately, and they look very badly. What ought I to do? Ought I cut them down or leave them till the spring? The stems still appear green and firm. I shall be very much obliged for some advice.—MRS. E. BROWN.

[The correct procedure would have been to heel in the plants under a north hedge or wall, at some time shortening back their growths,

Dickson must be classed among the fragrantless Roses. It strikes freely from cuttings, and even little yearling plants produce massive flowers. It is splendid for pot culture.—ROSA.

A good autumn blooming Rose.—Roses that blossom well in autumn are valuable, and, as an autumn bloomer, Heinrich Schultheis holds a foremost position. In a border I have standards of this kind, and at the end of September I counted from sixty to seventy blooms open or to open on one plant. The flowers open well, not being so full as those of some other kinds. It is a good grower with me, having clean glossy foliage and strong shoots, on which are often bunches of from three to seven blooms. Another recommendation is that it is not liable to mildew. My custom is to go over the plants in August, syringing with an insecticide, this preventing mildew attacking the foliage. This Rose has a lovely scent; I have a few blooms on my table as I am penning these lines, and the perfume is delicious. I often think too little attention is given to kinds that have this

GARDEN PESTS AND FRIENDS.

CUCUMBER AND MELON LEAF BLOTCH (CERCOSPORA MELONIS).

SEEN: the widespread destruction that has taken place in our market nurseries from this disease, the following article from the *Journal of the Board of Agriculture* will, we hope, prove useful to our readers:—

This fungus, although first observed and described as a new species so recently as 1896, has spread with remarkable rapidity, and at the present moment is the most destructive parasite with which the cultivator of Cucumbers and Melons has to contend. In several instances growers report an annual loss of £1,000, whereas others have had to abandon the cultivation of these plants owing to the repeated destruction of their entire stock, in places where the fungus has secured a firm foothold. The foliage is the part attacked. The first indication of the presence of the disease is the appearance of a few small, scattered, pale green spots on the upper surface of the leaf. The spots gradually increase in size and also in number, and often run together, gradually passing through grey to a brownish or ochraceous colour. If at this stage the upper surface of a diseased spot be examined with a pocket-lens, it will be seen to be covered with delicate upright brown threads, each bearing a conidium at its tip. This represents the fruiting portion of the fungus, the mycelium or hyphae being buried in the substance of the leaf. The minute conidia or reproductive bodies are carried from diseased to healthy leaves by currents of air, insects, clothing, etc., or by spraying, and if the leaf surface is moist such conidia germinate and the germ-tubes enter the tissues of the leaf directly. Very frequently a leaf becomes quite dry and crumbles to the ground within 24 hours of the first infection. Such dead fallen leaves are much more responsible for the rapid spread of the epidemic than are the conidia which pass directly from one leaf to another. When the dry fragments of a diseased leaf fall on damp earth, the mycelium present in the tissues quickly commences growth and forms an exceedingly delicate cobweb-like mycelium which runs on the surface of the soil and produces myriads of very minute conidia which are dispersed by currents of air, and infect the leaves in a manner similar to that of the larger conidia borne on the leaves. The mycelium in the soil originating from diseased fallen leaves continues to extend and produce conidia so long as the requisite conditions as to moisture and temperature are present. When these conditions fail, the mycelium passes into a resting condition, but readily assumes renewed activity when stimulated by returning moisture and heat. By this means the fungus survives from one season to another in the soil, and the disease is almost certain to recur year after year in a house that is once infected, unless the soil is thoroughly sterilised.

It is important to remember that the disease under consideration can only assume the proportions of a destructive epidemic when attacking plants grown under glass, and where a high temperature and an excess of moisture are present. Such conditions, accompanied by a deficiency of light, result in the production of "soft" foliage, and it is only such soft foliage that the fungus can attack. Experiments carried out at Kew prove that the fungus cannot inoculate leaves that have developed under "lights," or in the open air. Plants that are badly diseased, if removed to the open air produce new foliage, which remains perfectly healthy. The disease is entirely an artificial creation, rendered possible by the rushing mode of cultivation followed. The seed remains perfectly free from disease, hence there is no fear of its introduction from this source, and its sudden appearance in a new locality remained inexplicable until indicated by the following incident:—An establishment in Hertfordshire sending consignments of Cucumbers to Covent Garden Market, remained free from the disease until the commencement of the present season, when on one occasion some empty "flats" or packing boxes that had contained Cucumbers, sent from a place where the disease was known to be rampant, were by

mistake returned from Covent Garden to the Herts establishment, where from that date the disease appeared and is now practically beyond control. To test the possibility of this means of introducing the disease, an empty box that had contained diseased Cucumber leaves sent to Kew for determination, was placed over a young Vegetable Marrow plant that was growing under glass; within three days every leaf was destroyed by the disease. Another Marrow plant growing in the open and subjected to similar treatment did not contract the disease.

PREVENTIVE MEASURES.—If the foliage is fairly hard the disease cannot assume the dimensions of an epidemic, and even if it appears it can be kept well in hand by spraying. To accomplish this end a fair supply of air should be admitted so that the atmosphere is not constantly saturated with moisture. It is wise to spray in anticipation of the disease, using a solution of potassium sulphide—2 oz. to 3 gallons of water, adding 2 oz. of soft-soap. It is very important that the under surface of the leaves be thoroughly wetted with the solution. If the disease is present, the soil should also be drenched with the solution. Diseased leaves should be removed and burned before they decay and fall to the ground. After a diseased crop has been removed the soil should be thoroughly drenched with a solution of "Jeyes' Fluid" in the proportion of an ounce to a gallon of rain-water. As to the danger of infection arising from spores being conveyed in packing cases as recorded above, no suggestions can be offered; nevertheless, the matter is one claiming the attention of cultivators, and as the wholesale mixing up of such hampers appears to be the rule rather than the exception, it is probable that many diseases other than the one under consideration have by this means been first introduced to a new locality.

NOTES AND REPLIES.

Aphides on Birch-tree.—I shall be obliged if you can tell me what is the matter with the Birch-tree in my garden? It appears to be in some way blighted, and has leaved in a very poor manner this year. As it is about 50 feet in height and a great ornament to the garden, I am anxious not to lose it.—F. W. DAVIDSON.

[The leaves of your Birch-tree appear to have been attacked by one of the aphides, some of the dead skins of which are still adhering to them. They usually live on the under sides of the leaves, so that the honey-dew which they secrete falls on the upper surfaces of the leaves below them. Several kinds of fungi grow in this honeydew, which gives the blackish appearance to the leaves. Is your tree in such a position that it is under the influence of the smoke from the railway works?—(G. S. S.)

Insects in garden.—What are these insects? Are they likely to be injurious to plants? How should they be got rid of? They were found in holes in a wall and floor of outhouse where there had been a Mushroom-bed.—F. E. B.

[The small worms you enclose are quite likely to injure plants. They belong to the family Enchytraeidae, which is nearly allied to the earthworms. Certain members of this family are certainly very destructive to plants, but the species are so difficult to distinguish one from the other that I cannot be sure if the species you have found is an injurious one or not, but I should certainly act as if it were. I do not find any record of any experiments having been made with a view to destroying them. I made one on some that were sent me a few months ago. I soaked the soil they were in with lime-water, and found that they all died within five minutes. If you were to water the floor of your outhouse with boiling water, a solution of carbolic acid, lime-water, or any of the weed-killers, so that the liquid soaked into the cracks where the worms are, you would no doubt kill them. The holes in the wall should be syringed with one of the above. These worms would not travel far, but might be carried about.—(G. S. S.)

Insects injuring plants (M. J. K.).—When you speak of centipedes injuring your plants, I suppose you mean snake-millipedes, for centipedes are carnivorous, and do not injure plants in any way. The snake millipedes are very injurious to plants, as they generally attack the roots just below the collar of the plant, and one species, the spotted snake millipede, is also

very fond of ripe Strawberries, and may at times be found feeding on them in large numbers. They are very difficult creatures to destroy, as their skins are so horny that it is almost impossible to get any insecticide to have any effect on them. They may be trapped by burying small slices of Potatoes, Turnip, Carrot, or Mangold near the plants they are attacking. Stick a small wooden skewer into each so as to be able to find it easily, and examine the baits every morning. The snake millipedes may be distinguished from the centipedes by the rate at which they move; the former, in spite of their very numerous legs, travel very slowly, while the centipedes scurry off with great rapidity when disturbed.—G. S. S.

Growth on Rose-tree.—What is the nature of this growth found on two different Penzance Briers? Would it be injurious to the trees? It is the first year of the Brier here, and it has done well.—CORSWOLD.

[The growths you find on the Briers are caused by the grubs of one of the gall flies—the Rose gall-fly (*Rhodites rosae*). This insect, as a rule, only attacks Briers. It seldom is the cause of any real injury to the plant, but I have seen wild Roses growing in unfavourable positions so covered with it that the plants were nearly dead. These galls grow at times considerably larger than your specimens, and have been found 3 inches in diameter. If you cut one open you will find that it contains a number of cells, in each of which is either a grub or a gall-fly, according to the time of year. The parent gall-fly lays her eggs in the stems, and sometimes in the stalks of the leaves. When the grubs hatch they begin feeding on the tissues of the plant, this setting up a very peculiar growth, which assumes the form of a ball of Moss, the centre of which is more or less woody, and contains a number of cells. These galls are commonly known by the name of "Robins' pincushions" or "Bedeguars." Formerly they, as well as many much more nauseous curiosities, were used in medicine, but I do not know for what complaints they were supposed to be beneficial. The gall-flies are small, four-winged insects, belonging to the same family as those which form the different kinds of galls on the Oaks. Should this insect increase to such an extent as to become a nuisance, it may be destroyed by cutting off the galls and burning them.—G. S. S.]

Caterpillars on Gooseberry-bushes.—Will you kindly name the enclosed caterpillars? They came in spring upon my Gooseberry-bushes, then upon Red and White Currants, but not Black, and stripped off every leaf. They have just now reappeared on the Gooseberries. I never before always come when an east wind has been blowing for several days. They do not appear to turn into any butterfly or moth, but simply disappear when a bush is stripped; but I notice tiny black specks on the leaves, which I imagine are their eggs. Please tell me what butterfly or moth lays these eggs, also what I can do to clear my garden of these pests? Would it be advisable to lift all the Gooseberries, and dig and lime the ground before replanting them? Also, is there any wash or mixture I could paint or spray the trees with?—W. E. W.

[The caterpillars that you found injuring your Gooseberry and Currant bushes are the grubs of the "Gooseberry saw-fly" (*Nematodes ribesii*). It is, unfortunately, a very common pest. That the pests always appear with an east wind must be merely a coincidence, for they are hatched from eggs laid by the female saw-fly several days before and are so small at first that they are not likely to be noticed for a few days. There are two or more broods of this insect during the season. Those that you find now are the last brood. When they are full-grown they will drop to the ground and bury themselves about 2 inches or 3 inches from the surface and become chrysalides, each within a small cocoon. The most effectual way of destroying these insects is during the winter to remove about 3 inches of the soil from beneath the bushes—this soil will contain the cocoons—and burn or bury it not less than 1 foot below the surface. If this is done properly your bushes should not be infested again next year, unless the saw-flies from a neighbour's garden visit you. If they do, and your bushes are attacked next year, as soon as you are aware of the presence of the grubs spray the leaves on both sides with paraffin emulsion, or any insecticide containing soft-soap. If the fruit is nearly large enough for cooking and is to be used for that purpose, you cannot use any insecticide for fear of giving it an unpleasant flavour or making it

unwholesome, in which case it is a good thing to give the bush a good jarring shake, which will bring many to the ground, where they may be easily disposed of. The back of a spade makes a very handy implement, or they may be picked off by hand.—G. S. S.]

INDOOR PLANTS.

DOUBLE BEGONIA DOROTHY HARDWICK.

The double-flowered Tuberous Begonia Dorothy Hardwick is one of the loveliest things in its own way yet seen. It was raised and sent out some three years ago by my friend, the Rev. Edwin Lascelles, rector of Newton St. Loe, near Bristol, who has done far more for the improvement of these beautiful autumn-blooming ornaments of the greenhouse than any of the many raisers who have tried their hand at them. Its colour is

part leaf soil, the remaining portion consisting of fibrous yellow loam. Sufficient rough sand should be added to retain the compost in an open and porous state. Turn the plants out of the pots, and after removing all decayed matter replace the plants into the newly prepared pots, then work the new compost carefully among the roots, making it moderately firm. The surface may be banked towards the centre with Sphagnum Moss. Water thoroughly as soon as repotting is complete and replace in a moist position of the stove. Shade from the direct rays of the sun and syringe freely in bright weather. Once in two years should be sufficiently often to repot the plants. They produce their flowers during the early summer. When autumn arrives these plants complete their growth and remain practically in a dormant stage for some months. During this period the plants will be benefited by removal to a drier and rather more airy position than the stove, but if they cannot be conveniently

shards to retain the compost in an open and porous condition. All the old compost and decaying matter should be removed, and the new compost must be pressed moderately firm about the roots and base of the plant, filling to the depth of about an inch below the rim with the compost, and the remaining space with chopped living Sphagnum Moss, mounding slightly to the centre. Water, wherever leaf-soil is used in the cultivation of Orchids, must be applied with care, the leaves absorbing and retaining a quantity of moisture from the atmosphere. The plants will not require anything like the quantity of water that was necessary when the compost of peat and Sphagnum Moss in equal portions was used. I find it best to give the plants a thorough watering as soon as they have been repotted, using rain-water and pouring it through a moderately coarse rose on the water-can. Sprinkling the surface of the Moss when it appears dry is all the water that will be required afterwards. Spray the plants



Double Begonia Dorothy Hardwick. From a photograph by G. A. Champion.

the most delicate shade of rosy-blush, its petals have a most beautifully frilled edge, and it is an exceedingly free and continuous bloomer. W. E. GUMBLETON,

NOTES AND REPLIES.

Good scarlet Pelargoniums.—Will you kindly use the largest-flowered scarlet (*Pelargonium* Zonal), not violet-veined or orange-scarlet, but pure scarlet and single?—M. J. K.

Very large single-flowered scarlet Zonal Pelargoniums.—Lord Hopetoun, Lord Strathcona, Nicholas II, and the Sirdar, while Hail Caine, soft rosy-scarlet, is a particularly fine variety.]

Anthurium Scherzerianum (*Sandl. & Buckley*).—This is an aroid and not an orchid. Through the spring and summer months this requires stove temperature. Repotting, where necessary, should be done in early spring. The pots used should not be too large, and filled to one-third their depth with clean broken potsherds. The compost should consist of fibrous peat, two parts, one

removed, the plants should be kept drier at the roots, only sufficient moisture being given to retain the leaves in their normal condition and prevent the surface Moss from decaying. With the return of spring renewed vitality will appear. The plants should then be more liberally treated.—H. J. C.

Maxillaria grandiflora.—I have just had some plants of this given me, and shall be glad if you will kindly give me a few hints as to its cultivation, heat required, best compost for it, etc.?—SAMUEL C. BUCKLEY.

[There is no more suitable Orchid for cold or Odontoglossum house cultivation than this species. It is one of the earliest plants to manage, even when grown in a cold greenhouse with only sufficient heat to exclude frost. It is best accommodated in pots, which should be filled to one-third their depth with chopped Bracken-roots, such as will be discarded when picking the peat. The potting compost should consist of good (Oak) leaf-soil, two parts to one of fibrous peat, with a little chopped Sphagnum, and sufficient rough sand or finely broken pot-

at intervals of about once in fortnight with some insecticide, to keep them from all kinds of insect pests to which the plants are subject. The plants should be placed at the cool end of the house or in a position where they have constant moisture about them. *Maxillaria grandiflora* requires a liberal amount of air.—H. J. C.]

Pentas carnea.—In a greenhouse the other day some plants of *Pentas carnea* were being staked and tied up preparatory to winter blooming. Though liking heat, one may grow this plant in a moderately warm temperature, and its pale pink blossoms are very acceptable. It likes a compost of light loam, leaf-mould and sand, plenty of moisture when in full growth, and, if brought on in succession, plants may be had in flower at almost any time of the year. Cuttings of half-ripened wood covered by a bell-glass strike freely in a little bottom-heat. Although an easy subject, few people grow it now. It is one of our best soft-growing shrubs, and needs frequent stopping to maintain a bushy habit.—TOWNSMAN.

OUTDOOR PLANTS.

ERIGERON (FLEA-BANK).

MICHAELMAS Daisy-like plants of dwarf growth, similar in general appearance, and having pink or purple flowers with yellow centre. They flourish in any garden soil, but a few of them are seen to best advantage in the rock garden. The following are among the best in the family:—

E. AFRANIMUS. This, when doing well, is not more than 2 inches high. In the rock



Erigeron multifloratus.

garden or in the front of the border the plants should be in groups. Slugs are partial to this kind during the winter, and will speedily devour it if left to itself. The species is of close tufted growth after the manner of the alpine Starwort, while the growth is not so abundant as to permit of frequent division. It may be raised freely from seeds, which if sown at intervals during the spring months, will prolong the flowering period.

E. PAUCIFLORUS.—This grows about 2 feet high, and bears masses of rosy-purple heads of flowers. These are not large, but their abundance produces a very pretty effect in the border.

E. GLABRILIS.—A free-growing species from the North United States, bearing a cluster of purple flower-heads on stems about 15 inches high. It is a useful border kind, readily distinguished by the numerous florets composing the ray encircling a yellow disc.

E. GLAUCUS (syn., *Aster bonariensis*).—This is one of the best of this genus. The species usually sold under the above name is a form of *E. serotinus*. For the rock-garden this is one of the finest of all. The ray florets are much broader than usual, as also the flower-heads. It is a vigorous sub-shrubby evergreen species with free-spreading branched habit, and when well established will attain 18 inches high and 2 feet across. The sturdy lilac-purple flower-heads appear on leafy stems a little above the rosettes of leaves. It is an easily grown species, and may be increased freely from cuttings or division when large enough.

E. GRANDIFLORUS.—This is an excellent species, with dwarf evergreen tufts close upon the earth, after the manner of the alpine Aster. The flower-heads are large and of a purple shade, and it does best in warm soils. There is a pure white form of this plant which is usually regarded as synonymous with the white of the alpine Starwort (*Aster alpinus albus*). It certainly somewhat resembles this in growth and in its large handsome flower-heads.

E. MACRANTHUS.—A North American species, attaining about 18 inches high, and producing

freely its large violet-purple heads. It is a mid-summer-flowering kind.

E. MICHONATUS (syn., *Vittadenia triloba*).—This pretty little plant with its abundance of Daisy-like blossoms forms patches 2 feet across that in late summer and early autumn are smothered with vari-coloured pink and white blossoms. The patches of leaves are quite close to the soil, while the flower stems attain to 6 inches or 8 inches high.

E. MULTIFLORATUS.—This differs from the rest of the family in the great number of its ray florets, which are of a purplish shade and the disc yellow. The plant grows from 1 foot to 2 feet high.

E. ROYLEI.—A dwarf growing and tufted species also from the Himalayas, with handsome flower-heads of a bluish purple hue, each about 2 inches across, and disposed in a loose corymb. It is about 9 inches high, and an excellent plant for the rock-garden in good deep soil.

E. SEROTINUS.—This is the best known and most widely grown of the whole family of the Flea hares. The plant, from its easy culture and the quantity of blossoms that it produces for months in succession, is well deserving of the popularity it enjoys. A variety known as *E. s. superbus*, or *splendens*, as it is sometimes called, is of a lighter hue, and is perhaps the most free flowering of this group. Another distinct kind, *E. s. glaucus*, referred to in lists as a possible hybrid, is doubtless but a good form of the plant under notice, the florets of the ray deep purple. The foliage in this is of a glaucous grey tint, the plant being of the same height and equally free flowering. The typical species inhabits North-Western America, and has long been known to cultivation.

INCREASING THE CLEMATIS.

What is the correct time to take cuttings of the Clematis, and what is the mode of procedure? An answer in the columns of your valuable journal will greatly oblige.—
T. MAWELL.

[The usual stock on which the different varieties of Clematis are grafted is the roots of Clematis Vitalba (Traveller's Joy). The operation is generally carried out in the following manner: Assuming that the plants are in pots, a plant or two is towards the end of February taken into the greenhouse, where they at once start into growth, and when the new shoots are firm enough grafting can be begun. Each shoot will form more than one scion, as the two opposite leaves and the piece of stem below are quite sufficient for one graft. The string-like, fleshy roots are used as stocks, each bit that is sufficiently stout to take the graft being available. Do not graft on a mutilated root—that is to say, one with the lower portion cut off—as all the fibrous parts must be retained. The lower portion of the scion must be fashioned like a wedge with a keen knife, and the stock split sufficiently far to receive it. It is then tied securely in its place with soft grafting cotton. Then each one is potted singly into a small pot at such a depth that the point of union is just covered with the soil. In order that this can be carried out, the long, string-like root is twisted round the pot till it is at the required depth. Then they are plunged into a close propagating-case with a gentle bottom-heat, and will quickly become established. A good deal of the success or otherwise of the operation will depend upon the after treatment, such as shading from sunshine and preventing the young succulent leaves from damping off. This decay which sometimes sets in is caused by the air of the propagating-case being too much charged with moisture; hence the lights should be raised a little at times to allow it to escape, but at the same time the grafted plants must be kept close enough to prevent shrivelling. A little practice and close observation will show better than words how this is to be done. When a union is effected, which will be seen by the plants starting into growth, air must be gradually given till the plants are inured to full exposure. The roots should be taken into the propagating-house a few days before they are required for grafting. While this details the practice generally employed, grafting of the shoots produced out-of-doors may be done later in the season. For this, while a close propagating-case is (as with the others) needed, bottom-heat can be dispensed with. The roots intended for stocks should be lifted while still

dormant and laid in a cool, shady border till wanted. Owing to the fact that grafted plants of Clematis sometimes die off in an unaccountable manner, attention has been directed to other means of propagating this beautiful class of plants.

Cuttings and layers have been resorted to, and each has its advocates. For cuttings select the young shoots when about 4 inches long with a small heel of the old wood, and insert them around the edges of clean, well-drained pots in sandy soil. Then place them in a close propagating case in a warm greenhouse, where, with the treatment given to the general run of soft-wooded cuttings, such as Fuchsias, Heliotropes, etc., they will soon root. In potting them off, the extremely brittle nature of the young roots must be borne in mind. Layering may be carried out now by burying one or two of the long, flexible shoots that are most conveniently situated for the purpose. The stem should be lightly tongued below each joint. Do not bury the joint too deeply, as it is better to leave a depression in the soil, which may be filled up after the young shoots have made sufficient headway to elevate the leaves above the surface of the soil.]

TREATMENT OF VARIOUS LILIES.

Kindly say what soil and treatment are best for *Lilium candidum*, *L. auratum*, Tiger Lilies, and *Parsons' Favorite* for planting outside in border? Also, how deep the bulbs should be planted? And if left in the ground for long, or when taken up and dried, and for how long.—
GARDENER.

[*Lilium candidum* succeeds best in a well-drained, rather sandy loam. The bulbs should, if possible, be planted in their permanent quarters before August has left us, as they root quickly. They should be planted at such a depth that there is from 2 inches to 3 inches of soil above the topmost portion of the bulb. After this no lifting will be necessary, as unless this Lily is disturbed the better, for when in good condition it will stand in one spot and flower well year after year. *Lilium auratum* needs a soil of about one half sandy peat and the other half loam, though under any conditions it is most erratic in its behaviour. Being a peat lover, it is often planted in Rhododendron beds, the Rhododendron serving to protect the young shoots from spring frosts and cold winds. The should be planted at about the same depth as those of *Lilium candidum*. For all this, can never depend upon *L. auratum*, and it occasionally be found to thrive under conditions very different from those above given. Do not lift the bulbs in the winter, as they are liable to disturbance when once established. *Lilium tigrinum* (the Tiger Lily) is best treated more as recommended for *L. candidum*. Those



Erigeron aurantiacus.

the bulbs are considerably smaller than those of this last named species, they may be planted at much the same depth. *Tigridia Parsonis* a more tender subject, that needs to be lifted in the autumn and stored in a spot free from frost, and also from mice, as these last are

ary fond of the bulbs, and will soon destroy a considerable number. The bulbs should be treated like those of the *Gladiolus*—that is, lifted in the autumn, as the leaves show signs of going to rest, and laid on a sunny shelf in order to thoroughly ripen them. After this they are better laid in dry sand, as if kept out long they are apt to shrivel, and placed here just free from frost, but nothing more, otherwise if kept warm they will start too early. A warm, sheltered border suits this best, and the bulbs may be planted early in April unless extreme weather prevails. Put the bulbs 3 inches deep.]

NOTES FROM AN IRISH GARDEN.

On the first week of October, it is pleasant to enjoy such things as Dahlias unharmed by frost. The pretty, free-flowering variety *Admiration*—neither show nor pompone sometimes comes all scarlet; Mrs. Langtry varies. *Aeomoae japonica* is still well in flower. It is almost as easily affected by frost as *habitas*. This being a rather late locality, the hocks are still in their prime, some having a foot or more of their stems in bud. The ones are green and healthy in the flowering stage, and the blooms are the size I have seen for years, reminding me of their former beauty. White or primrose-coloured blossoms have a fine appearance among the reds. Sunflowers are blossoming, the flowers being borne by *Soleil d'Or*. *Uvaria glaucescens* still sends up its spikes of scarlet and yellow tubular blossoms. Though *Phloxes* are mostly over, those growing in a little shade are yet fresh and beautiful. Of light-eyed varieties, especially of a good red shade, over a foot high, above three dozen bunches of flowers. Sprays of little yellow blossoms of *Solidago* pretty for variety's sake. There are yet a few fresh blossoms on little branches of *Illea The Pearl*. *Chrysanthemum maximum* has a flower yet, but this plant is too like the late-flowering species of the fields to be given much space. *C. uliginosum*, in bud white, has more of the character of a flower than it, and is a useful subject late. *Camulas* may be seen giving blossoms yet, as *C. sicifolia*, *calycanthema*, *C. rotundifolia*, and *C. Medium*, which reminds me how beautiful in its day a bed was of some twenty species, in colours and degrees of doubleness. *Clasping Peas* have grown too much to leaf this year. *Eupatorium ageratoides* is in flower. *Yulais lutea* or its seedlings are fresh in age and flowering freely. Perennial *Cornifers*, red, white, and blue varieties, are still in bloom. *Lychnis diurna* fl. pl. *Flos-cuculi*, *Hypericum*, *Prinnella grandiflora*, *Linum bonense*, and a yellow *Lysimachia* are giving about their last blossoms. The last two are very beautiful in their day. Perennial

are in flower. The decurved, small-flowering branches of the so-called French Southern-wood (*Artemisia*) are singular; the white foliage of the plant makes it rather pretty; its scent is less powerful than in the common kind. Ripe fruit is on *Digitalis lutea*. This

margined *C. p. integrifolia* is pretty. *Convolvulus minor*, blue, purple-blue, white, and pink, with a deep zone round the eye, are all pretty. Its twining relative, the Morning Glory, is also an old acquaintance. *Nasturtiums*, *Chrysanthemaums*, an annual *Silene* (like *S. orientalis* a little), double orange *Eschscholtzia*, and *Calendula* in variety may also be mentioned. *Cornflower* will keep blossoming until killed by frost. There are now, besides the blue shades of this useful annual, so many other colours, from red to white, or from blue to white, or wine coloured to very dark, which render it all the more useful and pleasing. Sweet Peas are blossoming, weather of a favourable character having developed fresh growth in the plants. The pink coloured *Hawkweed* is rather pretty—more so than the white; it is an old-fashioned annual. This is a time of the year that some variegated plants have nice foliage developed. Hardy Ferns have given good fronds this year.

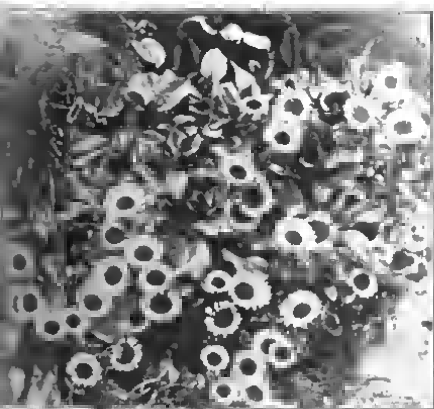


Erigeron macranthus.

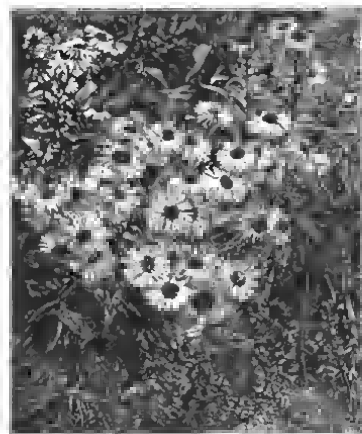
Foxglove has its stem during growth always bent down at the top—unlike our common one, which is erect. The yellowish, tubular, brown-spotted blossoms, hairy within, are rather pretty. I once grew a small-flowered, brownish coloured species—*Grecian*, I think. *Montbretia* is at its best. A sweet-scented *Cyclamen* has not long gone out of bloom. *Colchicums* have been in flower for some time, though more are coming up—white, lilac, rose, and double kinds. The common *C. tessellatum* sometimes has seven divisions to the flower.

It is interesting to see these and *Crocuses* proper pushing up out of the bare earth without the usual accompaniment of leaves. *Muscari conicum*, Heavenly blue, has leaves now more than 6 inches high, and a long time will elapse before its blossoms develop. A fine *Crocus* is *C. speciosus*, usually the first of the autumnal kinds to appear. Its blossoms are long, of a good blue, and elegantly lined internally, and it has an ornamental, much-branched, scarlet stigma. *Daisies* have renewed themselves, and are giving blossoms. A common *Wallflower* has a bunch of blossoms open, and the scent makes one think of other spring flowers now dormant. One *Snow-drop Anemone* has a young silver flower-bud drooping from out its three-leaved involucre. A plant of *Myosotis dissitiflora* is also blossoming. Some annuals have yet a little of the showy element in them. *Shirley Poppies* keep opening their scarlet, pink, white, or edged blossoms. Large plants of the double French *Poppies*, growing in rich soil, and lying down, are sending up numbers of blossoms, red self margined, or double pink with white margins, and the best—*Godetia*, *Clarkia elegans* pl. and *C. pulchella* are in flower. The white margin, and as the leaf is flat the colours are well seen. The silver tricolor *Mrs. T. Dickson* makes also a neat variegated plant, its convex leaves also displaying well the pink inside the broad white margin. A tricolor *Fuchsia* is in good leaf now; it is almost as well not to let its red blossoms come to perfection. It is late for the rose-coloured *Pheacomena* to be flowering when others are over almost, including *Wave of Life*. I still like to grow *Rose of Castille*.

IRISH READER.



Erigeron glaucus.



Erigeron speciosus.

stems of the Nova Anglia type are beginning to bloom, and rather smaller-flowered kinds. Planted in shelter, these will not be killed by the earliest frosts. Some of the dwarf, creeping-rooted kinds are not worth growing, though *Staticelatifolia* and *Helenium autumnale*

soms. Large plants of the double French *Poppies*, growing in rich soil, and lying down, are sending up numbers of blossoms, red self margined, or double pink with white margins, and the best—*Godetia*, *Clarkia elegans* pl. and *C. pulchella* are in flower. The white

Arctotis grandis.—As some of your readers are asking about the cultivation of this plant, I beg to say that I have grown it very successfully this year. The seed was sown in a hotbed in April and planted out in June, URBANA-CHAMPAIGN

under the east wall of a greenhouse, in rather a dry border. It has flowered profusely all the summer, and I have to-day (October 11) gathered a large bunch which, though the flowers were nearly closed when cut, have opened in a sunny window.—G., Leamington.

NOTES AND REPLIES.

Date Palm seeds germinating in the open air.—On October 2nd, while seeding a bed of Carnations, I found three seedling Date Palms, about 1½ inches high, with roots 4 inches long. The bed is sheltered from the north by a wall. The Date stones had evidently come from the rubbish-heap amongst some leaf-mould. Is it not unusual for Palms to grow from the seed in the open ground, with nothing to keep them warm?—TALBOT, Houston.

The Californian Fuchsia (Zauschneria californica) not flowering.—I have had a plant of this for about four years, planted in light, dry soil, facing south, sheltered from the north by a clump of Pampas Grass, and exposed all day to the sun. It increases in size and throws up stems annually 15 inches or more in height, but has never flowered. Can you kindly let me know what is wrong and how to make it bloom?—N. BROWN.

[This is a somewhat enigmatic plant, often refusing to bloom in soils and situations seemingly well suited to it, and again blooming freely in a flat bed of damp, heavy loam, which one would imagine quite unsuited to it. Perhaps the best position for this plant is a sunny spot in the rock-garden, in a mixture of sandy-loam. We have seen it growing freely and blooming profusely when planted between the stones of a retaining wall. In your case we should advise its removal to a more elevated and sunnier position into poor soil, while a restricted root-run might also tend to induce it to flower.]

Plants for border.—Please advise as to suitable plants (perennials) for shrubby border, aspect south-east. The border has large Elm-trees in close vicinity, which take a good deal out of the soil. Would *R. rugosa* or any varieties of Broom flourish under these conditions? I want to get a bright effect.—E. M.

[There are many things you may plant in such a border—Lupins, seedling Delphiniums, *Bocconia cordata*, *Pyrethrum uliginosum*, *Helianthus Miss Mellish*, *H. multiflorus maximus*, *Anemone japonica alba*, *Michaelmas-Daisies*, any of the Flag Irises, many *Campanulas*, especially *C. latifolia*, *C. grandis*, *C. lactiflora*, etc., *Rudbeckia Golden Glow*, *Paeonia officinalis fl. pl.*, a group or two of *Eremurus robustus*, such *Lilium as umbellatum*, *croceum*, *Martagon candidum*, *Iris sibirica* in variety, *Achillea Eupatorium*, *Acanthus mollis*, *Asphodelus*, *Helenium nudiflorum*, red and white Perennial Pea, Oriental Poppies, *Bupthalmum speciosum*, *Polygonum cuscutatum*, etc. *Rosa rugosa*, and such things as Brooms, *Forsythia suspensa*, could be planted as far as possible from the tree roots, which you may probably discourage by opening at some distance off a trench and cutting off with a spade all of a small, fibrous nature.]

Lilium auratum decaying.—Will you kindly tell me why my *Lilium auratum* bulbs rot or become diseased on the outer layers, so that I have to get fresh ones every year? Is there a cure for it, and what soil is best to pot them in?—SCOTT R. ADER.

[If your Lily bulbs only decayed on the outer scales of the bulbs there would be no need for renewing the stock each year. It is, however, clear that something more than this takes place, and we doubt not it is the old and frequently ventilated cause of no basal roots having been produced since the planting. These Lilies mature quite in midsummer in Japan, and, as is natural with not a few Lilies besides this one, the new roots—i.e., the basal roots already referred to—are produced at once. Then at lifting time, and in process of preparation for shipment to this and other countries, the bulbs are denuded of all their roots, chiefly, however, to facilitate packing. As there is but one series of main basal roots produced each year, it follows the bulbs arrive in this country minus the very essential to a permanent existence—i.e., main roots. In these circumstances the ultimate growth and subsequent flowering, if any, are wholly dependent on the stem roots that form in a great mass immediately above the bulb. Meanwhile the bulb has more or less exhausted itself in the output of the stem, and the bulb, incapable of gathering support by the natural process of roots from the soil, frequently collapses at the most critical time—viz., flowering. It is this state of things so frequently occurring in midsummer that is often referred to as "rotting."

whereas the true cause is as stated. This, however, does not occur to the amateur, who is often deceived by the great mass of stem roots near the surface, and considers the plant to be well rooted in consequence. We have planted this Lily by the acre in the hope of securing enough to form the nucleus for a home-grown stock, but the few surviving bulbs were so crippled as to never recover fully, and gradually dwindled away. At the present time in a small plantation there is a solitary bulb remaining of what was planted two years ago. As yet no flower has been produced, but this season there are two stems, which afford some proof of active basal roots below. This plant will be allowed to remain, and in time it may recover. A good clump of established *L. auratum* is always worth looking at, but such is rare. Indeed, we are strongly of opinion the bulbs of this species do not arrive in so good condition as formerly, and, remembering that shiploads reach London each year, the loss must be enormous. The only cure is the invention of a method of packing whereby the roots can be preserved to the bulb intact. When this is accomplished good clumps of these Lilies will be frequent in our gardens, but not till then.]

A ROCK BORDER.

The border shown in the illustration has only been made two years, and was converted into a



Rock border against a wall. From a photograph sent by Mrs. Hughes, Dabholin, Co. Down.

rock garden as it was a failure as an ordinary border, being too much shaded and having had soil. I was making a croquet court, and had the surplus soil placed here, leaving some parts rather low and flat, and raising others considerably. These latter I made rather stony, and planted things which require good drainage, while those which like moisture I kept below. The border is never without bloom from the time the first Aconite comes out in the beginning of January till the last Autumn Crocus and Colchicum die away in December. Of course, spring is its best time; then it is a mass of Primroses of various sorts, Polyanthus, Tulips, alpine Anemone, *Anemone nemorosa*, *Auriella*, particularly the bright yellow, which is most effective, *Hepatica*, Rock Cress, purple, mauve, and reddish Aubrietins, *Alyssum*, *Arenarin*, which covers many of the stones, and is a mass of little starry white flowers, and many other plants.

M. H.

Yucca.—I have a *Yucca*, obtained in May last by removal from a neighbouring lawn; similar soil and situation. Has a variety of short stems not over 12 inches in length, with thick tufts of lance-shaped leaves, three stems of 11 inches circumference, three smaller stems 8 inches to 9 inches, and two young growths, one with complete stem and head, the other a vigorous leafy shoot springing from same root as the last named. Age of plant quite unknown. It looks crowded, and the younger growths have hardly room to develop. Can old stem be cut out without injury, and what season best for the operation? There is a stump of an old stem which must at some time have died or been cut down. There is no definite shelter around the plant or Grass. Would such

be beneficial in winter in a rather windy position?—CORSWOLD.

[From your description, the *Yucca* would appear to be *Y. gloriosa*. Probably the plants has been broken down with snow in winter. The leaves being very stiff, the snow gathers in the crowns and eventually breaks the plants down. Plants with a two or three-lobed head often suffer to such an extent that the removal of the large head-crowns is a necessity. Old plants of this character require support. If any such accident has occurred to your plants this would account for the loss of the breaks or growth and their being crowded about. Any of the old stems may be cut away with a saw at any time now with impunity, plastering the cut with soft-tamped clay. Any crowded shoots may be pulled off the main stem, and secured with a heel attached may be rooted by planting firmly in a pot. The plant is quite hardy, and in your district would not require protection. Indeed, it rarely suffers from any cause except that stated above, but this is disastrous where old groups are affected.]

Alonsoa Warscewiczii.—This Central American half-hardy annual has been very beautiful lately, the plants being literally clothed with the small pretty crimson blossoms, which, combined with the graceful habit of growth, place it in the first rank among plants that are raised annually for garden embellishment. I sowed the seed in pans in gentle heat

during March and prick the seedlings off into boxes when large enough. In due course they are hardened and eventually planted out at the latter end of May in groups of from nine to twelve plants, allowing a distance of a foot between each. Grown in this way they form good sized clumps and so partly support each other, a few sticks round the outside being all that is needed in this direction.—A. W.

Double white Narcissus falling.—I have a bed of double white Narcissus, generally a very beautiful bed, but the leaves are so long in dying, and there are so many bulbs in the bed, I can plant nothing for autumn, and the bed is unsightly. I thought of taking a few of the Narcissus out and planting a few *Gladiolus Brechtianus* in the bed surrounded by Box. Would they do mixed up with the Narcissus? I have three small plants of *Everlasting White Pea*. The bed is rather shaded and is rather a dry garden, but I think a patch of bright white would be nice, especially as there is a background of clipped Yew.—KITTA.

[In a year like this, characterised by general dullness and a shortness of sunlight, the double white Narcissus is always slow in going to rest. Indeed, we have known it to retain perfectly fresh foliage even after July, the foliage receiving continued support by the ever-renewing roots at the base. At this time of year the bulbs will have emitted a large number of new root-fibres, and to now interfere and replant would certainly not improve the flowering of those moved. As it is not possible to deal with the *Gladiolus* at this time, we think your better plan will be to wait until the flowering of the Narcissus is over next spring, when you may

deal with the bed at once. As the bed is so full, why not make a second bed, and in doing so make arrangements accordingly? If you can arrange a second bed, it would be a good plan to plant the Narcissus quite 8 inches deep, which is sufficient to allow another crop being planted on the surface. Tuberous Begonias form a capital crop for summer display, and are bright withal, easily wintered in boxes of sand, and may be started in boxes in April and planted in mid-June. Another plan, and likely to give good permanent results, would be to plant rather thinly bulbs of *Lilium tigrinum* Fortunei in conjunction with the Narcissus. In such case there would be no need to plant deeper than 6 inches, and the Lilies would give better permanent results than the scarlet Gladioli. If, however, you only wished for a few of the Gladioli, it would be quite easy to plant the roots of these in February with the help of a small handfork. If planted 3 inches deep this would suffice. For a good, effective, permanent bed, however, we can recommend the Lilies and Narcissus.]

CHRYSANTHEMUMS,

SEASONABLE NOTES.

We have now entered on a critical period of the plants' growth, and housing will in most cases be in full swing, provided, of course, that the buds are well set. On no account put a plant under cover unless the buds can be discerned. Where the plants had plenty of room in their summer quarters the wood has ripened pretty well, and, all things considered, the bloom prospects should be about the average. I speak from a decorative point of view. Where several hundreds of plants are grown, the housing sometimes takes considerable time, all the pots requiring to be washed before taking them inside. In view of this, I think a capital plan to adopt is to start cleaning the pots a few days previously, arranging them afterwards in a sunny position, facing south if possible. This has the double advantage of the plants being handy for lifting in, and it also gives them a more suitable position for covering them at night with canvas or tiffany as protection from slight frosts. This covering, of course, will only be required where the plants have not set their buds. I find some varieties will be nearly three weeks later in setting than was formerly the case, and this, no doubt, will have its advantages from a market gardener's point of view. Mildew seems to be prevalent, and an effort should be made to remove every trace before taking the plants inside, otherwise the whole collection may be disfigured. Liquid-manure may now be given with safety, as all the virtues in the soil will be spent ere this, and something must be given every eight or ten days to keep the roots active. In giving stimulants of any kind it is always safer to err on the weak side. Be sure and have a tub handy, filled with rain water, having a bag of soil suspended in it. This is an indispensable invigorator to the plant in many ways.

Bridge of Weir, N.B.

D. McIVER.

CRIMSON EARLY-FLOWERING VARIETIES.

A few years ago early-flowering crimson Chrysanthemums did not exist—at least in that section confined to the Japanese flowers. Harvest Home, introduced about 1895 or 1896, was the first in this colour. Previous to this period there was a goodly number of orange-coloured flowers, and others, too, possessing warm shades of colour. Harvest Home is of a bright and rich shade of crimson, tipped golden-yellow, and comes into flower at any time after mid-September, and, when propagated early and grown on freely, even earlier. These plants, like other early-flowering kinds, will continue to blossom until really severe weather comes. The height of the plant varies from 2½ feet to 3½ feet, and the habit is good. In so far as its free-flowering characteristics go, it may be regarded with favour. Ryeeroff Crimson, introduced in 1901, was looked upon as another acquisition. Its colour is a shade of deep chestnut-crimson, and the plant, which has a good habit and attains to a height of about 3 feet, flowers freely. Unfortunately the

flowers are very thin, and, unless the plant be grown strongly or freely disbudded, the blooms leave much to be desired. In Goacher's Crimson we have a superb variety, and one which all interested in the early-flowering Chrysanthemums should grow. The flowers of this variety are much larger than those of most of the early-flowering Japanese kinds, and each one is developed on a long, stout, erect footstalk, without the need of disbudding. The colour is a deep rich crimson, and the long florets, which are of medium width, have a beautiful golden-bronze reverse. Under artificial light these flowers are very rich and effective. The plant attains to a height of about 3 feet, and is a recognised September-blossoming kind. A curious discovery made this season is that of a new variety of continental origin, and distributed under the name of Mons. J. B. Chauvin. The blooms of this variety are as nearly alike to those of Goacher's Crimson as possible, and I very much doubt whether, if the blooms were arranged in vases, side by side, it would be possible to distinguish them. Careful comparison has been made between them, and the only distinction, so far as I could trace, was a slight difference in the leafage, and possibly a week's difference in the time of coming into flower. This latter, however, is hardly worth considering. Whatever may be thought of these two sorts because of their similarity, they are undoubted acquisitions. A few days ago I saw a seedling named Mrs. W. Sydenham, of a charming, free-flowering, deep, rich crimson. The plant gave promise of making a good border sort, as its blossoms were of a reflexed Japanese kind, which throw off the rain, and last well in wet weather. The colour in this instance was very rich, and the plant, besides being a profuse bloomer, also possesses a nice branching and sturdy habit. There are two or three late October-flowering kinds which should not be regarded as typical early sorts, as their period of blooming is much too late in this climate. The sorts referred to are Ruby King, syn. Crimson Queen, M. E. L. Usmyer, Alle. Sabatier, Mme. Max Dufosse, and others of kindred shades of colour. E. G.

Chrysanthemums—early-flowering kinds.—Never have these plants been seen in better condition than during the past month, and there is the promise of a grand display for some time to come. In August several of the best sorts began to bloom. At that time Mmc. Marie Masse and its sports were in flower. Mauve-pink blossoms were represented by the parent plant just alluded to, cerise-pink, tipped gold blossoms, by Rabbio Burns, creamy-white flowers by Ralph Curtis, crimson and bronze blossoms by Crimsoa Marie Masse, and rich yellow by Horace Martin. The above may be regarded as ideal for border culture, possessing as they do a sturdy, branching style of growth, and very free-flowering. Other excellent sorts are Francois Vuilhermet, lilac-pink, free and branching; Mme. Casimir Perrier, pink and white, wonderfully profuse, and with a capital habit; Harvest Home, still one of the best crimson kinds; Lemon Queen, a mass of deep yellow blossoms of good form; Henri Yvon, yellow, tinted rose, large and full blooms, and very continuous in its flowering; and Harold Olivier, a pretty soft pink sort and quite new. —E. G.

TREES AND SHRUBS.

Good hardy Azaleas.—Could you recommend about 12 modern sorts of Azaleas, mentioning colours? I have a garden where they grow well, and I have a good variety, but I wish to plant a few more of the most recent sorts, not indica. —R. S. HANMOR.

[In the production of most of the newer hardy Azaleas, the Chinese *A. mollis* has played a part, the effect of this species being seen in the larger flowers and more compact habit of many of them. A few of the best are: Alphonse Lavallée, bright orange; Anthony Koster, bright yellow, perhaps the finest hardy Azalea we have; Charles Darwin, bright red; Comte de Gomer, bright pink; Dr. Pasteur, orange-red; Frère Orban, creamy white; Hugo Koster, salmon-red; J. J. de Vink, soft rose; Mme. Anthony Koster, orange-pink; M. Desbois, rosy-scarlet; Peter Koster, orange; and W. E. Gumbleton, golden-yellow.]

GARDEN WORK.

Conservatory.—This is the time of the Chrysanthemum under glass, and well-grown plants thickly placed are certainly very effective. For decoration one does not want many varieties, and many of those grown for exhibition are not suitable for indoor decoration. White, yellow, red, or crimson, bronze, and pink-flowered kinds, arranged in groups of one colour, are the most attractive, with plenty of Ferns and fine foliaged plants to tone down the brightness. Really well grown, bushy specimens look well isolated among fine-leaved plants, and in a large house there is scope for variety of treatment. Scarlet *Salvia* will now be coming into bloom, and are very bright, and in a well ventilated house the flowers will last for some time. After taking Chrysanthemums to the conservatory the vaporiser should be used to clear off any insects which may be upon the foliage or buds. There is not likely to be many at first, but they increase rapidly, and they spoil the flowers when they have increased and multiplied among the petals, which they will do rapidly if the precaution has not been taken to clear them out before the flowers expand. Last year I was troubled with the rust on the foliage, this year the plants are perfectly clean, and, so far as I have seen, there is less rust about generally. When grown into large bushes the Eupatoriums, especially *E. odontium*, are beautiful plants for winter blooming in a large house. They are very easily managed. I have had plants three or four years old, which have been cut back annually after flowering and planted out in May, that when lifted in September were perfect specimens 4 feet to 5 feet in diameter, and later on were covered with their white, somewhat fluffy panicles of blossoms. It is, perhaps, not just the flower a lady would select for cutting, but when a large house has to be filled and the Chrysanthemums are getting shabby this comes in well with the *Salvias* and forest things. Very charming just now are groups of Begonias, the most useful being *Gloire de Lorraine*. Place them thinly among Ferns. The different varieties of *Pteris* are the best for this work, because they are lasting in a low temperature, and until the Chrysanthemums are over the fires must be kept down, though enough heat must be given to dissipate damp, which soon spoils the flowers.

Stove.—For the present the night temperature will range between 60 degs. and 65 degs., or a little lower if there should be a sudden fall in the outside temperature. We do not want to push things to extremes at present, and pretty well all stove plants will do in the temperature named. Very little ventilation is required when November comes in till the days lengthen again after Christmas. Even the best constructed houses are not air tight, and it is not desirable that they should be, as the fresh air filtering through the laps of the glass keeps the internal atmosphere pure without unduly lowering the temperature. Of course, on a bright day, if the thermometer runs up to 80 degs. a little ventilation can be given along the ridge, but tropical plants do not want sudden changes. Keep *Draenas* and other coloured-leaved plants near the glass. Palms and Ferns will be better where the light falls upon them in a subdued degree, under creepers or otherwise. Of course, no shading will be required now, and the water supply, both at the roots of the plants and in the atmosphere, must be regulated according to temperature. On a bright sunny day plants will dry rapidly and will require to be watered with care. Among the small things of pretty growth which are useful are *Centradenia rosea*, *Rivina humilis*, *Ficus radicans variegata* (pretty basket plant), *Cyperus alternifolius variegatus* (pretty table plant), Sultan's Balsam (*Impatiens Sultanii*), *Pentas carnea*, *P. rosea* and *alba*, and *Streptocarpus* in variety. The last-named is a tower of strength in good hands, as very large plants may be had if enough pot room is given.

Orchard house.—If the trees are grown in pots they will now be outside, and by this time all those trees which require larger pots should have been shifted on, and others which it is not intended to repot this season should have had as much of the old soil as possible

picked out from the surface and the pots filled up again with good turfy loam fortified with bone-meal and manure, and the whole rammed in firmly. The trees should then be placed on boards, or something that will keep out worms, and before frost sets in the pots should be sheltered with long litter or Bracken to keep the roots comfortable. At the present time the orchard house has probably been turned into a plant house. The common course is to fill the house with Chrysanthemums. I know more than one successful grower who always grows his prize blooms in the orchard house, the Peach-trees being taken out as soon as the fruits are gathered, and kept out till the beginning of January. Of course, during the autumn, when the weather is damp enough, fire must be used to keep the atmosphere reasonably dry, and on fine days the ventilation is free. Heaps of new unslaked lime are found useful in Chrysanthemum houses for drying the atmosphere and keep down the cost for fuel, and the slaked lime can be used for the land, and a fresh supply brought in.

Mushroom-house.—There is still plenty of Mushrooms outside when the beds are protected and carefully managed; but there is never any glut of Mushrooms in winter, and the inside beds should be encouraged, and more beds made up as the manure accumulates. Be careful in selecting the manure, and obtain it only from stables where the horses have hard food and are in good health. The manure from a horse or horses which are under a course of medicine and bran mash may at any time destroy the prospect of a crop, therefore the source of the manure supply must be carefully considered. It is rather too soon yet to begin forcing Sea-kale, but as soon as the crowns are ripe the roots may be lifted and kept ready to be introduced from time to time. Rhubarb also may soon be started. As the Apple crop is a light one, there will be a demand for Rhubarb by-and-by.

Window gardening.—Hyacinths may now be placed in glasses, and stood in a dark cupboard for a month or so to make roots. The single-flowered varieties are best for the purpose. Replace the water as it evaporates, so as to keep it near the base of the bulbs. The Chinese Sacred Lily may be started in bowls, surrounded by a little soil kept in place by pebbles. Crocuses, Snowdrops, early Tulips, and Narcissi should be potted for the room and plunged in ashes or fibre outside for six weeks.

Outdoor garden.—Cuttings of Calceolarias will strike freely now in loamy soil, with a sprinkling of sand on the top, in any close cold-frame. Do not crowd the cuttings. To have sturdy plants they should not be closer than 3 inches. This will be room enough for the winter, and in February, or early in March, transplant to other frames where protection can be given, and plant out finally towards the end of April, so that the plants may get established before the hot weather comes. Calceolarias have lost caste of late years, chiefly through their not being reliable, but as no other plant that gives just the soft shade of yellow of the Calceolaria—especially *C. amplexicaulis*—it cannot quite be done without. The taste for ribbon borders and large masses of bright colours has, to a large extent, died out, and therefore Calceolarias are not required in large numbers, though a few are necessary, and the late struck cuttings, taken when the shoots are soft, make the best plants. Cuttings of Euonymus, Ives, and Aucubas, will strike now in cold-frames kept close in a shady spot. All Gladioli should be lifted, dried, and stored in a cool but frost-proof room, as soon as the growth is ripe. Dahlias also, when cut by frost, and Salvia patens, should be lifted and the roots pecked in sand. No one has too much of the Salvia, and every root should be taken care of and started in spring, and the ends of the young shoots rooted as cuttings. Seeds may also be sowed and sown in heat in spring. Among the cheapest plants for creating masses in the borders are Wallflowers and Forget-me-nots.

Fruit garden.—The time for planting fruit-trees is drawing near, and intending planters will ere this have selected and prepared the sites, or at any rate, the work will be in progress, and I need hardly say that the

preparation should be thorough. For planting on a large scale the steam cultivator to tear up the land will do good work, and the land should be gone over at least twice in opposite directions, so as to completely break it up. Any further preparation can be done by horse labour. The spade does good work, but it is very expensive, and to plant land with fruit-trees to make a profit we must keep down the initial cost. Planters of Apples should depend chiefly upon good market sorts, and my selection for half-a-dozen will be: Bismarck, Newton Wonder, Lane's Prince Albert, Bramley's Seedling, Cox's Orange Pippin, and Baroack's Beauty. If early sorts are wanted, we should fall back upon those of the Codlin family, of which Lord Suffield, Lord Grosvenor, Mank's Codlin, and Ecklinville Seedling are types. Plant early and plant well. Probably a mixture of dwarf trees on Paradise and standards on the Crab will give the best results. The standards should be about 24 feet apart, and the dwarfs filled in between 10 feet and 12 feet apart. By the time the dwarfs are failing the standards will have occupied the ground and may be left ten or fifteen years longer. The life of a tree depends in some measure upon the character of the soil, and the treatment given, especially in the matter of top-dressing.

Vegetable garden.—This has been a good season for late Peas, especially for such kinds as Ne Plus Ultra and the old tall Marrows of the British Queen types, which have made a second growth. Late Cauliflowers also have been, and will be for some time, good, if the weather continues mild. In this matter of Peas, Cauliflowers, and French Beans we are very much at the mercy of the weather. One night's sharp frost may destroy everything tender unless protected, but it is difficult to apply protection, except on a small scale. Cauliflowers can have the leaves broken down or tied over the hearts, or the plants may be lifted with balls and set in a deep cold pit, or be planted in trenches where shelter can easily be given. The earthing up of Celery should be finished as soon as possible, as there is not much growth after October. Transplant autumn-sown Onions; sometimes Shallots are planted in autumn for early use. They succeed well in well drained soils, but in damp, heavy soils leave the planting till March. Brown Cos Lettuces set out now upon drained borders will be about right for standing the winter, and the plants need not be large. If slugs or snails are likely to be troublesome, scatter some sifted ashes among the plants. Finish taking up and storing all roots likely to be injured by frost. Clear away all exhausted crops of Tomatoes. The outside crops have not been satisfactory everywhere, but I know several dry, sunny spots where the crop has paid well. There has been but little disease and the price has been higher than last year.

E. HOBDAV.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

October 27th.—Shifted on a further batch of Cinerarias and Primulas. Potted off herbaceous Calceolarias from boxes. Planted more bulbs in beds and borders, chiefly in masses of one colour. Planted a lot of Crocuses, Narcissi, and Snowdrops under trees on lawn. Mowed lawns for last time. Cleaned and put away mowing machines for winter. The roller and the broom will keep lawns and walks in condition now. Commenced making additions to rock-garden with a view to classify various plants.

October 28th.—Finished all the root-pruning of fruit-trees we intend doing this season. The Apples we intend planting shortly are Newton Wonder, Bismarck, Baroack's Beauty, Lane's Prince Albert, Worcester Pearmain, Cox's Orange Pippin, and Fearo's Pippin. Finished planting cuttings of Roses of various hardy kinds. The cuttings were taken off, prepared, and laid in last month, waiting for an opportunity to plant. Most of the Apples and Pears, except a few very late sorts, have been gathered. Strawberries in pots have all been looked over to remove runners, and the pots plunged in ashes.

October 29th.—This is the season when an effort should be made to get rid of insects

under glass, and having got the occupants of the plant-houses arranged, we are going through them with the vaporiser, so that we may begin the season of shortening days clean. Now-a-days there is a good deal of moving plants about from different houses to conservatory, and unless all are clean to begin with things soon get mixed, and then waste creeps in. Pruned Vines in early house. Selected a few of the best ripened cuttings for propagating, and laid them in till January.

October 30th.—We are still busy making preparations for a good outdoor show in spring. Several beds badly infested with the snake millipede have been excavated 2 feet deep, the soil carted away, and the beds filled with loam from an old pasture and some old manure. The reason for this was it was impossible to grow bulbs in the beds. Tulips, Hyacinths, Lilies, and other bulbs were killed time after time, though gas-lime and other things were tried and found useless. Now we hope we shall succeed.

October 31st.—Made up a hot-bed for forcing Asparagus. The plants were cut down some time ago to prepare the roots for lifting. Tuberos Begonias taken from the beds have been stored close together in the border in the orchard-house. We find they keep well in this place. We have kept them well under the stage in a cool plant-house; in fact, all the plants which have flowered in the conservatory will be stored in pots in that position, with the pots laid on the side if there is much drip from the stage. We have a piece of land marked out for trenching, where men can go to fill in spare time.

November 1st.—Some attention has had to be given to the drain which keeps the stoke-holes dry. The outfall in process of time and other causes had become blocked, and all important drains require looking to from time to time, especially where trees are growing near and the roots penetrate the drains. For draining stokeholes we have found it necessary to use glazed pipes, and see that the joints are secured properly with cement. All our full-grown Lettuces remaining outside have been covered lightly with dry leaves, with a thin covering of Bracken on top to keep the leaves in position.

BIRDS.

Death of Canary (J. W. F.).—This very old bird appears to have died from atrophy, a progressive wasting of the body, for which there is no cure unless the treatment be undertaken at its very commencement, although, as a rule, it does not cause speedy death, for a bird so affected may live for months. In this case the digestive organs being worn out from age, the food failed to nourish the system properly, hence the ravenous and constant pecking of seed. You appear to have fed it judiciously, and to have given it every attention, but its age was against it. The only fault in the feeding was the rather large proportion of Hemp-seed, which should always be given with a very sparing hand to Canaries.—S. S. G.

(Antique).—Inflammation of the lungs appears to have been the immediate cause of death in this case, due, in all probability, to a chill. Much care is necessary in spring and autumn to protect Canaries from sudden changes of temperature and cold currents of air. Lung trouble is one of the most frequent complaints to which cage-birds are subjected, owing, in great measure, to our changeable climate. The only remedy to be depended upon in cases of this kind is to keep the patient in a high temperature, which should be regularly and constantly maintained night and day.—S. S. G.

The Prize Winners this week are: 1. Mrs. Deane, Fairfields, Fareham, Hants, for Corner in Fairfields Garden; 2. Miss Sophie M. Wallace, Ardnamore, Lough Eske, Donegal, for Lilium giganteum.

Request to readers of "Gardening."—Readers, both amateur and in the trade, will kindly remember that we are always very glad to see interesting specimens of plants or flowers to illustrate, if they will kindly send them to our office in as good a state as possible.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in GARDENING free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR of GARDENING, 17, Farnham-street, Holborn, London, E.C. Letters on business should be sent to the PUBLISHERS. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and, in other cases, so ripening that it is necessary that the specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

A yellow Clematis (J. Cully).—The Clematis to which you refer is no doubt C. graveolens, which in England grows to a height of 20 feet, planted at the foot of some old Holly-trees. In colour it is very good in this autumn and until very late, flowers and seeds being very beautiful.

Niphetos in cool greenhouse (Mrs. E. Brown). Very little pruning is required for this Rose, if you desire it to grow into a large plant. If the shoots are crowded one or two may be removed from the centre, and the growths left produced, if well ripened, pruned back to a stem pump eye. This would be best done early in the new year. If at any time the plant is growing too tall for its position, then you may cut back severely when the growths are at rest. It will not be necessary to top each year, a top-dressing being quite sufficient. A handful of bone-meal mixed with the compost used for top-dressing will be of much advantage.

Tennis lawn (A. Bon).—The reason why the Grass did not grow on the portion of your tennis lawn, which you levelled up with clay, was that then the clay was very poor and incapable of sustaining plant life. Very likely the surface is now sweeter, and it is not improbable you may now sow down on it. But you may do great good all the same if you will fork off some 3 inches of the clay surface, remove it, and replace it with screened soil from the kitchen garden. If so much soil cannot be found, mix the clay with a good dressing of lime and wood-ashes, then you will stir the clay surface 2 inches or 3 inches deep, then when a good dressing of lime and wood-ashes, then the soil has been well pulverised by frost, rake it well over, level it, then get proper lawn Grass seed and sow it, doing it in April. If well rolled on a dry day growth soon follows, and shortly a good lawn is formed.

Treatment of Gloxinias (Henry Holberry).—As the leaves commence to turn yellow previous to dying down do not stand them under the stage, as is so often done, but give them all this light and air possible at that period. During the winter they may be either allowed to remain in the pots they have grown in, or turned out, shaken clear of soil, and laid in a box of dry sand or soil. The structure they are kept in during the winter should not fall below 45 degs. at any time. Do not place too near the hot water pipes, and if the soil gets very dry it should be watered. At the end of February or early part of March the tubers must be potted, but be careful not to overwater before they start into growth. The best soil is overwater to grow them in is a light loam, mixed with leaf-mould, rotten manure, and sand. They can also be propagated from leaves, but the best way is to raise from seed in the spring.

Renovating old garden (Amateur).—We cannot accept your offer of a prize, and there is no need for it in your case. What you propose to do, getting the ground trenched, and in the process casting out all refuse that will not be productive, is the only proper way to deal with the ground. If you dress it well with crushed unslaked lime as the trenching proceeds so much the better. Get the trenching done at once, and in doing so keep the present top soil to the surface, well breaking up the subsoil in the spring, before cropping, add a dressing of half-decayed stable manure, and then if the tubers be kept freely used amongst the crops, you should have good ones of anything grown. As your stone wall is on the south end of the garden, its inner face looks north. On that face you could plant Morello Cherries, Red Currants, and Gooseberries, keeping them trained and nailed; or, if preferred, you can plant climbing Roses.

Raising Briers from seed (B.).—The pods must not be allowed to get dry. Stick the stalk end into some damp sand placed in pots, and stand on a shelf in the greenhouse or pit free from frost. Then in January prepare some 5-inch pots by half filling them with small bricks, then fill up with sandy soil, consisting of sifted sand and manure. Press this firmly and sow seeds about 1/2 inch deep and as much apart. Plunge the pots in ashes up to their rims in a cold frame, protecting them from severe weather. Usually the seedlings appear in eight or ten weeks. As soon as they show their third leaf prick out into small pots and return to the pit, keeping them near the glass. Do not water them much or they will damp off. Care must be taken to afford plenty of air on all favourable occasions. About June you may plant out the little seedlings from their pots, but they will need watching or birds will soon destroy all your labours. When in the frame be on the look-out for woodlice, as they are very partial to little Rose plants, and worms, too, will often draw them under the soil.

Chrysanthemum classification of varieties (C. S. P.).—Your list embraces several types of this autumn flower and is not limited to Japanese and in-

curved sorts, as you suggest. The only incurved varieties in your selection are Major Bonifon and Baron Hirsch. The first-mentioned is a rather late variety, and the latter a late October-flowering kind. Japanese varieties are represented by the following: Thomas Wilkins, W. H. Lincoln, Mme. Carnot, Phœbus, Lady Hanham, Swanley Giant, Queen of the Exe, and Mrs. F. A. Bevan. Crimson Pride, Mme. C. Desgranges (not White Desgrange), O. J. Quintus, White Quintus, Yellow Lady Selborne (not Yellow Lady Matheson), Ryecroft Scarlet, Etoile de Feu, Queen of the Earlies, Lady Selborne, Source d'Or, and Ivory are free-flowering semi-early and midseason kinds. All except the last-mentioned variety should flower in late October and early November, and should not be severely disbudded. Jules Fourm was a new variety, Miss Mary Anderson is a small-flowered single sort, and is one of the prettiest and best of this section. Early November is its period of flowering.

TREES AND SHRUBS.

Treatment of Hydrangeas (O'Donnell A. Boo).—We presume that the Hydrangeas referred to by you are the variety of H. Hortensia, known as Thomas Hogg, while, on the other hand, they may be the deciduous H. paniculata grandiflora. If they are Thomas Hogg you did not do wrong to cut them down to within three eyes of the base as soon as their flowers were over; but if H. paniculata grandiflora, the pruning should not be done till the leaves have fallen.

Split bark on trees (Fairford).—It is most probable that the Plum, Apple, and Paulownia trees on your lawn have felt the effects of the unusual moisture which has fallen during the summer. Previous dry seasons had doubtless caused the bark to harden unduly and become set, so that when the greater rainfall of the present season caused the formation of a greater thickness of inner bark, or what is known as the cambium layer, which ultimately becomes hard wood, thus locking the bark to split open to give room for this inner layer to develop. We see no reason whatever for alarm in relation to your trees. Probably the splitting is far less on either than is commonly seen on the Birch, for instance, and the cambium layer will soon fill the interstices. If you tear the cracks apart with a sharp knife, give the stems a good thick coat of lime-soap and coating, with some soft soap, made as a paste and painted over the bark.

FRUIT.

Increasing the Logan Berry (Sherwood).—This is easily increased by division of the roots, and if this is done now, and the pieces grown on in small pots and planted out in March, the plants will stand a good chance of doing well.

Gathering Pears (B.).—It does not answer to pick Pears unripe, for they shrivel and are not worth much. On the other hand, it is not well to allow the late Pears to hang too long. Pimston Duchesse is not a late Pear, and should be gathered as soon as the pips begin to get brown. Maréchal de la Cour is also an October Pear. Late varieties, such as Josephine de Malines and Knight's Moorarch, should be gathered about the end of September; there is nothing gained by letting them hang later.

Pruning an Almond-tree (B.).—Nothing was more natural than that your recently planted Almond-tree should not shoot, and should cease to grow, especially if you want to get a dense head shorter back the present season's shoots to fully one-half their length so break the leaves fall. That will cause the branches to break freely in the spring. The Almond naturally produces a spreading head, and even if your tree were untouched the branches would in time become spreading. But you will help to that end all the sooner if you will presently prune the tree as advised.

VEGETABLES.

Gas-lime (Anxious).—To ground that is now free of crops, and which you propose to dress, gas-lime should be applied once at the rate of 2 bushels to 3 rods of ground. Put down in heaps of bushel, and the spread evenly over the surface. The lumps, if large, should be well broken up. Exposure to the weather will help to pulverise it. After you have thus exposed it for a month you may dig it in. Cropping must not take place till February or March, when, if you think it necessary, you may apply manure before preparing it for sowing or planting, as the case may be.

SHORT REPLIES.

W. K.—Kindly make your query plainer, giving size of garden, district from which you write, etc.—B.—Prune your Privet hedge towards the end of October.—N. O'Shea.—Yes. Lift and replant the tree, adding fresh soil with very little manure in it.—Inquirer.—I do not suppose you mean Statice latifolia, with wide-spreading flower-stems, bearing a profusion of small purplish-blue flowers. 2. Cut it away at once. 3. Freshly-slaked lime would be far better than the gas-lime in such a soil as you have.—Richard Thurnham.—Write to any of the wholesale seedsmen.—H. Hayward.—The only thing you can do is to trap them or shoot them.—Snowdrop.—1. See article in a coming issue re Peaches. 2. Morello's cooking Cherry, is the only Cherry that will succeed on a north wall.—P. C. F. L.—"Soils and Manures" by J. H. Cassell and Cassell and Co. Norfolk. See flower seeds are used for poultry. We have never heard of their being given to pigs.—Scelus.—If the weed destroyer had been properly applied, you should have had no more trouble with the weeds.—Mrs. Mynor.—You will find an illustration of Begonia Turnford Hall, a form of R. Gloire de Lorraine, in our issue of Nov. 23, 1901, p. 505, with full instructions as to culture. This can be had of the publisher, price 1/3d.—N. P. D.—See reply to "Not-seller" in our issue of Sept. 6, 1902, p. 350.—Postman.—1. Do not understand your query. 2. Yes, using Hyacinths, Tulips, Daffodils, Crocuses, etc. 3. Try Wallflowers and Forget-me-not mixed with the bulbs.—M. H.—You can use any of the artificial manures, which can be had from any horticultural firm. Horse manure would answer the same purpose if you can get it.—T. T.—"The Book of the Apple" is published by Mr. John Lamm, The Bodley Head, London. We think the price is 2s. 6d.—D. Kerr.—A malformation, a lacinated stem and of a blue color.—G. P.—Kindly send the fronds here for a time, and we will do our best to name them for you.

—E. P. Goddy.—We have never published any such articles as you refer to.—M. J. K.—Worms are injurious to pot plants in that they always stop the drainage. Water with lime-water to bring them to the surface, when they may be destroyed.—Mudge.—1. You must not mutilate the bulbs in any way; plant as they are. 2. Only cut off any of the broken pieces of roots, and take care to beve the hole big enough, so that you can well spread out those that are left.—M. L.—If you want dwarf plants you may grow Alyssum, Arabis, Androsace, Aubrietia, Campanula, Dianthus, Iberis, Phlox subulata in variety, Sedums, Saxifraga, Thymes, Veronica, and many others of a like nature.—Amateur Gardener.—It is quite impossible to say, to many things such as distance, nearness to town, and demand for such produce as you mention, having to be considered. Besides which, without practical experience in market work and owing to the severe competition now-a-days, such an undertaking is, to say the least, very risky. Even a man with knowledge of such work often fails.—Francis Edwards.—We have no knowledge of the book to which you refer.—George H. Smith.—It is quite impossible to advise you what to do without seeing the ground. Your best plan will be to consult a gardener in the neighbourhood.—Charles Williamson.—The shoot of Nasturtium which you send is what is known as "isolated," this frequently occurring in various forms of Lillium, most particularly L. auratum.—J. H. B.—You will find a list and description of Early Chrysanthemums in our issue of Oct. 18, p. 438.—A. A. C.—See reply to Mrs. Walton re Sox-edging, in our issue of Oct. 11, p. 425. You can cut the Yew down in the spring, and the Laurustinus immediately after flowering.—C. S. M. Coulthard.—Apply to Messrs. Barr and Son, King-street, Covent-garden. You will find an exhaustive article and illustrations dealing with Fritillaries in our issue of Nov. 23, 1901, p. 507, which can be had of the publisher, post free, 1/3d.—S. W.—You cannot do better than use foot-water. Hang a bag of soot in a barrel of water, and use the water when clear.—Bobus.—Seems to be a very good Apple in the way of Xcello's Goddy, but with which we hope to compare.—G. M. Sandars.—If you had given us any idea as to where the plant was growing it would have been far easier to have verified the specimen which you sent. Kindly send again, and we will examine it.

NAMES OF PLANTS AND FRUITS.

* Any communications respecting plants or fruits sent to name should always accompany the parcel, which should be addressed to the EDITOR of GARDENING ILLUSTRATED, 17, Farnham-street, Holborn, London, E.C. A number should also be firmly affixed to each specimen of flowers or fruit sent for naming. No more than four kinds of fruits or flowers for naming should be sent at one time.

Names of plants.—W. B. R.—Aster Amelius benedictinus; 2. A. P., Acer Negundo variegatum; 3. Sedum in flower; 3. Berberis Aquifolium; 4. Berberis Darwinii; 5. Mrs. Tucker.—We cannot undertake to name florists' flowers.—W. H. Brown.—1. Aster levis; 2. Aster Nova-Engliæ var.; 3. Specimen insufficient; 4. Poor form of Aster acris.—L. C. M.—The deciduous Cypress (Taxodium distichum).—B. P. R.—The Great Japan Kooiweed (Polygonum cuspidatum). See last week's issue.—Croydon.—1. Seems to be a drawn-up specimen of the Golden Saxifrage; kindly send flowers; 2. A hybrid Dianthus; cannot name without flowers. The leaves have been attacked by the Marguerite Daisy-fly, several of which we found in the leaves.—R. Greening.—Cockspur Thorn (Crataegus Crug-galli).—H. Lucas.—Crataegus Crug-galli pyracanthifolia;—Ally Sloper.—1. Aster Nova-Engliæ ruber; 2. A. Novi-Belgii var.; 3. A. ericoides; 4. A. diffusus horizontalis; 5. A. cordifolius var.; 6. Prænarum uliginosum.—S. Scales.—Begonia metallicæ; 2. Ophiopogon Jaburac variegatum; 3. Impatiens Sultanii; 4. Sedum carotum variegatum; 5. Sempervivum Haworthii; 6. Sedum in flower; 7. The Mexican Orange-flower (Choisyia tenax); 8. Oxalis corniculata rubra.—Frank Piper.—1. Loasa hispida; 2. Chrysanthemum maximum; 3. Acer Negundo variegatum; 4. Virginian Sunnach (Rhus typhina).—M. J. Fooker.—1. Yellow, Rudbeckia Nswmannii; 2. Pyrethrum uliginosum.—Ireland.—4. Adiantum cucucatum; 8. Rudbeckia Nswmannii; 12. Aster Amelius; 16. Stachys lanata. L. Lawrence.—Red leaf, probably The Poison Ivy (Rhus toxicodendron), sent out by many people as Ampelopsis Hoggii; the other about is the Cockspur Thorn (Crataegus Crug-galli).—Edward T. O'Connell.—Scales also Pyrethrum. Saw the seed in the open early in April, and this nut as may be necessary.—W. R. Price.—We cannot undertake to name florists' flowers.—Keatinge.—Veronica rupestris.—J. D. D. M.—Specimen insufficient.—H. S.—We should say the illustration represents Pyrethrum uliginosum.

Names of fruit.—N. Bonne.—Calville Rouge.—Hulton, Clacton.—1. Nelson Cudlin; 3. Cellini Pippin; 4. Durondeau.—J. Stroud, Berke.—Pears: 1. Beurré Superfin; 2. Beurré Diel; 3. Maréchal de la Cour; Apple: 2. Not recognised, probably a local variety.—John Tibbena.—1. Lane's Prince Albert; 2. Margil; 3. Kerry Pippin.—Blotman.—Apple, Worcester Pearmain; Pear, Beurré Clairgeau.—W. R. Woodrow.—All the numbers had become detached. Large green, Lord Suffield; smaller green, Keewick Cudlin; Pearmain-shaped, Reineke Green; brown and green, not recognised.—G. C. G.—Blenheim Orange; 2. Emperor Alexander; 3. Small's Admirable; 4. Cox's Pomona.—Miss Penfold.—Kindly send better specimen and also fruit.—A. W.—Apple, Winter Hawthornden; Pears: 1. Not recognised; 2. Winter Nelia.—D. Masters.—Pear Marie Louise d'Orléans.—Mardon's Hill.—Apples: small fruit, Hall-door; large fruit, Bedlorsshire Foundling.

Catalogues received.—W. J. Caparne, Bohais, Guernsey.—List of New Hybrid Alpine and New Intermediate Irises.—Geo. Jackman and Son, Woking.—List of New Plants.—7. Gooden, Betchamp, B. Saul, Clare, Suffolk.—List of Latest New Irises.—The Turb and Co., New York.—Price List of American Seeds.—J. S. Sparrow and Son, Cumberland.—Catalogue of Hardy Plants, Trees, etc.

JOHN R. FLOWER'S CLEARANCE SALE OF RELIABLE PLANTS.

All Good Plants. No rubbish sent out. All carriage paid to arrive fresh to your door.

Cash Price List now ready of reliable Bulbs that will bloom: also Hardy Plants, Roses, Shrubs, Fruit Trees, for autumn planting.

All orders booked next 21 days for Flowering Shrubs, 12s. 6d. value for 10s.; also 25s. value for 20s. This is for shrubs only.

The Best Wallflowers for Spring Flowering, 100 for 3s. 6d., 50 for 2s.; all strong, transplanted plants, and drawn out of seed bed.

100 Wallflowers, in 4 kinds, 3s. 6d.; 50 for 2s.: including the above Blood Red and Cranford Beauty; also Miss P. Carter, primrose; and Ruby Queen, a pretty purple-tinted, smooth, shiny surface, very beautiful; all re-planting, bushy plants.

Blue Forget-me-nots. The best elegant plant for spring beds is the superb Blue Forget-me-not: very compact and intense blue: 50 strong transplanted plants, 2s. 3d., 100, 4s. 6d. We sell thousands of these annually for this purpose.

Cantorbury Bells, in various, mixed. Single and Double, very beautiful, 12 for 1s. 3d.; 24, 2s. 3d.; 100 for 7s.

Herbaceous Foxgloves, best named kinds, 12 in 12 grand sorts, all different and beautiful colours, very bright and large tips, for 4s.; 12 mixed, without names, 2s. 6d.; very good sorts, names lost.

THIS IS THE RIGHT TIME TO PLANT the beautiful MADONNA LILY (or Lilium candidum), before the bulbs start into growth or shrivel. Splendid for garden display among roses, thriving in any soil in the British Isles; perfectly hardy. Can also be used for forcing: 6 Flowering Bulbs, 2s. 3d.; 12 for 4s.; extra large bulbs for forcing, 6 for 3s.; 12 for 5s. Our bulbs are all strong flowering bulbs.

Sweet Violets for winter blooming, rare be pulled and forced in frame or greenhouse for early bloom or planted outside: they are beginning in bloom now. Admiral Arleian, deep purple, very large and sweet single flower, earliest to bloom; Californian, light purple, immense flower, on long stalks, as large as small Pines, extra fragrant; Beroniensis, a very free bloomer, and very sweet, 12 in 12 about 3 sorts, 4s., strong clumps; or any sort separate, same price. Princess of Wales, deep blue, a lovely Vindal, habit like Californian, but superior in bloom, even larger still, and exceptionally sweet, and early bloomer; in fact, the best Violet out; 12 for 2s.; 6 for 1s. 6d.; and the best double Violet, sweet scented, De Farme, lavender, the best winter bloomer, very fragrant, same price; or can be had assorted, same rates. This is the best time to plant Violets; it is all very strong.

Spring Flowers.—Our lovely Pityan has received great praise. Very strong year-old plants; pure white, with yellow eye; this is a grand borderer; very large trusses of flowers: 12 for 1s. 6d.; 24 for 2s. 6d.; per 100, 12s.

Our new mixed Polyanthus, including white, yellow, reds, crimson, and gold-leafed, 12 for 1s. 6d.; 24 for 2s. 6d.; per 100, 10s. These are all very strong. Gold-leafed separate, same price.

The largest White Pink Her Majesty, far above all of any other variety; a marvellous flower, beautifully scented. 6 for 2s. 6d.; 12 for 4s. These are nice clumps, but rootlet cuttings.

Faddington Pink, a real Pink with dark centre; a great favourite for cutting. 6 for 2s. 3d.; 12 for 4s.

Double Potentillas, flowers like velvet, very bright shades of crimson, black, orange, yellow, and striped flowers. 6 for 2s.; 12 for 4s.

Single Pyrethrums or Coloured Marguerites, now in best condition to plant. 6 in good variety, 2s.; 12 for 4s., named; mixed varieties, 12 for 2s. 6d.

New Rudbeckia Golden Glow, blooms like a golden yellow double Cactus Dahlia, produced in great quantities; price now reduced from 1s. each to 6 for 2s. 3d.; 12 for 4s. Roots that will bloom strongly next season.

A Useful and Ornamental Novelty.—The new Strawberry-hedger, grows anywhere; in compact little bushes, about 1 ft. high by 1 ft. across; white Anemone-like flowers, on pretty cut foliage; fruit delicious, about twice the size of a Raspberry; intense scarlet; sunny position required for growth; culture same as Strawberry; it is a herbaceous plant, and increased by root cuttings and suckers; plant now 2 ft. high, 1s. each; 3 for 2s. 6d.; 6 for 4s.; per doz., 7s. 6d.

An Ever-bearing Perennial Strawberry; plenty of fruit on plants now ripe. St. Joseph, runners fruit same season, and it is always in bloom and fruit from July to October. Strong plants, 12 for 1s. 6d.; 24 for 2s. 6d. Small runners cheaper.

Isle of Man Fuchsias.—These are the hardy outdoor Fuchsias, and the largest variety called Riccarton; plant now to establish before winter; makes a capital hardy bed plant for back yards, etc.: 3 for 2s.; smaller, 3 for 2s. 6d.; extra large, 1s. 6d. each; 3 for 4s.

BULBS FOR PRESENT PLANTING.

Grand Hyacinths for bedding, 2s. per doz., mixed colours. Tulips, single or double, mixed, 8s. per doz.; first-class sorts only, 4s. 6d. per 100.

Crocuses, any colour, 1s. 3d. per 100. Snowdrops, 2s. 6d. 100. Mixed Daffodils and Narcissus, for shrubbery, 50 for 1s. 6d.; 100 for 2s. Parrot Tulips, most gaudy colours, and flowers like parrot's beak, 100 for 1s. 50, 2s.; 100, 3s. 6d. Special Hyacinths, large Bulbs for exhibition, all named, 12 sorts, 4s. or 6s.; 24 sorts, 7s. 6d. or 10s.

Special Offer for Camellias and Azaleas, 50 sorts in stock, see Catalogue, gratis.

JOHN R. FLOWER'S CLEARANCE SALE. HARDY & RELIABLE PLANTS.

CASH PRICE LIST now ready (gratis) of reliable Bulbs that will bloom, also spring-flowering Plants, Roses, Shrubs, Fruit Trees for autumn planting.

Special offer of Camellias and Azaleas, for winter flowering, very cheap, will set with bulbs. See Catalogue, 50 varieties in stock.

Bulbs for Christmas and New Year. Bloom indoors. Plant now in pots and bloom in a few weeks.

White Roman Hyacinths, deliciously sweet, 12 for 1s. 3d., 1s. 6d. largest 2s.

Paper-white and Double Roman Narcissus, 12 for 3d.; 24 for 1s. 6d. or 7s.

Scarlet V. V. Thol Tulips. The most brilliant easily-grown winter bloomer, 12 for 3d.; 50, 2s. 6d.; 100, 5s.; also the best early leader, very dwarf.

12 Michacimas Daisies, in 6 quite different colours, 3s., 6 for 2s. among sorts, including Robert Parker (most named), Lady Trevelyan (pure white), and many varieties.

White Everlasting Peas, proved 17m, having bloomed here. Most useful climber for trellis in summer, and flowers grand for wreath work, and almost perpetual bloomers, 3 for 5s. 6d. Also bright rose-colour, 3 for 2s.

Harpallium rigidus Dwarf Sunflower, 3 ft., yellow, dark centre; 6 strong plants, 1s. 6d.; 12 for 2s. 6d.; increase rapidly, nice useful for cutting.

Campanula Backhousei, large white bell flowers, 6 plants, 2s. 3d.; 12 for 4s.; a superb variety of Campanula Persiciflora.

A Grand New Pink, Ernest Ladham, very large, bushy, long, involucre deep crimson, large as a Malheur, in perfection, perpetual bloomer, 3 for 2s. 3d.; 6 for 4s.

A lovely hardy border plant is the Spiraea filipendula, double white flowers, very beautiful, height 6 inches; Fringed foliage, evergreen, quite an amateur's plant. Strong roots, 3 for 1s. 6d., free; 6 for 2s. 3d. Very strong.

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The Favourite Flower, DOUBLE FRENCH PYRETHRUMS, noble double Aster-like flowers, producing plenty shade of crimson, carmine, blue rose, and pure white, 12 plants, 1s. 6d. To include the fine Mini Blanc, pure white, 4s., not named, 2s. 3d. All strong plants, bloomed well this year, and will grow any where, and last for years.

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White Hardy Marguerites, or large White Perennial Daisies, for cutting; dwarf habit, and grow anywhere; 6 for 2s.; 12 for 3s. 6d. This is the large Chrysanthemum maximum.

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VEGETABLES.

WINTER CUCUMBERS.

To have fruit fit for cutting at Christmas, the plants ought to be put out before the end of October. An earlier sowing in August and planted out as soon as really should provide fruit up to that date. It is a great mistake to crop too soon, not only too soon, but far too heavy. Far better allow a few to mature on each plant and keep the plant growing, though it may be slowly, than allow all that show to remain on and exhaust the plant in a couple of months, and then, it may be, have no fruit for a like time. A good strain of Telegraph is hard to beat, either for winter or summer use, and the plants will at almost every joint show three or more fruits, which if left on would soon destroy the plant's vitality during the dark days of winter. No hard or fast line can be laid down as to number of fruit to leave on. The grower must be guided by the strength of his plants and the daily requirements of the place, my experience being that if two fruits are available each day, one for the kitchen and the other for the pantry, not much complaint is likely to be lodged against him as to the supply. But to do this, plenty of light, also heat, is necessary. The bine should be within a foot of the glass roof, and the plant not pinched until about three parts up the trellis, and not allowed to fruit until the trellis is well nigh covered, one fruit only to mature at a joint. The fruits should be cut when of a usable size and their stems placed in an inch of water, where they will keep plump for three or four days. The soil should not be of a too heavy nature. Fibrous loam two parts, one part leaf-soil, and one part peat, with a little sifted fresh horse-droppings, will support the crop well if a top-dressing of loam and fresh horse-droppings be applied as soon as the roots permeate the hillock the Cucumber was planted in, and a weekly watering with weak manure from the farmyard drainings of the same temperature as the house, which should not register much below 65 degs. during the coldest night, with a day temperature of 70 degs., rising to 80 degs. or a little more with sun-heat. Syringe the foliage gently in the morning about 9 a.m., unless exceptionally cold or wet, and on fine days again about 2 p.m., distributing plenty of moisture about walls and floors of the house several times a day with a view to warding off red-spider, so injurious to this plant. Too close pinching should be avoided during winter, and dust with flowers of sulphur immediately mildew shows itself, and light fumigations will soon eradicate aphides. Very little ventilation is required during the winter months, just a crack at the apex of the house about mid-day when bright for an hour or so, to sweeten the air, will suffice, avoiding cold draughts at all times as well as over-watering at the root, letting the soil show signs of dryness before applying it.

East Devon.

CELERY.

MANY have the impression that this vegetable cannot be grown to perfection without a deal of farmyard or stable-manure dug into the trench below before putting out the plants. That such is not the case was proved here last season by half-a-dozen rows, each nearly forty yards in length, all grown with the assistance of artificial manures scattered between the plants on three different occasions during summer and well watered in afterwards, using a coarse rose to the can the first time going over. I never had better Celery than last winter grown thus, and I always stir the soil between the plants ten days or so after putting out, as the ground gets very hard with treading on when planting and the frequent applications of water. Soot is a fine manure for dusting over the foliage of Celery early in the morning white covered with moisture, add to a great extent wards off the Celery-fly so detrimental to the crop. Early in June this year, when taking out the trench for first crop, I fell short of decayed manure, and had to destroy the winter piece of Spinach for the purpose, and after taking out two good spadefull of soil, I had a good layer of this green vegetable put at the bottom, and a foot of soil placed back over this, giving all a good soaking of water towards evening, and putting out the plants next morning. When this began to decay it appeared just as if a mole had been working in the trench. I had it well trodden down, and a little fresh soil put in as the plants looked a trifle yellow. After this attention they soon altered colour, and now look grand without any other manure except the Spinach.

J. M. B.

NOTES AND REPLIES.

Saving Cauliflower-seed.—It sometimes happens that there turns up an occasional plant or root of extra merit which it is advisable to seed. This occurred in my case with an early Cauliflower some four years ago. I then resolved to save the plant. Although it only gave a few seeds there were enough for a sowing the next autumn. This was done, and the plants kept separate. Last spring out of 500 in one patch, there was not a single rogue. This year I saved eight heads, but from these I shall not obtain half an ounce of seed. I find it is useless to seed Cauliflower in a low garden unless one does so from very early plants, especially in a cold summer like the past. Some heads that formed in the middle of July were left, but these were not in time enough for the seed to be ripened. — J. CROOK.

Planting Cabbages.—It is usually difficult for those who purchase Cabbage plants to be certain as to the variety obtained and its general character of growth. For that reason it is best for those wanting specially early, small-heading varieties, such as April, Ellam's, First and Best, and similar ones, to obtain a packet of seed and to raise their own plants. They then know what they are planting. But even then, if there be no discretion employed, and the plants be put out at the regular distance in rows 2 feet apart, there is great waste of ground. For the varieties named and

other small-heading early ones, rows need not be more than 15 inches apart, and the plants 12 inches apart in the rows. Where ground is scarce they may even go in a little closer. But where room enough for using a hoe freely amongst the plants is allowed, then weeds are more easily kept unlo and the soil is well stirred. After cutting in the spring, if previously well manured, a crop of late Potatoes can be made to follow. — A. D.

Fungus on Seakale.—I should be glad if you would inform me what is the nature of the disease from which the enclosed leaves of Seakale are suffering? They were strong, healthy crowns when planted last winter. A few of the plants are not affected, but have large, healthy leaves, though somewhat devoured by slugs. Should I destroy this plantation and begin again, or is there any other remedy? — F. T. LLOYD.

It is very evident that your Seakale is seriously affected and injured by a fungus, the name of which can only be determined by a fungoid expert. Your best course will be to remove and destroy all the leaves as they fall off, then to smother the crowns and soil about them thickly with freshly slacked lime. Then, after Christmas, cover up the crowns with pots, heaps of ashes, or porous soil, in which the new growths from the crowns can blanch. When these heads are cut lift the roots, destroy them, and crop the ground with something else not of the Cabbage family; Potatoes, perhaps, would be best. Purchase from some nurseryman small crown-carrying roots, or else root cuttings, 5 inches long. If the former, however, cut the crowns off or otherwise they will bolt to flower. Plant these or the cuttings with a dibber on trenched and well manured ground, in rows 20 inches apart. These should then give you a fine lot of Seakale crowns to lift and blanch in a collar, or to leave in the soil and be blanched by covering up.]

Manuring garden.—As a constant reader and subscriber to GARDENING, I should be much obliged if you would kindly advise me as to the best manure for an annual dressing of my vegetable garden? My garden is, roughly speaking, about 40 yards by 25 yards, very rich soil—regular red Devonshire soil. It lies due south, and, being on a slope, is well drained. Last year I dressed it with farmyard-manure, cow and pig, and the results with vegetables have been excellent, except in the case of Potatoes. We had very little disease, but the crop was light. My gardener says we must have something to lighten the soil this year, instead of putting in more farmyard-manure, and I should be much obliged if you would advise me as to how to dress it? My gardener recommends rotten tan, but, after what I have read in back numbers of GARDENING, I fancy tan has no manuring property at all. I should say that the garden, which I took over last September year, has never had any dressing on it but farmyard-manure, so perhaps some kind of artificial manure (if such exists), that would both lighten the soil and manure the ground, would be worth trying. I cannot afford to run to any great expense. — DROVINSAS.

It is evident, seeing that your old garden has been for so many years dressed with animal manure, that a change to some of a diverse nature would be desirable. The soil should be full of humus, and a heavy dressing of lime and soot, half a bushel each per rod, would do great good. If applied, get it dug in during the winter, or you can purchase from some dealer in artificial manures superphosphate (bone-flour) and potash (Kainit), equal quantities, and enough to give a dressing combined of 5 Draper's, getting it put in if it has been well crushed and mixed, and dug in during the winter. The soil, no doubt, contains simple nitrogen, and you can purchase fish-

guano, excellent manure in dry form, and give that at the rate of 7 lb. per rod. Either of these things, and all are cheap and portable, should form capital manure dressings for next season's crops.]

TREES AND SHRUBS.

SNOWY MESPIUS (AMELANCHIER).

WHEN clothed in a mantle of snow-white bloom in early April, this forms a beautiful picture in the spring garden. There are two kinds of Snowy Mespilus—the American *A. canadensis* (here figured), and the European *A. vulgaris*—while the many varieties one sees in gardens may be classed under either of these two. They are all medium-sized trees. The European form is a delightful tree, never failing to produce a mass of bloom, and lasting a long time in beauty. Of *A. canadensis* there are several varieties, including *Botryapium*,

bushes till another year dawns. Among single Roses there is for the garden a goodly number of fine things whose autumn display of fruits is very striking. The Japan Rose, with its great Apple-like fruits, is in the zenith of its beauty in autumn, and nothing could be finer than the scarlet fruits in clusters among the rich yellow leaves. The Water Elder everywhere on the margins of our Sussex woods is borne down with the weight of its profuse clusters of coral berries, and proves that we lose something in neglecting it and giving preference to an abnormal form that has no interest whatever beyond the week or two it remains in bloom. Cotoneasters are at their best in autumn, and there is variety among them, too, with microphylla for clothing banks and rocks; Simoni to associate with other shrubs, its long wands covered with berries, and the tree-like frigida and affinis, which have their berries in great flat clusters at the ends of the shoots. Hollies and Hawthorns are hosts in themselves for

Self-clinging plant for wall.—Please tell me the name of a self-clinging plant that keeps tidy, the year round, of rapid growth, for a wall 3 feet 6 inches high, and 5 yards long, facing the east, in my front garden? I am not particular whether it flowers or not, so long as it appears nice and tidy the year round. The principal object is to cover the wall, which is very conspicuous. State time to plant, etc.—I. HURON.

[The best thing you can plant on such a wall is *Ampelopsis Veitchi* (*Vitis inconstans*), which clings to the wall without any nailing. It is deciduous. Plant at once, giving it some good soil to start in, and see that it has plenty of water during the summer.]

Leycesteria formosa.—At the present time this is one of the most noteworthy shrubs in bloom. The secret of success lies in its having free exposure, so that the wood becomes fully ripened. It is not particular as to the kind of soil it will thrive in, as I have several specimens growing in nothing better than solid clay intermixed with stones. The long bunches of purple or claret-coloured berries which follow quickly on the flowering really enhance its beauty. I have scores of plants springing up in various positions, and which must owe their origin to the deposit from birds, which later on become very partial to the berries. It is recommended as a capital covert plant on account of the berries, of which pheasants are extremely fond.—Y.

The Water Elder in fruit.—From mid-summer to mid-winter this shrub is delightful. It is possible to see its relationship with the Snowball-tree of our gardens when it is in flower, but all through the latter part of the summer, and, in fact, right into the winter, as a berry-bearing shrub it has few equals, and all who see it are struck with its beauty and astonished when informed that it is a native shrub. Bushes by the waterside, as well as those in the woods, are laden with clusters of rich red berries. It richly deserves bringing to the front. Although tolerably common in woods in some districts, this does not minimise its value. In any case, most of those who see it laden with berries by the side of water resolve to obtain and plant it in their gardens. This is the best possible testimony of its beauty and worth.



The Snowy Mespilus (*Amelanchier canadensis*) in an Essex garden.

florida, ovalifolia, sanguinea, and others, though how far these are distinct is doubtful. The Snowy Mespilus grows freely in any soil, but dislikes exposure, especially to east winds, when flowering.

AUTUMN BERRIES.

THE autumn berries and fruits of many plants are so brilliant and beautiful, offering such rich opportunities for special and seasonable effects, that one wonders more attention is not given them, and good things boldly planted for the development and enjoyment of this feature. Special prominence should be given to those things that are full of variety and seasonable changes in preference to the broad expanse of common Box and Laurel or the muddled, tangled masses that pass as ornamental shrubberies in public and private parks and gardens.

The Sweet Brier has several aspects of beauty—the budding of the leaves, the delicate beauty of the flowers, and the after-glow of its hops in autumn. It is a charming plant of all, for they usually hang on the

autumn and winter effects, and few things are more brilliant in the sun on an October day than the Spindle-tree laden with pendulous fruits. From the wild Roses that are happy in heavy clay to the *Pernettyas*, rambling shrubs much varied in colour of fruit and lovers of peat and sand, there are berry-bearing shrubs for all situations, and an abundance of them to enable the planter to use them in a bold, free way.

NOTES AND REPLIES.

Magnolia conspicua for walls.—Recently, when at Hackwood Park, near Basingstoke, I was impressed with the value of this for a wall. In the kitchen garden there is a magnificent specimen against a wall facing east. It is 15 yards long and about 12 feet high, and growing above the wall. So well clothed is this wall that no portion of it can be seen. I have never seen it in more vigorous condition. In large gardens many walls may be used for growing the fine trees and shrubs that are now devoted to lawns and such things.—J. CROOK

WATERING.

I HAVE a small garden in which I more especially delight to grow a few standard Roses and clumps of Sweet Peas, but I am a busy man, and, when a long spell of hot, dry weather comes, my brief leisure time is more than fully occupied in watering. Early in the spring of this year I picked up in the local market for a few shillings a small, second-hand garden engine, and I was delighted one day, when the end of the hose pipe fell to the ground, to notice that it almost immediately acted as a siphon. This happened during the few hot days we had early in the summer, and my Roses were beginning to look a little unhappy, so I promptly filled the engine and wheeled it close to a Rose-tree, laid the nozzle of the hose at the root, and went in to breakfast. Before I left home for my office the engine was empty—the water had gone straight down to the roots without disturbing the soil at all, and the patch of wetted surface was not larger than the crown of a hat. I had time to refill the engine, take it to another Rose-tree, and again leave it with the same result. This meant half-a-dozen or more Roses and clumps of Sweet Peas well watered each day, in addition to the ordinary work with the water can, and I was thoroughly pleased with my discovery. Perhaps some of your many readers, who appreciate the difficulty (when time is limited) of watering effectually, and without making an unsightly mess of the ground, may be able to make use of this hint, and, if they can and do, I am quite sure they will not regret it. S. H. W.

Tufted Pansies.—Many people imagine that these cannot be propagated after about the middle of October. As a matter of fact, the best cuttings are often produced long after this time, and up to the end of the year. I have struck them in cold frames in sand and loam, or in the border, where some little protection could be given them in bad weather. Given an opportunity of getting cuttings, no one need be short of plants if they are put in for upwards of two months yet.—T. W. JENKINS.

PLANTS AND FLOWERS.

OUTDOOR PLANTS.

THE VIOLET.

Nor in the rich sunlit pastures, the home of the Daisy and Buttercup, do we find the Violet, but rather on some sheltered bank, nestling in leafy copse, or else reposing at the foot of some protecting monarch of the wood. A marked preference for moderation of temperature and other conditions is shown by the Violet in its native state, and for this reason the orchard is often a most suitable place for the cultivation of this flower, affording as it does protection both from the severities of a hard winter or the scorching sun of a hot summer, yet permitting welcome rays of sunshine to filter through the leafless branches of the trees. Coming to a choice of

KINDS, the somewhat limited range of colour once obtainable in the Violet has of late years

is the old favourite Czar, perhaps the hardiest of all Violets, but Luxonne, a handsome variety of large size, and having somewhat pointed petals, is an advance in this direction, and, with Wellsiana, ought to be given a place in every garden. One or two more varieties amongst the new sorts may be mentioned. In St. Helena we have a variety producing blooms of a delicate but somewhat undecided light blue tint. California, a well-known variety, introduced from America some ten or twelve years ago, certainly marked an advance on the Violets of previous times, but in point of quality and quantity of blooms it cannot be compared to V. Princess of Wales, which may be considered as a standard of its type. In the

CULTIVATION of the Violet, yearly and early division of the plants is important, even though one may reluctantly have to sacrifice a few of the later blooms. To allow plants to become crowded and weakened by the rapidly growing foliage of spring, or to defer planting until too late for the young rootlets to become

maintaining the foliage in a healthy state. If natural shelter should be absent, any trouble spent in shading the plants during hot weather with Laurel or other branches will be well repaid. Frequent weeding and light surface working of the soil are essential, the latter promoting a healthy growth and checking too rapid evaporation in times of drought. Avoid by all means the error—a not uncommon one—of those would-be cultivators whose idea of growing the Violet is to plant it and “leave it alone.”

HENRY T. HERRON, F.R.H.S.

Donaghadee, Co. Down.

FLOWERS IN SWITZERLAND IN JUNE.

UNFORTUNATELY, I am not a botanist, only a flower lover, and I shall describe, as well as I can, the flowers that pleased me most, in the hope of interesting others like myself.

Very early in the morning near Pontarlier I looked out and saw quantities of white Narcissi, the first I had seen growing wild, look-



Violet Princess of Wales. From a photograph by Miss Ohichester, Arlington Court, Banastaple.

been greatly extended, and while I still prefer the deep rich tint of La France, or the lighter and more transparent shade of Princess of Wales, yet for those who desire a greater variety of colour there is ample choice. Amiral Avellan, the claret-purple blooms of which, gradually increasing in their ruddy tinge as the season advances, brings to mind Milton's term of “the glowing Violet.” In point of size this variety cannot be compared to Victoria Regina or the kinds already mentioned, but nevertheless a place should be given it wherever Violets are grown. Besides being prolific and hardy, and probably one of the most rapid of all Violets to multiply, it retains the distinct and characteristic habit of the older V. odorata in its irregularity of shape rather than the more evenly formed blooms of recent introduction, some of which seem to vie with the Pansy in roundness of outline. Anent this latter point, I have gathered, from well-grown outdoor plants of Princess of Wales, blooms, which, when pressed down on a florin, were sufficiently large to completely cover it. One of the earliest still to flower in the autumn

properly established before dry weather sets in, is to court disaster. The soil, too, demands attention. This should be deep and well-drained, and while avoiding over-richness the ground must have an ample store of humus, supplied preferably by a generous admixture of leaf-mould rather than by any stimulating manure, the effect of which induces a soft and too rapid growth of foliage, often resulting in unripened crowns carrying but few or poor blooms, besides leaving the plant weak and susceptible to various diseases and attacks of insects. In heavy or retentive soils a liberal addition of sand is often advisable or even necessary, and, where obtainable, mortar-rubble is always appreciated by the Violet. If manure is used, it should not be fresh—nothing equals well-decayed leaf-mould—but, in the event of this being scarce, spent hot-beds may advantageously be utilised as a substitute for the latter, or to augment deficiencies. A natural shelter for Violets is a hedgerow, somewhat bare near the ground, in which the plants get currents of air, which are beneficial in keeping down attacks of red-spider and

ing lovely in the dewy Grass, with a background of Pine-trees. Nearing Lausanne the meadows seemed ready to be cut for hay, and were full of flowers. I remarked especially a very showy purple-blue flower, with spikes about a foot or more in height, and a beautiful large yellow Daisy growing singly. The purple-blue flower was ubiquitous in the lowlands and semi-highlands of the Rhone Valley, Val d'Illiez, Zermatt Valley, etc., and I noticed it also coming back through France. It had a square stalk, and was evidently a Salvia.

I never saw the big yellow Daisy except from the train, so could not find out what it was, as I could not see its leaves. The most conspicuous flower besides the Salvia and the yellow Daisy was a beautiful rosy-pink, spiked Vetch, which was very abundant in the lowland meadows. It was very hot on June 5th at Ouchy. All the Roses, and many trees and shrubs that one only sees in the south of England, such as Paulownias, Rose Acacias, etc., were in full bloom. Along the margin of the lake on the esplanade I admired the groups of flowering shrubs and dark-leaved Filberts,

Original from

Prunus, etc. There were some beautiful and uncommon Spiræas and Weigelas. We went to Bouveret next day, on our way to Champéry. The villages by the lake were bowers of flowers, the houses covered with Roses, and the quays shaded by flowering trees. Above Montreux, and towards the Rochers de Naye, the hills seemed as if covered with hoar frost in places. With the glass I could see that they were patches of the white Narcissus. I heard afterwards that the Feast of the Narcissus was held about a month later than usual this year. At the usual time there was no sign of the flowers. Waiting at Bouveret for the train, I had a good opportunity of examining the purple Salvia, which was very fine there. I drove from Montreux to Champéry, through the beautiful Val d'Iliez, rising all the time. As soon as I got above the vineyards the fields and banks were covered with the flowers. A large purple Geranium grew among the Grass all through the valley, contrasting with a creamy-white umbelliferous plant that was in such profusion that it looked like foam among the green Grass. The hay must have more flowers than Grass in it. There were several sorts of Campanula in it (I recognised *C. glomerata* and *C. rhomboidalis*); blue round-headed Phytomas, a greenish-white sort; Astrantias, pink and white; a very fine purple Orchis, creamy-white Habenarias, dark wine-red Columbines, tall, feathery mauve Plantains, large blue Mountain Cornflowers, the before-mentioned rose-coloured Vetch, and a very pretty rosy-pink umbelliferous plant, besides many others. On the damp, rocky banks Spiræa Aruncus was in bud, and the two-flowered alpine Honeysuckle. At Champéry the valley is rather narrow and shut in by the Dent du Midi and other high mountains. Down by the river, the Vioza, the Ferns are wonderful. I was told that in one place 15 species can be found in 50 yards. Under the trees and in the open glades by the river, *Trollius europæus* was very fine, also the purple Tooth wort (*Dentaria ligistata*) and its white form, *Dentaria pinnata*, handsome plants, something like *Honesty*, but with prettier leaves. The meadows were full of the leaves and seed-vessels of *Colchicum autumnale*; these were abundant wherever I went, except in very high places, and must be a wonderful sight when in flower. I found *Asarum europæum* growing round damp rocks in the woods with its insignificant brown flowers. The ground was carpeted with Wood Anemones dying down. A native told me they were blue ones, but they looked like our familiar white ones. The little yellow *Viola biflora* was very common everywhere. The red-berried Elder (*Sambucus racemosa*), which was in flower wherever I went, is very beautiful in the autumn. The weather was wet and disappointing while I was at Champéry, so I did not walk far enough to get St. Bruno's Lilies, Lilies of the Valley, and alpine Roses, though they were found by others. There were very fine clumps of the yellow Gentian and *Veratrum album* coming up in the fields. Our common English Daisy was not to be found, though Buttercups of many sorts were abundant, including *Ranunculus nemorosus*. There was a larger Daisy on a long, slender stalk in damp places, called *Bellidistrum Micheli*.

On the 14th of June I left Champéry, and went to the Riffel Alp. The vegetation was not nearly so forward in the Zermatt Valley as in the Val d'Iliez. Going up in the funicular railway to the Riffel Alp I was delighted to find *Anemone sulphurea* in the Pine wood. Directly I arrived I went down into the wood and found it carpeted in places with *Anemone vernalis*, with large, drooping, downy buds of many colours, varying from coppery-rose to purple and white; and here and there, under a shrub, one fully open, a lovely white star, with centre of golden stamens. Of all the lovely flowers I saw, these pleased me most, and they were everywhere—out on the bare mountain sides as well as under the trees, varying in size and colour according to their position. The flowers of *Anemone sulphurea* were not fine; I have found them in other parts of Switzerland quite double the size. Round the Hotel Riffel Alp the snow had melted, though there was plenty even lower down. The Grass was white with Crocuses and a white *Primula* (G. J. G.).

like leaves, probably *Ranunculus pyreneus*, with here and there patches of large purple Violas and tiny *Schizanthus*. Next morning I went up by the railway (the highest in Europe) through deep snow cuttings to the Gorner Grät. I walked from the station to the top, through a narrow, winding cutting in the snow, the sun blazing overhead. Between the restaurant and the railway station was a little patch of bare rock where the snow had lately melted, and on it I found several tiny plants. A beautiful wine-purple flower was out on a sort of grey Moss; in some of the crevices I found it many times afterwards in different places, sometimes pale pink, sometimes deep purple. The flowers seemed very large for the size of the plant. It was *Saxifraga oppositifolia*. Up on the mountain behind Riffel Alp all sorts of delightful little plants grew. I found fresh ones in flower on each sunny day. There were *Gentians*, large and small, *Gentiana acuminata* and *Gentiana vernalis* (the latter such a lovely sky-blue), *Anemone vernalis*, *Anemone Halleri*, *Androsace carnea*, *Androsace obtusifolia*, *Androsace Vitielliana*, with flowers like tiny golden *Primulas*, and many sorts of *Sedums* already pointing up for flowering, from a large brown-tipped one, like our English Houseleek, to the tiny cobweb *Sempervivum arachnoideum*. In damp places the ground was pink with *Primula farinosa*, with here and there a white one. Two *Geums*—*Geum montanum* and a smaller one—grew on the hillside, and *Draba aizoides* made it yellow in many places, and it was about everywhere. *Daphne Mezereum* grew in hollows among broken rocks.

One day I walked to the Schwartz See—a good climb down and up again from the Riffel Alp, as it is on the flank of the Matterhorn. The valley between was blue with Forget-me-nots and yellow with Globe-flowers. A little higher up, the rocks and banks were gay with *Cheiranthus alpinus* and with purple alpine Asters, very deep in colour. I also found *Bisectella* and many other flowers. In the shady cracks of Mossy rocks there were colonies of rosy mauve *Primula viscosa* and of a small white Iberis. Higher again, the guide showed me some plants of Edelweiss, but it was not in flower. In a few places I found *Lloydia serotina*, but it was not common. There were very deep blue *Veronicas* in the valley, and fine blue *Globularias*. In the Pine-woods there was thick undergrowth of the alpine "Rose" (*Rhododendron ferrugineum*), not yet in bloom, and *Bearberry*, with white and rosy-pink *Arbutus*-like flowers. Hanging over a damp rock on the hillside was a sheet of *Dryas octopetala* in full bloom, almost a yard in length.

During the nine days I was at the Riffel Alp the flowers came out very quickly, and before I left the ground was blue with *Gentians* in places, and there were quantities of the sweet-scented purple Violas. A tiny *Azulea* (*A. procumbens*), with pink flowers, covered the stony ground in patches on the mountain-side.

Down at Zermatt an interesting alpine garden is being made. It is already full of alpine plants, but very few were then in bloom. The most striking was *Atragene alpina*, with its graceful wreaths of purple or palest pinky-cream Clematis flowers. There was a lovely mauve *Androsace*, but I found it was a Himalayan species.

When I left on June 23rd, going from Zermatt to Visp, the meadows were nearly as flowery as those at Champéry had been. In places there were quantities of a bright magenta Labiate, and the Scabiouses were bright pink instead of mauve. On the grey stony banks *Saponaria ocymoides* grew in resy cushions. Down the Rhone Valley and through Switzerland and part of France the purple Salvia was as gay as ever; it evidently has a long blooming season. Crossing France, the country was not so flowery, except about Pontarlier, where there was still plenty of white Narcissus, Globe-flowers, purple Columbines, etc. Between Pontarlier and Paris and on to Calais it was very hot, and the great stretches of dark red Poppies and blue Cornflowers were gorgeous. Where they were mixed the result was a wonderful purple effect. During the whole journey from Zermatt to Calais I only saw two small patches of Honeysuckle, perhaps because there are so few hedges. E. J. L. (E. J. L.)

HOW NOT TO LEARN GARDENING.

TO THE EDITOR OF "GARDENING ILLUSTRATED."

SIR,—In the current number of one of your contemporaries there is a review of a book called "Villa Gardens," in which the following luminous statement occurs:

"Less than twelve months ago on taking possession of a new house with a piece of ground of unusual size for a suburban villa I thought it wise to consult some of our well-known authors in order to get an idea of what to do for the best. I had heard of Kemp's well-known 'How to Lay Out a Garden,' but, being out of print, I could not come across a second-hand copy. I have several hundred gardening books in my library, but in not one of them there such a thing as a design for laying out a garden, great or small. At this juncture a friend lent me Mr. Robinson's 'English Flower Garden,' in which there are several plans, but these are mostly of large gardens in the country. However, I got from that work a hint which helped me considerably in my difficulty; but it is an expensive book, and in many cases would answer little or no purpose, especially in small gardens of from 50 to 100 feet in length, such as the suburban ones usually gets allotted to him."

That a man with a hundred gardening books in his library should not feel competent to lay out a garden is less surprising than the supposition that the possession of gardening books is in any way related to a capacity for making good use of them. A man with such a thirst for plans is, to my thinking, in a bad way. There are too many garden plans in books. Knowledge of plants is the first thing needful to plan gardens large or small. The writer's naive admission that he got from "The English Flower Garden" a hint which helped him considerably, shows that unconsciously he has a perception of what can be learnt from a good gardening book—namely, the wit to make your own plans. The instructive essays of "The English Flower Garden" must, I imagine, leave most readers with a sense of added power and insight that would be well satisfied with the slavish imitation of any of its plans. Small gardens are easier to make than large ones, and the remedy for the painful monotony of villa gardens, which the writer complains of, is not the study of plans, but better education and the resulting finer perceptions. The essays in "The English Flower Garden" are an education in themselves. I doubt if the most diffident "suburban amateur" who absorbs them will think he has bought his knowledge dearly, and experience leads me to believe that the many cases for which the book "would answer little or no purpose" will be sought for in vain.

OWNER OF A SMALL GARDEN.

CARNATIONS FROM CUTTINGS.

ONE cannot agree with the views of Mr. J. Green, at page 349, as to rooting the above from cuttings, and, in particular, the method set forth on the very laudable score of labour saving. It is shown in the note referred to that three distinct operations are necessary quite apart from the very essential one of "taking the cuttings in the usual way." The three items are "trimming," "splitting the stems," and "inserting a small stone to keep the ear open." Provided labour saving is really an essential item in the matter, all three are quite unnecessary; indeed, the last two are not only very tedious, but a deliberate waste of time rather than that it is advocated as a labour saving method. It were quite easy to make three cuttings to the ordinary joint while these three items are being carried out, and amateurs, equally with professional men, have to study time and other things. The only really quick and certain way of treating cuttings in the open is as follows: From any large tuft that contains many growths that could not be layered in time, let anyone take and strip off from the parent plant, each with a heel attached, as many pieces as are required. Taking the growth in the thumb and forefinger of the right hand, and giving a slight, yet sharp, downward pull, the piece will come away with a perfect heel almost every time. Now make a little trench as though setting a Box edging, and so deep as to admit the so-called cuttings being buried up to the leafy tuft, and insert them without trimming, stem-splitting, or stone wedges. A little pure sand or very sandy soil may be put in each trench at option, and may depend on the nature of the soil. There is, however, no need for any prepared bed of soil at all. As the cuttings are placed in the trench, and while held in

sition by the left hand, draw sufficient soil with the right hand to keep them fairly erect, and, finally, finish off with the spade while also repairing a second trench. A good gentle tread with the foot when the trench is two-thirds filled with soil is a necessity. Not only is this a quick way, but a way also that ensures settings of the size of layers, and quite large enough for spring planting. By this means several hundred may be inserted in an hour, whereas, by the method Mr. Groom suggests, would not be possible to take and make one

pecker. You may wonder, but in the summer (so-called) I saw one pecking away vigorously at about 4 a.m., though I confess I have not seen another since. True, I do not often look out as early as that, and now it may be that I shall not see the excavator, as the hedgehog is a late evening and night feeder. I know I have hedgehogs here.—C. R. S.

LILIUM AURATUM AT KEW.

In some few instances known to us there are permanent clumps of this Lily growing and flowering well each year. Some of these occur at Kew, where this fine Lily does well planted

derived from planting the bulbs in these beds of shrubs are suitability of soil, freedom from stagnant moisture, protection to the young shoots in spring from frost, and, not least, the protection which is afforded the stem-roots of the Lily from the heat of the sun in summer. From the cultural side these are most important, and, being afforded by the planting of the two things in one bed, are not merely good from the standpoint of artistic gardening, but equally so economically.

In the planting of this Lily it is well to avoid manure of any kind below the bulbs; indeed, it is not wanted where a good depth of suitable soil is present, and such soils as go to make a good Rhododendron-bed are the most suitable for the Lily in question. Where no such bed is at hand, a peat and loam mixture, with much sand, is excellent, or a very sandy loam is equally so. Where close soils obtain, it is well to remove a portion and replace it with material of greater porosity. In this way, and by covering the soil almost wholly with sand, good drainage is maintained about the bulbs. This is perhaps as far as the cultivator can go—at least, until some method can be devised for shipment that will dispense with the wholesale root mutilation now practised.

There are several forms of this Lily that in noble appearance, in massiveness of their flowers, and in purity in some instances quite surpass the typical kind. These are known by the following distinctive names: *Platyphyllum*, with very large and massive flowers, perhaps the noblest form of all; *rubro-vittatum*, the red-banded Lily, very striking; and those chaste and beautiful white forms known as *virginale* and *Wittel*, the former of which is generally regarded as the white form of *platyphyllum*. All are beautiful and fragrant, and well worth the attention of the gardener. Dry bulbs may be planted at any time until March, or even later than this, and, if only to assist the great mass of stem-roots that are produced, it is well to see that the bulbs are set nearly or quite 6 inches deep.

NOTES AND REPLIES.

Tropæolum canariense sportng.—I am sending you a flower to ask your opinion. I have grown *T. canariense* for over 20 years, and it is the first time I have seen the flower change to something like a *Hop*. I also enclose you a piece of Canary Creeper raised from same seed and at the same time. You will see the seed on the *Hop*-like plant is quite different from the original.—JESSIE ROWLANDS.

[A very curious and interesting malformation, and one which you should endeavour to perpetuate.]

Petunias.—I shall be much obliged if you will give me the benefit of your advice on the following: Do Petunias usually flower well in a loose, sandy soil? I have had several planted in my garden, and those in good, light loam are about three times the size, but few blooms, of those in the sandy soil, which are full of bloom. If sandy soil is the best, would you enrich it or leave it rather poor? I have a quantity of manure offered me which is mixed with sawdust. Do you think it advisable to use this as a general fertiliser?—M. A. F.

[The spots chosen for Petunias should be open and sunny and the soil deep and rich, for in low, damp situations they mildew and canker as soon as the first cold nights of autumn set in. They produce a charming effect in masses, and are well suited for large vases or baskets of mixed plants. We would not advise you to use such manure, as it will cause fungus.]

Planting borders.—I have a border facing south which is fully exposed to the sun and well sheltered from north and east winds; there is a hedge at the back of it. The gardener describes the soil as "gravely peaty." Are there any Rose-trees that would do there (long-flowering ones preferred)? If Roses would not do there, could you kindly tell me of one or two perennials or annuals that would perhaps do? There is a very clayey damp border, facing west, in an angle of the house. The border is up against the house and sheltered from the north wind; parts of it are exposed to the sun for a few hours every day. Would Irises do there?—SVERE P. BERNARD.

[We do not think that Roses will do much good in the soil described as "gravely peaty," but such hardy things as *Coreopsis*, *Gaillardia*, English and Spanish bellious Irises, *Astragalus*, Crown Imperials, *Heleniums*, *Happaliums*, Day Lilies, *Pyrethrums*, *Lilium unbelatum*, *L. croceum*, *L. tigrinum*, *Gaetonia candicans*, *Michaelmas Daisies*, *Tritomas*, and such plants would do quite well. In the damp and clayey border many things would do, and also Irises of the Flag section. *I. Kumpferi* should be chiefly selected. Of the former you should keep to the strong growers, like *pallida*, *virginica*, *White*, *Spargene*, *Chelles*,



Golden-rayed Lily grown properly among peat-loving shrubs. Kew, autumn, 1902.

hundred cuttings. Again, Mr. Groom has only rooted cuttings in the end in any case, while the pieces I have referred possess all the bulk of layers. Most of the ordinary border kinds root well in this way, as also the Malmaison section, when good open air material is available. There is nothing new in the method—in fact, the idea is an old one. E. JENKINS, Hampton Hill.

in the beds among the Rhododendrons. This is the ideal home for this Lily, and though it cannot be said the conditions are absolutely essential to success, yet so much greater is the success attained when thus associated with shrubs and the companionship of roots below ground, that it is the method followed by those who desire to succeed with it. Thus it is we see each year a goodly supply of this Lily in the Rhododendron-beds on the lawn at Kew. Fresh plantations are made from time to time, however, so that a good display is maintained at flower-time. Some of the advantages

Holes in lawn.—I am glad to note "Inglebrook's" suggestion as to these being the work of a hedgehog. It may be so. I have found several, mooring after dinner, to some time, and have attributed them to a green wood-

Dr. Bernice, Mme. Chereau, Mrs. Chas. Darwin, while strong seedling clumps of the other group will be best. You could also plant *I. sibirica orientalis*, a very fine plant nearly 4 feet high, and graceful withal. If you wish for other good plants, you should try the herbaceous *Phloxes* in variety, *Spiraea Aruncus*, *S. venusta*, *Narcissus poeticus* fl. pl., *Lenten* and *Christmas Roses*, and the like. There are many other things that could be named, but the above massed together would make a fine show. Indeed, the three sets of *Irises* would form a very satisfying group, and where irregular groups are valued these should be favoured: indeed, the foliage is handsome at any time. If you plant you should think about it soon, as we by no means favour planting *Iris Kamperferi*, for example, in mid-winter.]

Lilium auratum failing (F. M.).—No Lily yet known to cultivators has so long remained a universal favourite as this. But with all its beauty, its noble appearance and unequalled fragrance, it disappoints quite a large number of those who plant it year by year. Like many other good Lilies this comes to us from Japan each year, for the simple reason that we cannot grow it in this country. This may or may not be the fault of the British, though in my own mind I am fully persuaded that the ingenuity of the Japanese would also be taxed to the utmost were they to try and cultivate successfully with what little life there is remaining in the bulbs of *Lilium auratum* as they reach this country. Externally there is an amount of apparent soundness in the fairly hard dry bulbs, and we obtain a fresh supply in the full hope of success. The more notable successes, however, only carry one to the flowering stage of this fine Lily, and if for our outlay and trouble we obtain one good flowering we must be fully satisfied. Large numbers of the failures are attributed each year to soil, insufficient drainage, fungus through starting the bulbs in Cocoa-fibre, and other causes, but these are more or less imaginary, and all are beside the mark. The chief cause of the loss of hundreds of thousands of bulbs each year is the direct outcome of a barbarous method of dealing with the bulbs in their native home prior to preparing them for shipment to this country, and consists in the first place in the bulbs being denuded of all their roots. As this Lily produces but the one set of roots below the bulb, the bulb is thrown upon its own resources for its subsequent growth and flowering, and virtually exhausts itself in doing so. It is in these circumstances therefore that those who wish to succeed must obtain fresh supplies of the bulbs each year, and fortunately for the vast throng who admire this kind the price is not at all high.

INDOOR PLANTS.

SPRING-FLOWERING BULBS IN POTS.

A GREAT point in the pot culture of *Hyacinths* and other bulbs is often overlooked—namely, a good supply of roots before placing them in a forcing-house, or otherwise putting them under glass to flower. To ensure success this is absolutely necessary. We often hear those who sell the bulbs blamed when really the grower is at fault. We have noticed persons potting up *Hyacinths* and *Tulips* and at once standing the same in a forcing pit, with the result that they either rotted or refused to flower. It is necessary that the bulbs named, with *Narcissi*, which are not the least important among spring flowering subjects, should be potted without delay, and a lengthy season be thereby given to become well rooted previous to coming into bloom.

Soil.—*Hyacinths*, etc., like a rich, open compost. Use a mixture of one bushel of loam, half a bushel of well-rotted cow manure, and a like quantity of road sweepings, to which last bulbous plants are very partial. A 5-inch potful of soot may be added to the above quantity of soil with capital effect. The soil, if at all inclined to be pasty, may be turned in the sun to dry, and if very dry, water should be sprinkled on it whilst being mixed.

Potting.—The size of pot used for one *Hyacinth* bulb is the popular 4 1/2-inch or 5-inch. This is not only a convenient size, but

large enough for exhibition. Three *Hyacinths* placed in an 8-inch pot answer well for conservatory decoration. *Tulips* for exhibition are generally grown three bulbs in a pot. For the decoration of vases in rooms three or four bulbs are often placed in the smaller 4-inch pot because of its convenience. In the case of *Narcissi* the bulbs are put into the pots as thickly as possible. Sometimes three bulbs of the *Polyanthus* kinds are sufficiently large to fill one 6 inches in diameter. When potting use one good crock over the hole and then a portion of the rough part of the compost, and fill the pot so that about half of the bulb is on the surface. Do not fill the pot with soil and then push the bulbs into it, but make a hole to receive the same with the fingers, and press the soil firmly around it. If the former be done the compost is too firm, and when roots are made they sometimes push the bulb out of place, when injury to it becomes easy. After potting stand them on a firm bottom in frames, so that the lights may be readily put on in the case of continued wet weather, when there is a likelihood of the soil getting solidened. It is a good plan to invert a small pot over the bulb of each *Hyacinth*. This will keep the bloom-spike clean and often prevent its rotting, but with *Tulips* and *Narcissi* such a precaution is not necessary, as these are not so ready to show bloom before leaves. Cover the whole with about 4 inches of Cocoa-nut-fibre or sand. Do not on any account use ashes. Sulphurous matter resting in these may be the cause of utter failure. The bulbs should remain in the dark until the end of the year. This does not, of course, apply to the early Roman among *Hyacinths*, the *Piper-white* among *Narcissi*, or *Tulip Due Van Thol* of that ilk, which may be laid in flower before that time, but to the general list of varieties, which are much better if not forced into bloom by the aid of fire-heat. In January take the pots from their covering and put them into other cool-frames, but insure them to the light and air in a gradual manner, and in the meantime carefully protect them from frost. When the young growths are well used to these, the pots may be stood on greenhouse shelves as near as possible to the glass, where abundance of air may reach them and where the temperature is kept to between 40 degs. and 50 degs. In this position the leaves will be sturdy. Water may now be given if the soil is at all dry; but although *Hyacinths*, for instance, develop in water alone, it must be sparingly given when the roots are in soil and there is little top-growth. As the growth develops there will be greater calls for moisture, and when the blooms show, it is not an easy matter to over-water *Tulips* or *Narcissi*. From the time the flowers show colour give the plants manure-water. If treated as advised, there will be abundance of roots, and they will be in a condition to respond to feeding. Sulphate of ammonia, used at the rate of an ounce to 3 gallons of water, may be employed with safety, and is a first-rate stimulant: so also is root-water.

FORCING HARDY PERENNIALS IN POTS.

What hardy perennials do you advise starting in heat in March, and transferring to a cool-house or frame as soon as they are up? The following are some of those I am thinking particularly of: *Adonis vernalis*, *Anchusa italica*, *Anthemis*, *Arenaria*, *Armeria*, *Aster* (dwarf kinds), *Aubrieta*, *Campagna* (dwarf), hardy *Cyclamen*, *Delphegium*, *Erigeron*, *Enous*, *Feracrus*, *Gypsophylla*, *Iberis*, *Incarvillea*, *Linnaria*, *Lobelia*, *Lycchnis*, *Mimulus*, *Monarda*, *Phlox* (various species), *Potentilla*, *Pyrethrum*, *Saxifraga*, *Scabiosa*, *Sedum*, *Thalictrum minus*. I am afraid this is a very long list, but I wanted to give you a good idea of the perennials I am thinking of.—Devon.

[Some hardy plants may be forced with impunity, while others not only detest artificial heat in any degree, but even object to glass i.e., cold-house or cold-frame. This may seem an exaggeration, but it is not so, and the plants make better progress in the open air. We do not agree with your method in this matter, simply because the principle is wrong. You may start certain plants in a cold-house, well ventilated, if you will, and introduce them to increased warmth at a later period, but to start them in heat and put them into cool or cold quarters as soon as you have in heat excited them into growth is wrong. If you really want some hardy plants in advance of outdoor ones, the way

to succeed is to pot up in autumn, plunge in ashes or in open frames in winter, and introduce to cool-house and heat by easy stages. You will note this is the very opposite of your plan. Not a few plants are benefited by being flowered in a cold-house, and if the subjects are well established in their pots or pans, bloom well. In this category we include all the early bulbous *Irises*—e.g., *reticulata*, *Histrio*, *Heldreichi*, *persica*, *Bakeriana*, *huxleyoides*, *Danfordia*, etc. *Leucojum vernum*, spring-flowering *Cyclamens*, *C. Coum*, *C. Atkinsi*, etc. *Adonis vernalis*, *A. amurensis*, *Megasea cordifolia purpurea*, *M. ciliata*, *Saxifraga Boydii*, *S. Bursariana* and its variety *S. apiculata*, *S. oppositifolia* in variety, *Morisia hypogaea*, together with pans of *Chionodoxa*, *Muscari*, *Snowdrops*, and the *Belle-colliums*, or *Hoop Petticoat Narcissus*, would form a most interesting array without forcing, and, therefore, without risk. Then a list for succession may include *Anthriscus* in variety, *Lycchnis alpina*, any of the *Primula* *Sieboldii* group, also *P. rosea*, *P. denticulata*, *P. cashmeriana*, *Corydalis thalictroides*, *Thalictrum adiantifolium*, *T. minus*, *Tiarella cordifolia*, *Iris pumila* in variety, *I. nuda*, the *Doronicums*, *Hepaticas*, *Gentiana verna*, *Saxifraga Cottleton*, *S. longifolia*, the alpine *Phloxes*, and later on the *Columbines*, *Flag*, and other *Irises*, *Candytuft*, *Gentiana* *sealyi*, and many more. All of these, by introducing them successively into the cold-house from the frame or pit, would keep up the procession of flowering till there were many buds in the open. If greater variety is desired, some of the more showy *Trumpet* *Davallias* would supply the want. What you should embrace is the naturally early flowers of spring and get these into good tufts in pans or pots as though specially grown for the purpose. And what you have to avoid is that large number of late summer flowering things—*Monarda*, *Lycchnis*, *Scabiosa*, *Potentilla*, *Lobelia*, *Anchusa*, etc., with *Campicels*, *Delphiniums*, *Eremuri*, *Pyrethrums*, etc., the last three of which cannot endure glass-structures at all. If you work on these in a cold-house in spring may be full of bud-treasures, and in early summer repeat with more showy subjects. It is a plan too calculated to save your heat and not a little disappointment into the bargain.]

NOTES AND REPLIES.

Begonia Martiana gracilis is a very beautiful kind now in bloom. The fine specimen I dissected and illustrated in *Indoor*. The leaves are of the deepest possible green, which brings into bold relief the clear purple coloured flowers, shading off to white towards the base of the segments. They are about the size of a halfpenny and borne freely.

Growing bulbs in a glass bow.—When do bulbs grown in water or deep glass, according to directions in *GARDENING* of October 18, have commenced to grow, where should they be kept till they bloom, and at what degree of heat?—G.

When the bulbs have well rooted, stand them in a sunny window. They ought to have been in a dark board until they had formed plenty of roots, as with these they will certainly fail to develop the flowers.

Lotus poliorhynchus.—Can any of your readers tell me how this plant is cultivated, and whether it is an annual, biennial, or perennial? I have several fine plants in pots raised from seed this spring. They have not yet flowered, and are now shedding their hair-like leaves. Might they be cut back and kept dry all the winter under glass, or kept growing? I have seen it hanging over walls in Tenerife, where, I suppose, it is left out all the winter.—G.

[This is virtually a greenhouse under-shrub, therefore of perennial duration. The plants should be kept growing steadily all the winter. To dry it off after the manner of bulbous things would mean to kill it. At the same time a certain degree of root dryness in the winter season has a very sweetening effect upon the soil, and in turn keeps up a healthy root action. As the plants were only raised this spring, little pruning should be required. Shorten the longest trails now, and in mid-January or later give a little shift to the plant, which, with liberal treatment, should flower during the coming year.]

Davallia falling.—I will be much obliged by information as to the cause of a *Hare-foot Fern* falling so much. The root appears quite healthy, but the leaves soon go like the enclosed. What is the best treatment for these Ferns?—BETA

[The frond you send is evidently that of one of the deciduous *Davallias*, but it is impossible to say what is the name from such a specimen. It has, however, been attacked by thrips and red-

older. During the resting period the deciduous varieties should not be allowed to become dry, and the soil should be just kept moist. If potting is necessary, this should be done as soon as the young fronds begin to move, and as the growths start see that the plants are kept well up to the light. During growth the plants like abundance of water, but as the fronds begin to fade then gradually withdraw the water supply.]

Growing Guernsey Lilies (Nerines).—Would you kindly tell me the name of enclosed flower in your issue? There are six more like it on the umbrella, which is on a stalk about 18 inches high. I conclude it is the dark Agapanthus, but I cannot find mention of one of that colour, so should like to know. It is a bulb I got in South Africa more than 2 years ago, and this is the first time it has flowered. It is a lovely colour. I hope it will reach you in good condition. The leaves are only 2 inches or 3 inches long as yet, and do not seem to have any connection with the flower-stalk. It is in a 48 pot in the greenhouse. What should I do with it when the flower is over?—E. M. HAWLEY.

(*Nerine sarniensis* is the name of your plant. Its culture is very simple, and the production of the gorgeous flowers is certain, provided the following details be borne in mind.

often get ruined by being placed under a stage when not growing. By the above it will be seen that the Nerines have a dry season of some months. It is important to see the flower-spikes before watering, or the leaves will start to grow and the spikes will not appear. Potting should be done as seldom as possible. The Nerines when repotted are generally thrown one year out of bloom. They thrive for years in the same pot, piling one bulb on another, and thus greatly increasing the number of spikes to each plant. The best soil for them is turfy yellow loam without admixture of any kind; this, when the plants get well rooted into it, will last and keep them in good condition for years.]

CHRYSANTHEMUMS.

CHRYSANTHEMUMS OUTDOORS.

ALTHOUGH Chrysanthemums are imported in great numbers from the Continent and America, in addition to the many seedlings raised at home, we do not seem to make

more vigorous than in the middle of the plant. Pieces of roots make nice bushes the first year if a little fresh soil is placed about them. The ground must, previous to setting these pieces out, have been well dug and some rotten manure added. Care must be taken that the soil is not made too rich or the growth will not ripen. To induce a stocky, firm growth, make the soil when planting firm round the roots. When planting Chrysanthemums in the open avoid an aspect facing either north or west, and which is shaded by trees. The best position is a border facing south, with on the north and east sides shrubs or other protection. If the plants are well attended to during the summer a plentiful supply of blooms will be forthcoming, which, if the weather is at all unfavourable, will repay protection from early and sudden frosts.

The variety we figure to-day is, as a rule, in bloom in September, and is one of the best sorts for outdoor culture. The colour is a bright pink-lilac fading with age to almost white. It grows, as a rule, about 2 feet high. *Louis Lemaire*, a rosy-bronze sport from this, is a fine addition to the early varieties. There are now two white forms of the type, one called *White Grunerwald*, a seedling, and *Parisiana*, a sport much more vigorous than the parent. *Mrs. R. Mollinson* is a yellow sport, while in *Henri Yvon* we have a grand addition to the set, this being rosy-salmon on a yellow ground. T.

SEASONABLE NOTES.

THE display which the early-flowering kinds have made during the past three months is coming to a close, yet the freshness of the flowers may be preserved to some extent, if damaged and spent blossoms be removed and old and useless shoots cut out from the plants. This will give the collection a fresher appearance and also encourage the development of basal shoots, which peculiarity is most pronounced in the case of the best of the early sorts. Should open weather continue, many of the late October flowering varieties, which cannot very well be included among the early-flowering Chrysanthemums, will give an interesting and bright display. Such sorts as *Mme. La Comtesse Foucher de Cariel*, with its golden-orange flowers; *Godfrey's Pet*, the new bright yellow, free-flowering dwarf plant; *Harmony*, a splendid novelty, of a rich orange-apricot colour; and *Etoile de Feu*, an excellent crimson, of a rich and bright shade of colour, will do much to link the period when the earliest finish and the mid-season varieties begin their display. This type of plant is worth looking after, as they provide excellent material for indoor decoration in late October and early November. A few additional sorts of proved merit are *Bouquet de Feu*, bronzy-terra-cotta; *Vivid*, fiery-red; *Ettie Mitchell*, bronzy-yellow; *Gladys Roult*, pure white, very pretty; *James Salter*, pink; *Lady Selboune*, white; *Jules Mary*, crimson; *Mons. Willam Holmes*, crimson with golden reverse; *Ryecroft Glory*, golden-yellow; *Nellie Brown*, deep-bronze sport from the last-named; and *Soleil d'Octobre*, yellow. The mid season, or November-flowering kinds, which have been under glass for some weeks now, demand our attention at this season. Blooms intended for the November exhibitions are fast developing, and some of the earlier kinds are almost fully expanded. The question of feeding is still an all-important one, and care should be observed in its application. Some growers advocate feeding their plants until the blooms are finished, but this is not at all necessary. The use of manure-water after the blooms are about two-thirds developed predisposes them to dampness, which should be guarded against. Therefore withhold manures when the blooms are two-thirds expanded, doing this gradually. Green-fly is often troublesome, more particularly in glass-houses which are ill-ventilated. Do not wait for this pest to multiply to any great extent, but fumigate without delay. The only safe and reliable material with which to fumigate Chrysanthemums when in full bloom is the old and familiar Tobacco-paper. With this material the plants may be fumigated for twenty minutes or half-an-hour without the risk of damage to the blooms. If the blooms are left to finish without ridding the plants of



Chrysanthemum Mons. G. Grunerwald.

Nerines are cold greenhouse plants requiring a dry atmosphere all the year round. The treatment for one year (which should be repeated annually) is as follows: The Nerines begin to flower in the end of August and continue to bloom throughout the autumn. During flowering and afterwards throughout the winter and spring, the Nerines should be freely watered until the leaves by turning yellow show that the resting time has arrived. Throughout the remainder of the summer, while the plants are leafless, not one drop of water should be given until the flower-spikes appear, or in exceptional cases until the bulb, by its persisting in pushing up leaves at the flowering time, shows that it does not mean to bloom, in which case the plant must be watered and grown again until the next year. All the sun, light, and air possible should be given to them at all times. During the resting season a shelf in a sunny part of a greenhouse or cold-frame where air can be freely admitted without letting in the rain suits them admirably. These, like many other bulbs,

much headway in raising really hardy outdoor garden kinds that will live through the winter for some years and make their growth and develop a crop of bloom without any protection. At the present time a good selection of varieties that in reasonable seasons will produce a good crop of blooms can be had, much, of course, depending on the weather at the time they are at their best. Where there is a demand for cut-flowers some of the best kinds might be planted in quantity in the kitchen garden, choosing for them a warm border. In out-of-the-way gardens one often finds in bloom plants of sorts that are hardly ever met with nowadays. Many are Pompons, which, owing to their reflexed petals, throw off the wet and are thus well adapted for outdoor culture.

CULTURE.—Plants which have been growing in the same place for years get worn out. Such should be dug up and divided, discarding the centre of the roots if plenty of stock is available from the outer parts of the crown, where the sucker-like growths are always far

this pest, they will soon be quite unfit for use, either as exhibition blooms or cut flowers. Blooms showing evidence of damping should have the damaged petals removed by the aid of tweezers; they may be pulled out quite easily and the bloom saved. Japanese blooms with hard centres should have the offending centre released by the aid of specially designed forceps, which any Chrysanthemum specialist can supply. By the same means rough and irregularly formed florets should be pulled out, in this way insuring an even development of the bloom. In the case of incurved blooms, grown for exhibition, as far as possible dress these while they are on the plants. This will prove a great saving of time just previous to date of exhibition. In all cases where it is possible release the ties holding the shoots of the plants in an upright position, and allow the blooms to overhang in such a manner that the apex of each one points downwards. By these means deeper and more even and globular blooms may be obtained. Seared and decaying foliage should be picked off and burnt. When watering has to be done the morning should be chosen, and excessive moisture should be wiped from the floor subsequently. Look out for drip from the roof of the greenhouse, or some of the best blooms may be spoiled; prepare boards, cups, and tubes in readiness for the shows. E. G.

NOTES AND REPLIES.

Liquid-manure for Chrysanthemums.—I would warn growers against using liquid-manure too freely. Although it no doubt increases the size of the blooms, it decreases the quality of the cuttings, which come weak and flabby, and of little use where a healthy stock of plants is desired.—D. G. McIVER, *Bridge-of-Weir, N. B.*

October-flowering Chrysanthemums.—A mistake which is made too often with these (and I speak from experience) is too early propagation. I have met growers who invariably put their cuttings in as soon as they can be had, which is generally about November. This, I am certain, is neither desirable nor necessary to the successful culture of these plants. I have two batches of plants each of Mme. C. Desgrange and Geo. Wernig. The cuttings were inserted on January 29th of this year, half-a-dozen round the side of a 4-inch pot. These, when rooted, were potted singly, and shifted finally to the 6-inch and 7-inch size. These plants are now (October 15th) in full bloom, well clad with foliage right down to the pot, the height of the plants from the surface of the soil to the topmost blooms being 31 inches in the Desgrange and 4 inches less in the Wernig section respectively. That, I think, speaks well for late propagation, and the beauty is enhanced, as no sticks are necessary. The average number of developed blooms varied from 35 inches to 40 inches, and that on single plants. One can easily imagine the effect when three cuttings are grown on as one plant, using a 9-inch pot for the final shift. A new variety, Horace Martin, a sport from that well-known sort Crimson Marie Masse, promises to be a grand acquisition, blooming earlier than any of the Desgrange family.—D. G. McIVER, *N. B.*

ROOM AND WINDOW.

Barberry berries.—The richly-coloured berries of the common Barberry, borne in long, drooping clusters, have a very pretty effect when used for table decoration. Hardy kinds of flowers, fruit, and foliage undoubtedly get more popular year by year, and this is as it should be, as the pleasures of hardy subjects can be enjoyed by nearly everyone; whereas hothouse plants are for a limited few. To return to the common Barberry, the great profusion of its berries this season may be especially noticed, while I was recently much struck with a nursery bed of the smaller B. Thunbergi, which in a sunny spot was a mass of scarlet leaves and berries. This Barberry is certainly a very beautiful shrub, which, though now pretty and well known, is not half enough planted.—T.

The Prize Winners this week are: 1, Mrs. Heath, Dunley, Bovey Tracey, for *Laurus tinus*; 2, Mrs. Otter, West Grinstead, for *Horsham*, for *Dioscorea*.

ROSES.

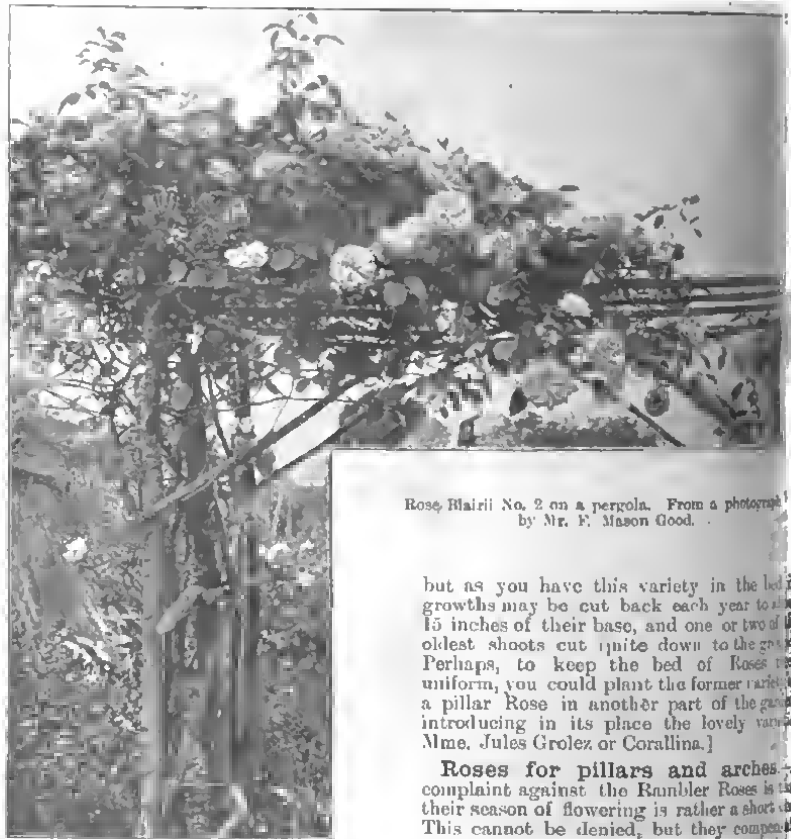
ROSES OVER ARCH.

THERE are few more charming plants than climbing Roses for covering pillar, arch, or pergola. Many are the beautiful pictures afforded by these fragrant flowers, sometimes gurlanding a cottage porch, clambering over the roof and shrouding the very chimney in a shower of bloom, at other times thrusting long flower-studded sprays from among a mass of rampant climbers; or, again, as in our illustration, growing and flowering freely when loosely trained on a pergola. Given a deep and rich root-run these climbing Roses will succeed almost anywhere. Even in a north aspect, if the position is sheltered from cutting March winds, Roses will flower and often produce blooms of exquisite colour. W. A. Richardson in such a position frequently gives flowers far richer in tint than those borne on plants in the full sun. There are few more delightful pictures than *Rose d'Or* in the zenith of its beauty, while *Caroline Kuster*, *Mme. Berard*,

it retains its foliage quite as long as the so-called evergreen varieties. It is exceedingly vigorous, rambling quite as freely as the *Crimson Rambler*. The flowers, almost single, are of a rosy-crimson colour, but, as in most of these single varieties, the buds are long and handsome. If you want a yellow, you should plant *Aglaia*, a yellow Rambler.]

Rose Longworth Rambler as a bush.—In your issue of September 7, 1901, you were so good as to give me advice as to planting a Rose-bed. In the rows there are three plants of each variety. Would you now kindly tell me the proper treatment for the three plants of *Longworth Rambler*? They have made very long shoots—how long the plants seem somewhat out of place among the other bush Roses. Please also say how the *Gloire Lyonnaise* should be dealt with? They have grown vigorously. This bed (35 feet by 8 feet) was carpeted with one of the best sorts of *Tufted Fancies*, and has been a very pretty picture the whole summer.—R. V.

[In order to keep this *Rose d'Or* it should be cut back hard each year. Of course, it is best when afforded more space than you were able to give it, then the pruning would be of a more moderate nature. The *Gloire Lyonnaise* is really seen at its best when allowed to run as a pillar Rose, or trained against a low wall.



Rose *Blairii* No. 2 on a pergola. From a photograph by Mr. F. Mason Good.

but as you have this variety in the bed your growths may be cut back each year to about 15 inches of their base, and one or two of the oldest shoots cut quite down to the ground. Perhaps, to keep the bed of Roses uniform, you could plant the former variety as a pillar Rose in another part of the garden, introducing in its place the lovely variety *Mme. Jules Grolez* or *Corallina*.]

Roses for pillars and arches.—A complaint against the Rambler Roses is that their season of flowering is rather a short one. This cannot be denied, but they compensate for this by their lavish display. Much, however, may be done by the planter to relieve the pillars and arches of their forlorn appearance in autumn by planting a perpetual kind together with a summer one. It is true the growths would be very dense, but some must be sacrificed to accommodate the two kinds. Or an autumnal-blooming Rose could be planted on one side of the arch and the summer-bloomer on the other side. Personally, I should prefer the two planted together. For instance, *Crimson Rambler* and *Grass* an *Teplitz*, or *Felicite Perpetue* and *Mme. Alfred Carriere*, or *Aglaia* and *Mme. Berard*. If two contrasting varieties are preferred there is ample material at disposal. Recently I saw a pergola on which the Rambler Roses were freely planted, but on the columns autumnals, such as *Gloire des Rosomanes*, *Fabrier*, *Armand*, etc., were placed, and made a pretty effect.—Ros.

Blairii No. 2, Lamarque, Climbing *Devoniensis*, and the old, but still useful, *Gloire de Dijon* are well suited for such a position.

NOTES AND REPLIES.

Rose Mme. Victor Verdier.—This fine old crimson Rose has been remarkably good this autumn. A large bush just now is quite gay with the shapely blossoms, rich in colour and also fragrant. When we have a Rose that combines the good qualities named above with that of vigorous growth, its value is manifest. Doubtless the parent of several red Roses, I am not aware of any of its offspring superior to *Ella Gordon*. This is unquestionably of this parentage, although of even more vigorous growth.—Rusa.

Crimson Rose for pillar.—What crimson or yellow Rose would you recommend for growing up a 5-foot stake near the door, facing west, and enclosed by a wall? I do not want Turner's *Crimson Rambler*, as I have several of this a little lower down.—W. G. MURKIN.

[For a crimson you cannot do better than plant *Reine Olga de Wurtemberg*, which might almost be called an evergreen Rose, as

Request to readers of "Gardening."—Readers, both amateur and in the trade, will kindly remember that we are always very glad to see interesting specimens of plants or flowers to illustrate, if they will kindly send them to us in as good a state as possible.

FRUIT.

APPLE TOWER OF GLAMIS.

This variety is much grown in Scotland and the northern counties of England. In shape it is conical, the ridges being very prominent, as may be seen in the illustration. At first the skin is pale green, slightly flushed with dull red, the colour varying according to the soil in which it is grown. When stored it changes to a pleasing yellow. The flesh is firm and crisp, and when cooked has a sharp flavour. It can be kept well into February, and in a good fruit-room even later still. On account of its spreading habit the tree is not suited for growing as a pyramid, but might well be grown as a spreading bush if pruned sufficiently for the first two or three years to enable it to form a well-shaped tree. It does well as an orchard standard, the habit of growth not fitting it for the dwarfing stocks. The Crab is the ideal stock for it, and even when grown as a bush in the garden it is best to work it on this.

CANKERED PEAR-TREES.

(REPLY TO "BUDUNA.")

YOUR Pear-trees are suffering from a severe attack of canker, a disease which affects certain varieties far more than others. It nearly always arises from the fact that the roots go deep into a poor or sour subsoil, where they do not find the food or soil ingredients essential to the forming of sound, healthy wood. If you could open a trench 2 feet wide and deep round each of your diseased trees, 3 feet from the stems, you could make a clean severance of all roots found that are large, then you could work under the balls of roots and cut off as clean as possible with a broad, sharp chisel, fixed on a long Ash handle, all downward roots, refilling the trench with soil, you could check that tendency to canker at once. When the trenches are filled in remove the top soil about the trees, replace with fresh soil, and add a dressing of short manure, just lightly forking it in. The effect will be to cause the roots to make fresh growth near the surface, and those will produce sound, healthy wood. Before doing the root-pruning cut hard back all the cankered points of the branches, removing and burning them. You may benefit the trees also if, in the winter, but not when it is frosty, you make up a wash of fresh lime, soft-soap, and sulphur paste with water, and will syringe the trees with that, so as to coat all the branches; that will help to kill canker and insects. The mere cutting back of these decayed shoots each winter is of no use. The evil lies in the roots, and it is they which must be dealt with. It will do good also if, in the spring, 1 lb. per tree of bone-flour and Kainit be forked in over the roots. Do the root-pruning at once.

NOTES AND REPLIES.

Six good eating Apples.—I shall be greatly obliged if you will inform me in your valuable columns what are the best six (eating) Apples to plant in my garden, which has south-west exposure? Also whether I might safely plant these as late as middle of next month? —J. W. WALK.

[Try Lady Sudeley, Allington Pippin, King of the Pippins, Cox's Orange Pippin, Blenheim, and Ribston. If you want a very late kind try Stimmer Pippin.]

Brown scale on Peach-trees (F. G.).—Brushing and scrubbing the trees with strong insecticides are both laborious and only partially effective; whereas the petroleum remedy, if persevered with, effectually clears the trees of this troublesome pest. After the pruning is completed, the trees loosened somewhat, and the borders cleared of all rubbish, the wood-work and glass cleaned and the panes whitewashed, syringing the trees freely with petroleum, soft-soap, and water, and if this

soaks well into the border, good, rather than harm, will be done, especially if there was any black-fly on the trees. Heat the water to about 120 degs., this condition being insisted upon if the remedy is to have a fair trial, and to every 3 gallons of this add a lump of soft-soap about the size of a hen's egg and 5 oz. or three wineglassfuls of ordinary petroleum, or paraffin, as it is generally, but wrongly, termed. The oil must not be permitted to float on the surface of the receptacle, but should be kept mixed with the water, this being done either by returning every second syringeful (after the mixing has been accomplished by means of the syringe) forcibly back into the receptacle, or else by keeping two syringes at work, one distributing and the other keeping the oil mixed with the water. This mixture should be used in no half-hearted manner, it being of the greatest importance that every branch and shoot be thoroughly wetted by it. There is no necessity to syringe the trees

main rods and the ultimate fruiting canes at 3 feet apart down over the roof wire trellis towards the front, or at the bottom of the roof, and carry these growths upwards. The latter is nearly always adopted in ordinary cases of planting. This is known as the extension system, and very well it answers when the soil and house are suitable, and care is taken ultimately that the crop is not overdone. We have seen instances of Grapes growing much more satisfactorily on the extension than the single rod system, while the border lasts longer, because it is not so soon filled with roots, and less water is required for the same reason. The point of the growing Vine should be pinched when it is within about 6 inches of the roof wire; this will cause the issue of two leaders, which can be trained horizontally right and left. These in turn will give other shoots, from which, by selection, can be obtained growths that are to form the future bearing rods. Three feet apart for these is a very good distance.]

Fruit-trees for heavy land.—As I am about to plant an orchard in Cambridgeshire, I shall be glad if you will assist me in a selection of sorts most suitable to soil and situation? It is Grass land, with a heavy soil and a subsoil of gault. I have had holes dug 1 yard wide and 2 feet deep, and gault removed and replaced by lighter soil, which is now ready for planting. I shall be glad if you will name six dessert Apples, sixteen kitchen Apples, two dessert Plums, four kitchen Plums, and six Pears, all standards? G. BRAN.

[Several Apples of the greatest excellence might fail on very heavy land. Still, I know good Cox's Orange Pippin and Ribston are grown in Cambridgeshire, and in the present case I should plant one or two of each. Only in planting I should keep the roots well up, even to the extent of raising a mound a little above the surface. The following half-dozen should do well, if not planted too deep—Six dessert Apples: Cox's Orange Pippin, Allington Pippin, Lord Burghley, Beauty of Bath, Fearn's Pippin, and Ribston Pippin. Sixteen kitchen Apples: Lord Sutfield, Warner's King, Bismarck, Newtown Wonder, Stirling Castle, Lane's Prince Albert, Duchess of Oldenburg, Cellini Pippin, Pott's Seedling, Northern Greening, Bramley's Seedling, Blenheim Orange, Small's Admirable, New Hawthornden, and Alfriston. Two dessert Plums: Coe's Golden Drop and Transparent Gage. Four kitchen Plums: Early Rivers, Victoria, Prince Englebert, and Pond's Seedling. Six Pears: Williams' Bon Chrétien, Louise Bonne of Jersey, Beurre d'Ananlis, Doyenné du Comice, and Josephine de Malines.]

Bitter Peaches.—I should be glad if you will tell me how it is that some Peaches grown under glass, but scarcely "forced," have this year suddenly become very bitter, so much so that they remind one of taking a dose of quinine? They are ripe and well coloured, so it can hardly be the want of sun this season. Is this an uncommon experience? I should be glad of reasons, and means of preventing it another year. —MERRIS.

[In the absence of details regarding the nature of the soil in which your Peach-trees are growing, whether the base of the border is concreted, and the general treatment the trees receive in the way of watering and the use of either chemical or liquid-manures, it is somewhat difficult to account for your Peaches requiring the bitter flavour you complain of. It may be brought about by either of the following causes: (a) the application of too strong doses of either liquid or chemical manures; (b) through the roots having got out of hand and descended into and feeding on some deleterious substance in the subsoil. Of course, this is conjectural, but if you think the difficulty is caused through overclothing with manures, the remedy is obvious. On the other hand, if you think the roots are at fault, the trees should be lifted this autumn. The way to do this will be to open out a trench some 4 feet distant from the stem and about 2 feet 6 inches deep, making this wide enough, so that there will be room to work conveniently when throwing out the soil. From this trench, as a commencement, gradually work towards the stem by removing the soil from among the roots with a five-tined steel fork until there is a base of soil about 2 feet 6 inches in diameter, taking the stem as a centre. Then proceed to tunnel under the ball, doing one half first, and cut clean away all roots that tend to take a downward direction, doing this with a knife, and cutting them off close up to the ball. When this is done, fill up the opening under the ball either with the same soil, or with some fresh soil, and



Apple Tower of Glamis.

with clear water a few hours after using the petroleum mixture, and if one application of the latter does not thoroughly clear the trees of scale, a second dose should be given. If it does not also destroy thrips and red-spider as well as scale, mealy-bug, and aphides, it will, at all events, get rid of the greater part of them.

Planting Vine in small greenhouse.—I have a greenhouse, size 8 feet by 11 feet, height 3 feet 6 inches in front, and 7 feet at back. The greenhouse faces west, north end abutting on dwelling-house. The east wind is also well broken, so that it is in a very warm position. It is heated by a dry flue, 4-inch pipe, running along front, south to north. Am thinking of planting a Vine in same. Please say if house is suitable? In what position should the Vine be planted, and best kind to succeed? —MERRIS.

[The height of your house, both back and front, is not favourable for the growth and convenient treatment of Grapes. Still, there is no particular reason why you should not plant a Vine and that it may succeed. In such a house, with a suitable turf-made border, we should plant one Vine—the best for your purpose being Black Hamburgh—in the centre of the house, and in your case it would be better to either you planted at the back and trained the growths right and left to form

ram it very firmly as the filling is being done. Then do the other half in the same manner, and if properly carried out the ball will not be moved out of position in the least, and if this, as we strongly suspect is the case, is the cause of your trouble, the fruits should have their proper flavour another season.]

GARDEN PESTS AND FRIENDS.

THE FELTED BEECH COCCUS.

The scale insect known as the Felted Beech Coccus (*Cryptococcus fagi*), as a rule, chiefly attacks the trunks of Beech-trees, but sometimes ascends into the boughs. The females produce larvæ in September; these envelop themselves in a white cottony secretion and then cast off their antennæ and legs and remain for the rest of their life devoid of such appendages. The adult female is a small orange-yellow sac, surrounded by a white mass; these white masses often unite and form large felted patches, beneath which the larvæ burrow and develop. These scale insects suck out the sap very greedily, and often do much harm when present in large quantities. In time they cause the bark to peel off the tree, after which decay and death of the tree may ensue. It has recently been reported to the Board as damaging trees at Castle Eden, Durham. Large numbers of trees are attacked by this insect in Surrey, and it is also common in Cheshire, Huntingdonshire, and probably occurs in greater or less abundance wherever the Beech grows in Europe. Trees attacked by the insect should immediately be sprayed with strong paraffin emulsion twice, at an interval of two days. In the winter they should be sprayed with the caustic alkali wash. Scrubbing the trunks of the trees is too costly a method if the attack is severe, and thorough spraying with warm paraffin emulsion is quite effective. If the trees are cut down the bark should be burnt at once. It would appear that the Weeping Beech, of which two kinds are grafted on the common Beech, is not affected by this coccus. The stock may be attacked, but not the "weeping" scion. The insect does not appear to be attacked by birds, and very rarely by insect parasites.—*Journal of the Board of Agriculture.*

NOTES AND REPLIES.

Diseased Violets (*M. Tucker*).—Your Violets are attacked by the Violet smut fungus (*Urocystis violæ*), a not uncommon disease, but one that does not do much injury to the plants as a rule. If you cut one of the excrescences open you will find that there are a number of small, dark specks in rows. These will, as they ripen, come to the surface as a mass of soot-like spores, which fly about with the least wind and infect other plants. The best way of destroying this fungus is by cutting off and burning all the infested leaves and stems before the spores are ripe. Fungicides are of no use, as the fungus lives on the internal tissues of the plant, and so cannot be reached.—*G. S. S.*

Maggot in Pears.—I have two Pear-trees which blossom and show a heavy crop of fruit, which when about the size of, or a little larger than *Acorns*, drops off. I find at that stage there is a worm in the eye of the fruit. What I want to know is how to prevent this? The one tree is against an east wall, and the other in the garden in the open. Both are healthy and make a lot of wood. The one is near a Fir-tree.—*I. W. H.*

[Your Pears have been attacked by the grubs of the "Pear gnat midge" (*Diplacus pyrivora*). The fly is quite small, not measuring more than 1/4-inch across the wings. It is much like a small gnat in general appearance, though it belongs to quite a different family. It lays its eggs in the opening blossoms. The grubs are said to hatch in the course of four days, and immediately make their way to the core of the future fruit and begin to feed. Naturally the fruit so attacked never comes to perfection. When full-grown the grubs leave, the Pears falling to the ground if the fruit is still on the tree, or merely crawling out of them if they are on the ground. They then bury themselves an inch or so below the surface, and become chrysalides, from which the flies spring early the next spring. The trees should be well shaken so as to cause as many of the infested Pears to fall as possible, and the small trees

they may be gathered and burnt or buried deeply in the ground. A heavy dressing of Kainit (about 1/2 a ton per acre) applied under the trees in July or August has been found very efficient in destroying this pest. The removal of the surface soil to the depth of 2 inches would have the same effect, but the earth taken away must be buried deeply or burnt, so as to destroy the chrysalides.]

Ladybirds in greenhouse.—Can anyone tell me how to get rid of ladybirds in a newly-painted greenhouse? I have hundreds of them, and they are making their appearance in the house by way of the conservatory.—*H. G. W.*

[You can kill the ladybirds by burning sulphur in the house, but if the fumes are sufficiently strong to kill them, they will certainly injure the plants. The little beetles are searching for some sheltered place to pass the winter in, and will in all probability congregate together in some corner for that purpose. If they do they can easily be removed; but why interfere with them? They are perfectly harmless, and they and their grubs are of the greatest possible service in destroying aphides. I should never think of molesting them in any way, but always give them every encouragement. They will amply repay you next spring for any accommodation you may give them.—*G. S. S.*]

GARDEN WORK.

Conservatory.—Well-grown Cannas are very useful through the summer and autumn in providing us with a special feature both in flowers and foliage. They want plenty of pot-room and rich turfy soil to do them well, good drainage also must be given, as these large-leaved plants want plenty of moisture whilst growing and flowering. Good named sorts are cheap enough now, though seedlings from a good selection of kinds are worth growing. Some have bronzy foliage, and these are almost as effective as *Draenas*. Among the newer named sorts the following are good: America, reddish-purple; Duke of Marlborough, maroon, very dark-coloured flower; Edouard Andre, marbled salmon; John White, red flowers and variegated foliage; La France, bronzy-red; Roma, salmon-red, centre dashed with yellow; Africa, orange-red; Burbank, yellow, large flower; Italia, golden-bordered flower, very fine form; Rose Unique, rose, good flowers. When started in heat they will be in good form by midsummer, and will continue in condition till the autumn if given manure-water. These and other things of distinct appearance will relieve the sameness of the masses of *Chrysanthemums*, and though the latter are very bright and effective from a colour point of view, they are monotonous to all but the *Chrysanthemum* enthusiast. Of course, we appreciate these beautiful flowers, but the human mind wants variety. To do most things really well it is necessary to have several growing houses to get the plants near the flowering stage, and then move to the conservatory. The hard-wooded plants, for instance, will do in the conservatory whilst in bloom, but at other seasons they want special treatment to keep them in condition. *Cinerarias*, *Primulas*, and *Cyclamens* require special treatment during growth, but they make lovely little groups when in flower, especially when mixed with Ferns or graceful fine-foliaged plants. Above all things do not crowd anything, and make a free use of fine-foliaged plants. Baskets suspended should be as bright and effective as possible now. Among suitable plants are the *Epiphyllums*, which will soon be in flower. Pink *Begonias*, with the sides of the baskets draped with light coloured fine leaved plants, are charming. *Sedum carneum variegatum* is a good plant for covering sides and bottom of baskets, and as the plant is quite hardy it will thrive in a cold house, but it does well in a heated structure also. The variegated form of *Ficus radicans* is a desirable thing to have in quantity, as it may be used in several ways.

Forcing-house.—We are not forcing much yet, but preparations are being made to start a few *Roses*, bulbs, and other things. Every experienced forcer is aware of the fact that though a genial temperature will do a good deal, it will not bring blooms out of a bulb or other plant if the flowers are not ready there,

waiting for the warmth and moisture to bring them forth. The principal part of the flower and fruit-forcer's work is done the previous summer. In starting pot-Vines it is customary to start at a low temperature and gradually work upwards. In a general way this is doubtless right, but I have generally found the result is far better if a longer rest is given and the start made a little more briskly. Especially is this the case with pot-Vines, Figs, etc., and it helps those who have only one forcing-house and desire to grow a number of things there. For instance, one may have started a few French Beans and a few plants of Cucumbers or Tomatoes, and they may be coming into bearing in November, and, when the time comes to introduce the pot-Vines, they generally have to put up with the temperature which suits the things already started. If the Vine-rods have been well ripened and rested, they will start very well in a temperature of 55 degs. to 60 degs. The great point is getting the eyes to break, and this is done by keeping the canes in a horizontal position on the bed of leaves and frequently damped. If any canes are slow in breaking, twisting them round a few times liberates the sap and sets it in motion at once. Asparagus, if the roots are strong, can be forced in a warm-house, placed close together in boxes or flat baskets, and kept moist.

Late Peach-house.—This has not been an ideal season for ripening wood in cold-houses, and if the wood appears green and unripe a little fire-heat will be useful. We know fuel is dear, and, judging from the less condition of the miners, is not likely to be any cheaper. Still, fire must be used, if necessary, to obtain the desired result. Free ventilation will do something, but it is the circulation of warm air that is wanted to ripen the wood of fruit-trees.

Bottling Grapes.—When vicieries are required for wintering bedding and other plants which require watering from time to time, if only a few bunches of Hamburg or other thin-skinned Grapes are left hanging in early or mid-season houses, it will be better to cut the Grapes and bottle them in the usual way, and keep them in a dry room with a steady temperature of 50 degs. or so. Late houses will, of course, be left as they are for the present, keeping the atmosphere dry and the house reasonably ventilated, with a little warmth in the pipes to keep the air in motion. No Vine-leaf should be permitted to touch the glass from this onwards to cause drip in the house. Where possible, inside Vine borders should be covered with clean litter to keep down dust and check evaporation. There will then be less moisture to condense on the glass and drip about the house, and, consequently, there will be less decay among the berries. Outside borders should be covered with a good thickness of tree-leaves, and over the leaves shutters should be placed to throw off heavy rains.

Cold-frames.—These will now be filled with various crops coming on slowly, Violets for potting, Strawberries for forcing, Cauliflowers with hearts in course of formation, or young plants just pricked out from the autumn sowings to come on for the early spring and summer crops. Bulbs intended for forcing and other plants waiting for the forcing-house will also find shelter here for a time. Auriculas, Carnations, and other plants which only require a small amount of shelter will find a home in a frame.

Hotbed making.—With plenty of leaves and stable-manure the making of hotbeds is an easy and simple matter. There is not much forcing going on just yet, but beds for forcing Asparagus and Seakale may be made up. The proportion of leaves and stable-manure should be one half of each, and the blending should be as perfect as possible, and then the heat will be steady and serviceable. The beds at this season should be about 4 feet high, and be pretty firmly built.

Window gardening.—One of the brightest and best plants at this season is the Scarborough Lily. It is not difficult to manage, and like a good many window-plants it enjoys a season out-of-doors to mature growth. It may be turned out early in July and brought back when the flower-spikes are visible

in September. The Norfolk Island Pine (*Araucaria excelsa*) is a very useful room plant that is getting common now. Palms of various kinds never were so much in evidence as now. Kentias are the most useful, but the plant for the town house is the *Aspidistra*. Treat it naturally and it is indestructible.

Outdoor garden.—Roses may be planted now if the beds are ready. The soil should be well broken up, and if possible have a little good loam placed round the roots when planting. A little lime and soot worked into the land at the last turn over has a beneficial effect. It sweetens and cleanses the land, and all plants make clean, healthy growth after its application. If planted early in November, the plants will begin to make roots immediately. If the plants have made much growth, the largest shoots should be shortened a foot or so to relieve the wind pressure. The roots also may be shortened a little to encourage the production of fibre. It benefits bush Roses to replant occasionally in fresh well-worked soil, especially where mildew has been prevalent. Transplanting gives the plant a new lease of life, and this, of course, will be followed by harder pruning than usual. This is a good season to renew and replant herbaceous borders. This treatment is necessary every three or four years, and this gives an opportunity for rearranging the plants and adding anything new. Where there is a number of borders to plant each might be treated differently; as regards planting, the grouping system gives the best general effect. But collections of individual plants are exceedingly interesting to the plant-grower who loves his flowers apart from the effect created. Give prompt attention to bulb planting in beds and borders.

Fruit garden.—The early vinery and first Peach-house should be got ready for work now. There is not so much early Grape forcing done now as was necessary before the thick-skinned Grapes became so common, and the first lot of early Grapes is very often grown in pots, and as a fresh lot of Vines is grown every year for forcing, the second house need not be started before January. When the canes are well ripened, Vines in pots force very easily, and if well nourished during growth very good fruit can be grown in pots. A low span-roofed house is the most suitable, and if the pots can be plunged in a bed of leaves on each side the house, very good results are obtained, though I once had a lean-to house which did not Vines very well. There was a broad shelf along the back, and one set of Vines was plunged in the narrow front pit, filled with leaves, and the Vines on the top shelf were trained down. Both sets did equally well, though the berries on the plunged plants were always the larger, as the roots worked out of the pots into the leaf-bed. This is the time to plant Raspberries. There is no lack of good varieties now. For dessert plant Superlative. Beehive and Norwich Wonder are also good. Do the land well, as though Raspberries are surface rooting, the roots will run down for their food if the land has been well prepared. Autumn Raspberries are bearing well, and the fruit comes in very useful for tarts with late Red Currants. These latter are good on north walls. We have had them up till the end of November.

Vegetable garden.—The earliest-planted Brussels Sprouts will now be coming in, and, as Peas will soon be over, the Sprouts will be useful. Spinach, also, and Cauliflowers are plentiful and good. Scarlet Runners and French Beans are at the time of writing untouched by frost in our immediate neighbourhood, but this state of things cannot last long. French Beans coming on in pits will prolong the season, and a crop of dwarf Beans under a south wall can easily be sheltered when frost is expected. But the time is close at hand when all tender things exposed will be spoiled by frost, and provision for a supply from other sources must be made. The supply of salading requires some forethought and some means of affording shelter, as Lettuces, when of considerable size or when turning in, will soon decay after being frozen through. I have before referred to the easy way in which Lettuces which are full grown can be kept in condition a long time by a covering of dry leaves, and just a little long fresh litter on top

to keep the leaves in position. The Lettuces should be tied up when dry. There are other ways of protecting and blanching Endive. It keeps very well when covered with mounds of dry ashes after being tied up, and the Endive blanches quickly when lifted and placed in the Mushroom-house a few at a time when required. Of course, there will be Lettuces and Endive coming on now in frames, and it will be an advantage if a heated pit is planted with Lettuces to come in for an emergency in case of bad weather. In my experience these emergency crops always come in very useful. Put a few roots of Chicory to force in the Mushroom-house. Have a few roots of Tarragon and Chicory to supply green pickings when required. E. HORDAY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

November 3rd.—Finished preparing the ground for a plantation of Apples on the English Paradise. They will be planted 10 feet apart each way in blocks of twenty or more trees of each kind. The sorts will include Cox's Orange Pippin, Newton Wonder, Bismarck, Allington Pippin, Worcester Pearmain, Stirling Castle, Lano's Prince Albert, Peasgood's Nonsuch, Bramley's Seedling, and Barnack Beauty. Moved a lot of forcing shrubs to cold-house. These, for the most part are established in pots, and have been plunged out, and include Deutzias, Rhododendrons, Prunus triloba, etc.

November 4th.—Evergreens are moving well now the ground is moist. There is always some of this work to do to keep things moving on comfortably, especially where new things are introduced from time to time. A bed has also just been prepared for Tree Paeonies. The site is sheltered, and peat, leaf-mould, old rotten turf, and sand have been freely used. These are lovely things, and we are anxious to see them thrive. Repaired turf on tennis-lawn. Box edgings are also being put in order. In some cases the Box is taken up and replanted, and afterwards the gravel is turned over and rolled down firm.

November 5th.—Mustard and Cress are sown in boxes twice a week in heat. We have still two houses of Tomatoes well set with fruit that will give us ripe fruit till after Christmas. Things move more slowly now, and we have no desire to hurry them beyond getting a steady, regular supply. Planted more Cabbages and Brown Cos Lettuces on warm borders. Full-grown Lettuces and Endives are being protected in several ways—some are coming on in pits and frames, others which are full-grown are surrounded by dry leaves.

November 6th.—We have just finished planting late Tulips and Hyacinths in beds and borders. These usually make a very fine display in May, better and more lasting than the earlier kinds. Many Tulips have been planted thickly in rather shallow boxes and covered at present with long litter. One has only to lift up the litter to see that progress is being made, and by-and-by the boxes will be placed under glass, and later introduced to heat. They will come on under the stage in a warm house. This growth in a subdued light gives length of stem.

November 7th.—There is always work to be done among the herbaceous plants in the borders. Having a number of borders chiefly occupied with hardy plants, there are generally a few borders that want replanting with a view to re-arrangement every season. Most of the plants are lifted, the ground manured and trenched, and when time has been given for settlement the plants are placed in position, not often in the same way, but mistakes in planting are corrected and a better general effect is as far as possible secured. Top-dressed Cucumbers in bearing with warm soil. All water is now used at the same temperature as the house.

November 8th.—Re-arranged conservatory with a view to make the most of the Chrysanthemums. In addition there are groups of other things which act as foils to the great show of flowers. Very bright are the scarlet *Salvias* and Scarborough Lilies, and a small group of retarded *Lilium longiflorum* is blooming. Moved a lot of Roman Hyacinths

into gentle heat to open the flowers and give length to the spikes. A few plants of *Azaleas* have been moved into a house where a little more warmth may be secured. We shall want them at Christmas. *Arum Lilies* also are moving on.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

THE annual dinner of this society was held at the Holborn Restaurant on the 16th October, A. W. Sutton, Esq., F.L.S., of Reading, in the chair. We are pleased to see that this society is going forward by leaps and bounds, there being now 974 benefit members, the invested money being £20,000. We hope that the wish of the Committee may this year be fulfilled—viz., to have 1,000 members. We do not think any society worked on similar lines could show an investment of £20 per member. During illness, a member on the higher scale receives 18s. per week for six months, and half that sum for the remaining six months, while members on the lower scale receive 12s., and 6s. per week for the same periods. A yearly balance sheet is issued to each member, so that at the end of the financial year each knows exactly what stands to his credit, and in the event of death his nominee is paid that sum, while at the age of 70 he may, if he chooses, withdraw his balance in a lump sum, or draw on it as he thinks fit. Lapsed members at the age of 60 can obtain the balance standing to their credit when they became lapsed members. The Benevolent Fund is provided by the contributions of Life and Honorary members, and also a small annual sum paid by each Benefit member. Members having passed the age of 70 can participate in this fund, while any member in distressed circumstances, or widows of members who die in needy circumstances, are assisted from it. The Convalescent Fund, which we should like to see taken more advantage of, was started to assist members who after an illness are desirous of having a change of air. The Management Fund deals with the working expenses of the society. Towards this each member contributes annually 2s. 6d., the balance, when necessary, being made up from the interest of monies standing to the credit of lapsed members, and the proceeds from advertisements in the annual report. The secretary, Mr. W. Collins, 9, Martindale-road, Balham, will be pleased to answer any inquiries about the society.

LAW AND CUSTOM.

Cattle breaking through garden fence.—A hedge, which belongs to me, and which is a very bad one, divides my garden from a field occupied by a farmer. His cattle broke through my hedge and destroyed some 300 cabbages. When I asked the farmer to make me compensation, he told me I should keep my hedge in proper repair. Can I claim damages through the county court?—J. W.

[You can recover damages through the county court if you are under no obligation to maintain a fence against the stock in this field. It will be for the farmer to prove that you are under such an obligation. When a piece of land is sold off from a field for building purposes the purchaser usually covenants to maintain a fence between the piece purchased and the rest of the field. If your garden originally formed part of this field, the purchaser probably entered into such a covenant, and, if so, you cannot recover compensation.—K. C. T.]

BIRDS.

Parrot ailing (No Name).—This bird is suffering from a severe attack of indigestion, due, no doubt, to improper feeding; but no particulars are furnished as to general diet and mode of treatment. The only thing mentioned is white bread, which is certainly improper food. Very often this trouble is the result of absence of small stones in the gizzard, where they are necessary to enable that organ to properly triturate its contents. There should always be a supply of coarse sand in the cage, from which the bird may select enough small stones to keep its digestive organs in working order. The grit should be put in a food-tin and placed inside the cage. A theriac vomiting, or a solution of drinking water must be given, and a teaspoonful of liquid magnesia

to each ounce of water supplied three or four times a day. Feed on Maize (which should be boiled till soft, and then wiped dry). Canary-seed, Hemp, Millet, Oats, with occasionally a few Nuts and pieces of Apple. Never give animal food in any form. Keep the bird warm, maintaining a comfortable temperature around it night and day. This appears to be a bad case, and great care must be taken of the bird if its life is to be saved.—S. S. G.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in *GARDENING* free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF *GARDENING*, 17, Finsbury-street, Holborn, London, E.C. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as *GARDENING* has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruit for naming, these in many cases being warped and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Pot roots of Dahlias (R. H. Sneyd).—When the root has killed the tops, cut them off and stand the pots containing the tubers in the greenhouse, under the stage, till next March, when start them into growth in heat and put on, finally planting out at the end of May.

Greek Valerian (Polemonium) (M. Watson).—A small family of hardy herbaceous perennials, mostly from America. They are easily increased by division of the roots, and any garden soil will do them well. The best known is Jacob's Ladder (*Polemonium coeruleum*), which bears erect stems, 1½ feet in 3 feet high, and a showy terminal corymb or panicle of flowers.

Pressing Tuberous Begonias (Gladstone).—Lift the tubers in the autumn, and lay the tubers on a shelf in the dry for a couple of weeks or so, and when the growth falls away from them store them in a box in dry sand. You must keep them in a frost-proof place. Next March they may be potted singly into small pots, and planted out again about the end of May.

Marking a tennis lawn (Green).—The court should be 75 feet long and 27 feet wide for a single-handed game, and for a double-handed game, 78 feet long and 30 feet wide. It is divided across the middle of the length by a net, which is 3 feet 6 inches high at the posts, and about 3 feet in the middle. The service lines are 21 feet from the net and parallel with it.

Planting the English Iris (Constant Reader).—This bulbous iris is not a native plant, but comes from the Pyrenees. In cottage gardens it flowers annually in light soil, and in a sunny situation. You ought to plant at once, although we have been successful with it planted even so late as November. The English Iris flowers later than the Spanish and German Irises, and is at its best about the end of June and the early part of July.

Iris stylosa (Wadwin).—The correct answer depends on the size of the plants, which we imagine are not large. If this is so, let them alone by all means. In any case, if you wish to divide the plants, do not do it now—March is a far better month; indeed, we regard March and April as about the best time of the whole year. Loam, leaf-mould, peat, and old mortar in almost equal parts will suit quite well, and if the root-fibres are in a restricted area and against a wall, so much the better.

Ranunculus (J. Smith).—You ought to have allowed your Ranunculus to die down, and stored the tubers away until planting time came round. The only thing you can do is to leave them as they are, and when the foliage lies down to lift and store them. Some people plant in October, but, unless the soil and situation are favourable, you had better defer this until February, when select a rather warm, sunny place, if possible. The bed should be of good material, and, if the soil is heavy, plenty of sand should be added to assist a free drainage.

Rabbits in the garden (N. E.).—A good plan, which one of our readers found efficacious, was to put rat-traps tied to little stakes round the bed in which Carnations, etc., were growing. Rabbits object to the smell of tar, and tarred string can be had very cheaply. Failing this, the only thing you can do is to surround your garden with wire netting, burying one side about 1 inch in the soil, as, if this is not done, the rabbits will scratch under it and find their way through. In the case of the field rats, the only way is to trap or shoot them.

Iceland Poppies (W. Thompson).—The seedlings have been either cleared off by one of the many voracious caterpillars, or are drawn in by worms. We know of no instance, however, where all vanish in this way, and would suggest in future your experimenting with soot and lime mixed with the soil below the seedlings, and also a further patch dusted over the surface with soot. A capital plan, when only a few clumps are required, is to sow, say, half-a-dozen seeds in a 6-inch pot. Two dozen such pots may easily be dealt with, and if stood on a hard bottom-boards, some sowings or the like—worms are kept at bay. An additional advantage of this treatment is the non-crowding of the plants, and their ultimate development and better flowering more than you could expect.

dealing with the pots. In a few weeks the seedlings are strong enough for planting out bodily without disturbance of any kind.

Gladstone The Bride (M. Watson).—Those who have to keep up a supply of cut flowers should grow a quantity of this, as it is not only very useful for conservatory decoration, but will stand much forcing. In a light, sandy soil the bulbs may be left in the ground all the winter, covering up the young growth with litter, as, coming up early, it is liable to be injured by frost. These bulbs, left in the ground, will flower earlier than those that are lifted and stored. By planting at intervals from now up to Christmas you can prolong the flowering season of this useful plant.

Lilacs (H. L. F. H.).—You may certainly plant the Lilacs in the borders with every hope of success; indeed, there is no reason why the majority should not show a decided improvement. Deal with them at once. Take out a good hole for each potful, dig the soil deeply, say, 15 inches or 18 inches, work in some old manure low down, and some sharp sand if the soil is heavy. Then knock the plant out of its pot, and, after removing the drainage, plant bodily in the hole in such a way that the old ball will be covered to a depth of 3 inches. If you have any good soil, it will be an advantage to put some around the ball before filling in the ordinary soil. For *L. auratum*, no manure, or only very little, need be used, but a good dressing of sand is helpful. Select for this kind a place, if possible, where some shade will be given. If you can plant it among peat-torcing shrubs, or the like, so much the better.

Daisies in lawn (H. C.).—Where there are lawns in a lawn, mowing should be done every few days to destroy the flowers, and thus prevent their seedling. Your efforts must be directed to the pulling out of the Daisies, and taking care that any that may be left are prevented from flowering next summer. You may also help the grass to extend by now dressing your lawn with basic slag, 4 lb. to the rod, or making it into the roots with a rake. A dressing of sulphate of ammonia applied next April will be very beneficial. There is a lawn said to kill Daisies, but it only burns the leaves, and does not kill the roots. You can relay turf now; in fact, this can be done at any time now, when the weather is open and mild. Certainly you can dig up the lawn now and let it settle during the winter, breaking up the surface and making firm, then sowing Grass-seed (not that from a hay-loft) in April.

Fragrant Roses for greenhouse wall (Demetri).—Of the names you mention, *Boschica* would be the best for your low wall. It is a fine Rose in every way, and fragrant. Adam would be another good kind, and for a rich crimson, you could not do better than *Plant Liberty*. The other kinds named would not be at all suitable for this wall. If you desire greater variety, there are *teatote* Inconstance, which gives a lovely bud, *Mme. Abel Chatenay*, one of the sweetest and best of Roses, *Mme. Guerin*, somewhat dull in colour, but fragrant, and also its two sports, *Mrs. Pierpont Morgan* or *Mrs. Oliver Ames*. Another charming Rose is *Grand Duchesse Anastasia*, and the same may be said of *Souvenir de G. Herve*, *Victor Succed*, *good old pink*, *La France* and *Caroline Testout* should succeed well in the position. Two very fragrant old Roses now rarely met with are *Mme. de St. Joseph* and *Goulstair*, and both are very good growers, well fitted for such a wall.

FRUIT.

Pruning Red Currants (Red Currant).—Red and White Currants are liable to be stripped of their buds by birds, and, if such is the case in your garden, you had better defer pruning until January. Red and White Currants, grown as bushes on a short stem, should have the centre kept quite open, the main branch being about one foot apart. In order that the branches may be well furnished with fruiting spurs, the leading shoot on each should be shortened to about one-third its length, and, if there is room for another branch, reserve a well-placed shoot, which shorten to about one-third its length, and gradually build up a strong bush. All side shoots should be spurred back to about half-an-inch of the old wood, the fruit being generally borne in clusters round these spurs. Your wall trees should be pruned on similar lines.

Pear-trees not fruiting (Dunlop).—We have seen Jargonelle and Marie Louise Pear-trees that on a wall, just as yours are, have not fruited, although flowering regularly. Such have been induced to fruit freely by allowing strong shoots to break up from the upper horizontal branches at intervals of 18 inches apart, all shoots below being hard pinched or pruned back to three or four leaf buds early in August. These top, erect shoots, the first winter, have been cut back to one-third their length, and allowed the following year to carry one strong leading shoot only, that course of treatment being repeated the following years. Then these growths have carried the crops of fruit. They soon become stout, and need no supports. It brought on archer in the front they can be tied to stout sticks fixed to the trees, and thus form Pear arbours. The only other remedy is to severly prune the roots, a difficult job, and to hard prune all the shoots at the same time.

Plums not fruiting (Scott).—We can readily understand that a Green Gage Plum will not set bloom in your very high, cold northern elevation, but, if you plant, though on a wall, the tree needs to be covered with glass; but, as the variety does badly, and you would, perhaps, prefer a Plum, the best for your purpose would be a flat-framed Victoria. If you prefer an Apple, then plant *Lord Grosvenor*. With respect to your Victoria Plum-tree—probably a standard—you would do well to shorten the previous season's shoots, in the winter, to one-half their length, as the points do not ripen well. But should the branches, in consequence, throw out young shoots further back, those must lie, in August, cut back to three leaves to induce them to form fruiting spurs or buds. Under no circumstances should leaves be picked off, but shortening back these young back or side shoots will give the fruits ample light and air.

VEGETABLES.

Fungus in Potatoes (J. Mayne).—The Potatoes are attacked by a fungus, which is not in a condition in which it is possible to say to what kind it belongs. Still, if it may grow, and I may be able to tell you something

more about it if it does. It is often impossible to recognize fungi unless they are in what would be in flowering plants.—In fruit.

Green Tomato Cuts (Mrs. Willoughby L. Cotton).—Put a pint of vinegar in a boiling-pan with 1 lb. of Demerara sugar, and let this boil until the sugar is dissolved. Slice six or seven Tomatoes into thin slices, and use, with the same weight of Apples, peeled, core and cut into quarters, 1 oz. of bruised Ginger, six red and 1 lb. Shallots, 1 lb. Sultanas, allowing 1 lb. of Sugar and these spices for each pound of Apples and Tomatoes; salt to taste. Boil these well together, stirring all the time, until it is thick, like jam, and set firm when a little is dropped on to a plate. Pour into hot glass jars. Cover when cold, and store in a cool, dry place.

SHORT REPLIES.

P. B. S.—Your plant is *Cryptomeria elegans*. It will far better planted out in the open.—*Edwin*.—No, if you can make a border and plant the Vines into it, it will be far better in every way. We shall be pleased to help you if you decide to do so.—*Coz*, *Gladstone*.—You are entitled to all force, or, if you have plenty of litter, force where the crowns are. You will find in back numbers many articles dealing with the propagation of Seakale.—*G*.—We would find no insects in the box, with the exception of some small earth-worms, which will do no harm.—*A Constant Reader*.—The only thing we can suggest is that you keep the house too moist. Have you any fire ball?—*E. M. O.*—Box to hand, but there was no insect.—*G. W.*—No enclosure. Letter was found open by *Ed. W. William Foster*.—You ought to get the "Key List of Trees and Shrubs," in which the latest nomenclature is given. *The Garden* is now published at 23, Tavistock street, London, W.C.—*Urbidie*.—Yes, the sooner they are planted the better now, as they will be established before the severe weather is on us.—*Mrs. L. W. Taylor*.—You will find an article dealing with "Water Gardening" in our issue of Aug. 9, 1901, p. 201. This can be had at the publisher's post free, for 1s. 6d.—*P. W. B. A.*.—The best plan will be to consult a local gardener, who can see the ground of which you speak.—*Emmeline*.—It would be up too much of our space to answer your question fully. The best thing you can do will be to purchase some of "Vines and Vase Culture," price 5s. 6d., post free, from A. E. Barron, 11, Sutton-court-road, Chiswick, London, W.—*J. S.*—Your query is very indefinite. You ought to have favored your Carnations in August, and the boys would now be ready to go into fresh quarters to those next year.—*W. O. Minter*.—A very suitable plan for such a position would be a tetra-tropie or an ivy-leaved Geranium. You will find the latter by *Bella* advertised in our pages.—*M. A. Tower*.—Your various queries were answered fully in the article to which you refer. Any nurserymen could get you the bulbs. See our recent queries.—*Russ*.—See reply to "Aun," in "Dear reader." In our issue of Oct. 11.—*Sandy*.—The only way you can do is to trench the ground to get rid of the soil, in the same time adding a good quantity of heavy manure to the work processes, as also the cow-manure which you have.—*W. Chalmer*.—Not a gardening question.—*Teatote*.—1. You will find an article dealing with the potting of bulbs in this week's issue, p. 464. 2. You will sow the seed at once, as in this way it will germinate far better than if put away. 3. You will find an article with illustrations of Tritomas in our issue of Oct. 4, p. 4. You cannot do better than plant *T. Uria*.—*Constant Reader*.—Not a gardening question. You ought to consult a solicitor.—*Constant Reader*.—Kindly see what Statice you refer to.—*W. O. Minter*.—Yes, the *Crataegus Pyracantha* would answer very well in such a position.

NAMES OF PLANTS AND FRUITS.

Names of plants.—W. Teubert.—We cannot undertake to name florists' flowers.—*L. B. Robinson*.—1. Spindle-tree (*Eunonymus europaeus*); 2. *Cotoneaster frigidus*;—*W. J. T.*—Common Mellot (*Melilotus officinalis*);—*D. C. R.*—1, 2, 3. Forms of Aster Novi-Belgii; *Aster cordifolius* elegans; 5. Aster Novi-Belgii Robert Parker; 6. Aster diffusus horizontalis;—*P. J. C.*—1. *manibus pubescens*.—No name.—1. *Chrysanthemum maximum*; 2. *Pyrethrum uliginosum*; 3 and 4. *Aster Novi-Belgii* vars.; 4. *Aster Novi-Belgii* semi-plena; 5. *Aster Novi-Belgii* W. Bowman;—*T. N.*—*Polygonum sp.*—*Miss G. H. Kingston*.—1. *Aster cordifolius*; 2. *Helianthus rigidus* Miss Mellett; 3. *Aster cordifolius*;—*C. A. W. Catrill*.—Bougainvillea glabra;—*B. J.*—1 and 3. *Adiantum cuneatum*; 2. *Selaginella Martiana*; 4. *Adiantum cuneatum* grandiceps. It is unfair to send me small scraps.—*J. Giffie*.—1. *Cryptomeria japonica*. Please send a coming branch; 3. *Larix* sp.; 4. *Betula* sp.—*W. R.*—*Berberis Aquifolium*.—*St. John's Wort*.—*Modern Rugeriana*.—*M. C. H. B.*—*Nelusa ampullifolia*.—*G. H.*—1. *Baphoelepis indica*; 2. *Phibedactrum*; 3. *Selaginella Kraussiana*; 4. *Selaginella cuneata*; 5. *Polystichum angulare*.—*H. M.*—Rose falls to pieces.

Names of fruits.—Mrs. Tidwell.—1. Apple;—*Scott*.—2. Pear Fondante d'Autonne.—*S. C.*—1. King of the Pippins; 2 and 4. Cox's Orange Pippin; 3. Pears Pippin.—*Sunset*.—Quite impossible to name the berries on receipt being quite smashed up owing to bad packing.—*A. A. Lucas*.—Specimens insufficient.—*Mrs. Campbell*.—1. Apple Ecklinville Seedling; 2. Probable old head.—*G. Gutsell*.—Pear Beurre Hardy.—*Mary P. Merris*.—Quite impossible to name from such specimens. See reply to "Aun," in our issue of Oct. 11, p. 4. 1. Pears cracking;—*Ross*.—Pear Beurre Capaigne; 2. October and early November Pear.—*Alice*.—1. Yorkshire Greening; 2. Pear not recognized.—*E. Coz*.—Pears: 1. Small, Fondante d'Autonne; 2. Large Duchesse d'Angoulême; 3. Apple; 4. Scarlet Nonpareil; 5. Biscuit; 6. Biscuit; 7. Biscuit; 8. King of the Pippins; 9. Cox's Orange Pippin; 10. King of the Pippins; 11. *M. M. Merris*; 12. *Verdun*;—1. *Selwood Reinette*; 2. Queen Caroline; 3. Bismarck; 4. Duchesse of Oldenburg; a very late fruit.

Catalogues received.—Pennick and Co., Delant Nurseries, Wicklow.—*List of Shrubs and Forest Trees*—Blackmore and Langdon, Tiverton Hill Nursery, Bath.—*List of Carnations, Potatoes, etc.*—*Jas. Backhouse and Sons, York*.—*List of Roses, and List of Conifers*.—*P. C. Heinemann, Erfurt*.—*List of Sweeties for 1902*.

GARDENING ILLUSTRATED.

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PLANTS AND FLOWERS.

INDOOR PLANTS.

BOUVARDIAS.

In the greenhouse the different varieties are valuable, and where there is a demand for the choicer class of flowers for button-holes, wreaths, and similar purposes, Bouvardias are extremely useful. Blooms of them are had to a limited extent almost throughout the year, but their regular season of flowering is in the autumn and winter, when, indeed, they are more appreciated than at other time. For winter flowering the plants are usually struck early in the spring, cut off as soon as rooted, and grown on during the summer months. Different methods followed by cultivators, for by some the plants are kept altogether in pots, and by others they are planted out in a frame (under which conditions they will grow with great freedom) and carefully lifted and potted in the autumn. In this last is carried out, the plants should be kept close and shaded from very bright sunshine till they have recovered from check of removal. The nurserymen that sell Bouvardias in large quantities, as a rule, keep them altogether in pots, for neat flowering specimens may be had in pots 5 inches in diameter; whereas, if planted out they would give so great a check to get them into pots of that size that the plants would suffer greatly, and large pots are, as a rule, not appreciated buyers. Large specimens for conservatory decoration where pot-room is no object can be grown well on the planting-out system, and so those needed for the supply of cut blooms. In this last purpose if the old plants are in spring, when all danger from frosts is past, planted out in a warm prepared border, they can in an ordinary summer be depended on to give a good sprinkling of flowers, which are very useful, for even with the wealth of bloom at that season. Bouvardia flowers are to be appreciated. With the advent of the first double-flowered variety, Alfred Neuner, this section of Bouvardias was thought to have a very great future before it; but Alfred Neuner still remains the only one of its class grown in any quantity, for the one that made its appearance—the pink-flowered President Garfield—was not sufficiently decided in tint to make much headway; while the bright-coloured forms with double flowers—Hogarth fl. pleno, Sang Lorraine, Victor Lemoine, Triomphe de Nancy, and the double-flowered fl. pleno—have never been grown to any great extent. Of single kinds the white blossoms, Humboldtii corymbiflora, somewhat upright, vigorous-growing form, with long-tubed, Jasmine-like blossoms that are deliciously scented, is good, the only drawback being that the tube of the flower is weak, and from its length liable to be broken. The variety Purity is of dwarf habit and with a shorter tube to the flower than the preceding. The white are Bridal Wreath and Veilandi, both of which are, however, liable to become

tinged with pink. Of bright-coloured blossoms far and away the best is President Cleveland, but other good ones are elegans and Dazzler. The salmon-pink sport from President Cleveland—Mrs. Green—is, except in colour, the counterpart of its parent; while Priory Beauty and rosea multiflora are also good pink-flowered kinds. The sulphur-tinted flavescens adds variety, while two species, triphylla and loiantha, are both pretty bright-flowered kinds.

NOTES AND REPLIES.

The Stag's-horn Fern.—I have a Stag's-horn Fern in a 48-pot which has grown well in a cool greenhouse, and has perhaps a dozen leaves or fronds. Do you think it requires repotting? And, if so, is the right time to do so, and what would be the most suitable soil and pot to put it in? There is a brown shield covering the whole of the pot. I tried (unsuccessfully) to turn it out of pot, but could not move it.—F. HERVEY.

[The ordinary Stag's-horn Fern (*Platycaerium nleicoorne*) is the only species of this family that will thrive well under cool treatment. It may be grown on a block of wood without the aid of any soil, the spreading shell-like basal fronds as they decay providing the material for the roots to spread into. It is, however, advisable to give them a little extra assistance. When grown in pockets formed of virgin cork, fibrous peat and Sphagnum Moss are the best materials, or if fixed on a block of peat the roots will spread through and form young plants on the opposite side, and eventually cover the whole surface of the peat. After being well established a little fresh material may be pressed in behind the fronds from time to time. The roots will soon take hold of the new Sphagnum. This Fern should be more extensively cultivated, for there are few that will succeed so well in a dry atmosphere. It may also be kept fairly dry at the roots. Over-watering will do more harm than being kept on the dry side. In an ordinary conservatory it will require very little water indeed during the winter. It may be grown fully exposed to the sun, but a slight shade during very bright weather may be recommended, as the fronds will keep a deeper green.]

May flowers in conservatory.—I have an unheated conservatory facing south, and am anxious to have a good display of flowers in next May. I should be much obliged if you would give me a list of things that, if potted now, would make the greenhouse bright at that time?—BELLE ISLE.

[It is unfortunate for you that in May you will miss all the best of the Narcissus family, which are admirably adapted for pots and the embellishment of the conservatory. You may, however, try such late-flowering kinds as Grandee, poetiens recurvus, and Queen of Spain. If you can pot them and place outdoors under a north wall, so much the better. Of Hyacinths you have a better choice, and may select any colour you prefer. The Mny-flowering Tulips will suit you exactly, also the Parrot kinds, keeping all of them outside as suggested above. The Spanish Irises should be potted at once and placed in frame about the end of the year, and, in like manner, the beautiful Azalea mollis, which, if similarly treated and housed in January should come in well. Such Anemone as fullens, and the beautiful forms

of Anemone hortonsis are also good. Other useful plants are *Dielytra spectabilis*, Solomon's Seal, and *Anemone sylvestris*, *Fritillaria Meleagris*, *Muscari conicum*, and any of the beautiful varieties of *Primula Sieboldi* are well adapted to the purpose, and are quite hardy. With a little care Lilacs could be added, while such hardy herbaceous plants as *Doronicum* and the early-flowering *Columbines* may all contribute to a good display at the time stated. The whole of the bulbous plants will be quite safe plunged in ashes till required. Apart from the plants named, some of the early Flag Irises would also be most useful if grown in pots.]

Fast-growing climbers for unheated greenhouse.—There are several good things for this purpose, the best being *Passion-flowers* (blue and white), *Plumbago capensis*, *Habrothamnus elegans*, and scarlet Trumpet Honeysuckle (*Lonicera sempervirens*). Of Roses, good whites are Climbing Niphetos and Lamarque, and yellow, *Celine Forestier*, *Bouquet d'Or*, *William Allen Richardson*, or *Gloire de Dijon*. A suitable compost for the tubs in which you propose to plant some of the above would be fibrous loam, 3 parts, well-rotted manure 1 part, with a dash of silver-sand. See that the tubs have three or four large holes in the bottom, and there should be 2 inches or 3 inches of crocks. The turfy pieces of loam which usually abound in good compost should be placed immediately upon crocks. Stand the tubs on bricks, so that water can pass away and air enter the soil. You can plant any of the above at once, and we should advise you to procure pot-grown plants in all cases.

Lapagerias.—"Nice things, but they want a deal of heat," was the verdict of a man who had been shown cut blooms of *Lapageria rosea* and *L. alba*. They do not need a deal of heat, and, what is more, the blooms in question were cut from a covered-in portico between a greenhouse andinery (beated by a couple of 4-inch pipes), having a door out of it to the garden. The mistake that *Lapagerias* want a lot of coddling is only too common, and several people I know labour under the belief that their houses are unsuited to them, because they have only heat necessary for the general stock of greenhouse plants. It is worth remembering that in early autumn when plants are abundant heat is seldom needed. Plant them in loam and peat, be sure the drainage is perfect and the roots have plenty of room, and success will follow.—W. F.

A note on Primulas.—A removal from cold-frame to greenhouse of these useful winter-flowering plants is now needful. A shelf near the glass, where they will not be dried up or too much influenced by ventilators, is the best place for them, and, now that blooms are not far distant, one may give stimulants like cow-manure or weak guano-water several times a week with advantage. Do not, for the sake of getting extra plants in the house, cram them together, as this will result in the foliage being crushed. Neither is it needful or wise to apply too much heat, or to give too much light, and not over-much moisture must be studied.

ROSES.

ROSE CRIMSON RAMBLER.

THE more naturally this Rose is allowed to grow the better will it flower, as may be seen by our illustration. Where the plants have attained a fairly large size some of the growths more than two years old should be cut out about February and March. Those that are hard and well ripened should be allowed to remain, while any that are soft and pithy should be cut clean out. Upon the two-year-old wood will be a number of laterals from 4 inches to 15 inches in length. If these are very numerous some may be entirely removed, leaving the others from 3 inches to 12 inches in length, according to their strength. We saw lately some fine plants of Crimson Rambler in the open garden, where this Rose is most effective and thrives best. Standards of this Rose make a glorious show when in bloom, as the growths bend over naturally umbrella fashion. The three newest Ramblers—Aglaja, Euphrosyne, and Thalia—do not at first flower so freely as the Crimson Rambler. Leave these unpruned for two or three years and they will flower as freely as one could wish, if the same treatment meted out to Crimson Rambler is given.

Mrs. Erskine, Broomley, Montrose, N.B., says:—"This photograph I send you I fancy might be considered suitable for your pages, as it shows what fine growth the Crimson Rambler will make in these parts. It was planted in the spring of 1900 over the back of my gardener's lodge, the situation facing east."

PERGOLA FOR ROSES.

Will you please advise me how to proceed in the above, and as to construction? I wish to make a pergola from my upper (croquet) lawn to tennis-court. The distance is about 18 feet, on a slight slope. The width I could arrange from 3 feet 6 inches to 4 feet 6 inches. In this district fir props (sained pine wood) are largely imported for coillery use. The lengths vary from 7 feet to 8 feet and 11 feet to 12 feet, and of varying diameter. My idea is to put in five props on each side, 9 feet high, 5 inches to 6 inches at the larger end, tapering about 1 inch to the top, 2 feet in the ground, at about 4 feet 6 inches apart; then run split props along the top on either side, and over the walk from prop to prop crossways, to give rigidity and support. Now as to the Roses. There would be ten props. Should I plant a climbing Rose to each, or how many? The situation is rather exposed to heavy winds from the sea side. Roses do very well with me if they have moderate shelter. I should like a series of climbing Roses to last well through summer. The south-west side of the pergola will be the more exposed to the winds, and the more delicate plants might go on the sheltered side. I want W. A. Richardson, Crimson Rambler, and Aimée Vibert, all of which do well here; but Gloire de Dijon does not perfect its blooms. Are Aglaja and Thalia quite hardy? I see Euphrosyne well spoken of.—MONROSE, N.B.



Rose Crimson Rambler in the garden at Broomley, Montrose, N.B. From a photograph sent by Mrs. C. Kennedy Erskine.

[The details of construction are quite simple. The Fir poles you speak of will do quite well. We would suggest the stouter poles for the uprights. Do not bark them, save that part buried in the earth, and this so that it may be tinned or well dressed with Stockholm tar, say, two coats. On the top of uprights you will need fix a length of similar material lengthwise on each side to carry the cross bearers, and it may also be prudent to fix these to the uprights with hoop iron to keep them in position. In cutting the cross pieces for the top, let them extend at least 1 foot on either side beyond the actual ground width. This will give an importance to the whole, and at the same time dispense with anything of the straight line pattern. You will, of course, fix the top bearer pieces in position. If the sides can be enclosed, fix some of the small Larch tops crosswise or in diagonal form, allowing the mesh at least a clear 12 inches at the points. So placed, the Roses may be trained thereto, and so given that greater freedom so essential for the well ripening of the shoots. This is not usually done in the pergola, but in your case, and with only medium-sized uprights, there would be necessity be much bunching together of the main branches which is an objection.

Where larger and brick pillars are used for uprights, there is room for a free opening of the shoots in carrying them up. Let there be some sort of proportion between the main poles or uprights and the top cross bearers, as it is not easy to replace those when decay sets in. The cross bearers should be about 2 feet apart, and may be intersected by smaller ones longitudinally, if you think fit. Endeavour to obtain all the width you can, as a narrow pergola is not prepossessing. By adopting the trellis-like sides you will not only be better able to train the Roses, but you can have a greater variety also. Plant strong climbers at the poles, and medium ones on the trellis. The following are useful sorts and strong growers: Mme. Berard, in lieu of Gloire de Dijon, of which you speak; Cheshunt Hybrid, early; Longworth Rambler, crimson, good late kind; Frances Bloxam, salmon-pink, very free; Crimson Rambler; W. A. Richardson; Aimée Vibert; Alister Stella Grey; L'Idéal; Gustave Rejis; Aglaja, very free and vigorous, and fine foliage; Thalia, quite hardy and vigorous. The following will be best for the trellis portion: Mme. Jules Grolez; Mrs. W. J. Grant, climbing var.; Souv. de Mme. E. Verdier;

yield better blossoms in autumn from the Brier stock.]

Climbing Roses for enol greenhouse and south side of a house.—I should be very much obliged if you could recommend me some good climbing Roses for above purposes. The greenhouse is 50 feet by 10 feet, lean-to, and faces south-west. I want to grow five different Roses (Teas or H.T.) on the roof, so as to have variety; so they must not be too strong-growing, as the space will be limited. I should like red, pink, and yellow. Would L'Idéal do in such a place? Is Pink Rover too free-growing for a confined place? How far from the glass should the wires they are trained on be? I also want some free-growing hardy Roses for the south side of the house—six strong and six moderate growers in red, pink, and yellow (not Asyrhires)? Also, what Roses could you recommend to make good high bushes if grown in pots in a cool greenhouse? Could one get half-standard Roses to make handsome plants, such as would stand the ground (in pots) to hide staging?—BROOMLEY, N.B.

[As you do not desire the kinds to be too vigorous, you will find the following selection a good one:—Pink: Climbing Mrs. W. J. Grant, Mme. Abel Chatenay. Yellow: Billiard var. Barré, Bouquet d'Or. Red: L'Idéal or Mme. Desir. Mme. Abel Chatenay would take a little longer to cover the roof, but it is a hardy Rose for the purpose. L'Idéal would be a very good one for a reddish yellow, and its buds are beautiful. The wires are usually placed about

Viscountess Folkestone; Namie, rosy-carmine and yellow base, perfect form; Mme. Abel Chatenay; K'Barney; Lady Battersea; L'Innocence. In these two sets you have some of the best kinds for the purpose you have in view.]

NOTES AND REPLIES.

Rose Mme. Eugénie BULLET.—The colour of this fine Hybrid Tea is still not to describe. Catalogues give it as bright yellow, shaded rose and carmine. This, I think, gives a wrong impression, although there is undoubtedly yellow in the flowers. Yellowish-salmon seems to me more the tint. Anyhow, it is very charming, and one that should be in every collection. The flowers are borne erect, which is a valuable trait of the popular Hybrid Teas.—ROSA.

Roses for exhibition.—Would you name twelve Roses suitable for exhibition? The plot of ground I propose planting them on faces east, but gets the sun till 12 o'clock. I should like those that are free-flowering and autumn bloomers. Expense is a consideration.—GARDENER.

[The following dozen would, we think, meet your requirements: Caroline Testout, Charles Lefebvre, Comte Raimbaud, Frau Karl Duschki, La France, Marie Baumann, Mrs. John Laing, Mrs. Sharman Crawford, Marquis Litta, Mrs. W. J. Grant, Pride of Waltham, and White Lady. Procure them on the seedling or cutting Brier, or they

1 foot from the glass. If possible, we should advise you to prepare a good border in which to plant the Roses, and also obtain well-ripened pot-grown plants to plant out for the purpose. Those known as extra sized would be best. Should there be a bench around the side of your greenhouse you could train on to the roof kinds even less vigorous, such as "Perle de Jardins (yellow), "Liberty (crimson), and "Bridesmaid (pink). These, of course, would need to be grown in large pots. We strongly recommend such Roses for small houses, as they never fail to give a quantity of buds and beautiful blossoms. Pink Rover is scarcely a suitable pink Rose for indoors, although a beautiful kind for an outside pillar or wall. Six strong climbers for a south wall are:—Red: Waltham Climber No. 1, Cheshunt Hybrid. Pink: Mme. Marie L'vallee, Climbing Captain Christy. Yellow: Mme. Berard, Céline Forestier. Six moderate growers for same wall are:—Red: Gloire de Margot, "Grass an Teplitz. Pink: "Mme. Abel Chatenay, Mme. Wagram. Yellow: "Marie Vaux Houtte, Soleil d'Or. These kinds marked with an asterisk would make good high bushes for your greenhouse, adding The Bride and Caroline Testout. Half-standards of good free

inds would grow well in pots, and they are very beautiful when in full bloom. Any of the kinds named above would be suitable for those. The strongest growers develop beautiful semi-erecting heads.]

OUTDOOR PLANTS.

THE TREE-PÆONY.

The Tree-Pæony must have an open spot away from the shade or shelter of trees; but, if possible, it should be sheltered from north and east winds, which, as a rule, prevail in spring, about the time when the plant is pushing out new growths. If should be the aim of the cultivator to retard the growth as much as he can, and, if the locality is naturally warm, the Tree-Pæony will require particular attention, otherwise a sharp frost in April will destroy the growth and bloom. It is a common practice in many places, and a very good one, to protect the plants by a movable glass case, or by sitting up around them a temporary framework, which are placed muslin, paper, or other thin protecting material during the most delicate time—that is, from the time when the young shoots begin to lengthen till all fear of frost is over. If a plant is taken by frost, without protection, then the best thing to do is to screen it at once in the morning sun, so that it may thaw gradually. In some districts no protection is necessary, and this is the case especially in upland gardens, which are colder than those in valleys, and, therefore, the vegetation does not start so early. Scarcely any amount of snow during the dead of winter will hurt this Pæony. Some people plant on the north side of hills, so as to retard growth, in such situations have a retarding effect, inasmuch as the young wood does not grow through want of sufficient sunshine. Pæonies look best when isolated on a lawn, not near a shrubbery or a group of some sort, but so placed that they appear to be in some connection with one or the other, as the case may be. Being deciduous, a spot should be chosen for them where they would be backed up by evergreens for the sake of the winter effect. The Tree-Pæony should be

FORCED INTO BLOOM in early spring with very little trouble, in order to get fine blooms. Forcing must be gentle. The plants set aside for forcing should be strong and well rooted, and the shoots should be well ripened. They will, of course, be in pots and in cold frames. About the latter part of January or the beginning of February a few plants should be taken to a house slightly heated; for a week or they will require no attention, as the buds will be dormant; but as soon as the latter begin to show signs of swelling care must be taken that the plants do not suffer from drought. At this stage they may be taken to a house where the mean temperature ranges from 50 degs. to 55 degs., and in this atmosphere the buds will swell quickly and the shoots lengthen, till about the end of February or early in March they will be showing bloom. During this slight forcing period the plants should be watered daily if the atmosphere feels dry; but when in bloom a dry atmosphere is best in order to preserve the flowering period as long as possible, which, in a cool conservatory, will extend over twelve weeks when well managed. They make noble vase ornaments for rooms, as a fair-sized plant will carry from six to a dozen

blooms and buds. All the sorts may be forced equally well; but those which have the brightest or the most delicate colours are the best. Such sorts as Reine Elizabeth, Mme. de Vatry, Mme. Laffay, Lactea, Louise Moncharlet, and Lord Macartney are particularly suited for forcing.

THE BEST SOIL for Tree-Pæonies is a deep loam, enriched by manure. It is most important to plant well at the outset, for no plant resents root interference when once established so much as the Tree-Pæony, and that is why it is so difficult to transplant it without ill effects. When planting, a hole should be dug 4 feet wide and a yard in depth, removing all the soil if not of good loam. Put a good layer of rubble at the bottom for drainage, and then, with a layer of turfy sods on the top of this, put in the

because they do not throw up suckers in the way in which the common *P. officinalis* and others do. The grafting should be done any time between August and the middle of March, but French propagators prefer to do it between the second week of July and the second week of August, in order that the union may take place before winter sets in. An expert propagator thus describes the operation: Select (he says) some good tubers of some herbaceous Pæony, then slit each tuber from the crown downward, about 2 inches. Cut the scion in the shape of a wedge and insert it in the slit made in the tuber, taking care that the bark of both the tuber and scion fits exactly; then bind with bast and wax in the usual way. Put the grafted tubers in deep pots, cover with soil to the top of each tuber, and place the



Tree-Pæony Mme. Stuart Low. From a photograph sent by Mr. R. G. Pringle, Charleton Gardens, Colingburgh, Fife.

soil; after a week's interval, so as to allow the latter to settle, plant your Pæony. The best, and, in fact, the only time for planting is autumn, during September or October. Nursery plants are always kept in pots, and at planting time the roots should be disentangled and spread out. Being of slow growth, Tree-Pæonies require no pruning, except removing dead shoots. They seem to flourish in any fairly good soil. In several localities the largest and handsomest trees grow on sloping banks of light and deep soil, well exposed to the sun and protected from fierce winds.

PROPAGATION.—The usual and best mode of increasing Tree-Pæonies is by grafting them on the fleshy roots of the herbaceous kinds, but they may be also raised from seed or multiplied by division of the root, by layers, by cuttings, and by budding. In grafting scions on roots, *P. officinalis* and hybrids from it are preferred,

pots in a frame, which must be kept close and rather dry. If the operation is done in July or August the scion will be united by September; by October the stock will have developed roots, so that in this way the plants are able to withstand the winter well in a cold-frame. After they have made one season's growth under frame treatment they should be planted out and treated as established plants. Layering is another simple way of propagating Moutans. If the previous year's shoots are tongued and pegged down in the autumn they will throw out roots the first year from each bud, and during the second year after layering may be safely removed from the stool. Propagation by budding and cuttings is also carried out, but it is found that plants raised from cuttings remain in a weak state for several years. Dividing the roots for increase of stock may be done any time during autumn, care being

taken that each division carries a few fibrous roots. Seedling raising is not much practised in this country, because it is seldom that seeds are thoroughly ripened.

CROWN ANEMONES IN SCOTLAND.

At this season, when flowers are becoming scarce, I do not think people sufficiently appreciate this lovely plant. At present I have some plants, sown in the beginning of April, just begun to bloom and covered with buds. Another lot that commenced to flower in March, and has gone on ever since, is still flowering from the roots that died down early and have sprung up again. The blooms on it were splendid, 3 inches and 4 inches across and many more, with stems 2 feet high, in every variety of colour and blending of colours, doubles, large singles, fringed, etc. I have at present beds in all stages—seedlings which will bloom very early, and some later on. They are so easy to grow, and need no care or attention, save, of course, to remove

At any rate, bulbs left for a few years without being lifted are often without flowers, proving that an annual lifting and replanting in autumn are beneficial. I know that many theories are advanced every year as to the cause of Daffodils failing to bloom, but from my own experience I have to acknowledge that my worst failures have been from bulbs left too long in the ground, and which have become thickly matted together.—W. F. D.

NOTES AND REPLIES.

Panacratium maritimum.—Would you kindly let me know what is the correct treatment for *Panacratium maritimum*? I have had it some years in my garden in a warm place, where *Belladonna* Lilies do well, and although it has increased tremendously, it never flowers. Originally, for the first year, it was in a greenhouse, and the second year it was planted out.—WALSH.

[To be successful in flowering this plant, which, by the way, is not characterised for freedom of blooming, a definite season of rest, wherein all moisture should be rigorously excluded, is necessary. Grown in quite a warm

the same. I am giving the bed a good dressing of peat. The bank, which faces east, gets a good deal of the afternoon sun, and is occasionally rather dry. Could you tell me the best sorts of Lilies to plant? I do not want expensive kinds.—C. M. W.

[The following are all good kinds: *L. candidum*, *L. umbellatum*, any of the forms of *L. Thunbergianum*, all of which are dwarf—i.e., 12 to 15 inches or so, *L. pomponium verum*, *L. tigrinum* and its variety *Fertense* and *F. E. pl.*, *L. auratum*, *L. speciosum* and its varieties *roseum*, *rubrum*, and *album*; *L. croceum*, *L. testaceum*, and *L. Martagon* are all good, easily grown, and inexpensive sorts. Plant all the kinds about 6 inches deep, save *L. candidum*, which may be just half the depth. This last may be put in at once; the remainder may be planted at any convenient time for some weeks to come.]

Artificial manures.—I should be glad of information respecting the usefulness of artificial manures for a flower garden? Also, what kinds are best to use in a garden which is not heavy, and how and in what proportions should they be applied? Do you advise artificial manures for Rose-beds?—S. C. R.

[Whilst it is an undoubted fact that no artificial manures can adequately supply to plants all the food that animal manure furnish, yet they are useful substitutes, and where animal manures cannot be obtained, then of necessity they must be utilised. All manures must contain the three primary plant food elements—phosphate, potash, and nitrogen—and generally, in artificial manures, these are best found in bone-flour (superphosphate, Kainit (potash), and nitrate of soda or sulphate of ammonia (nitrogen). It is best to purchase these separately from a manure merchant, to mix the two former in equal quantities, well breaking them up fine on a hard floor, and then to apply them early in the winter to soil, at the rate of 6 lb. per rod, digging them well in. Apply the nitrate at the rate of 3 lb. per rod in the spring after growth has begun, hoing it in. This should make a good dressing for Roses, but these latter generally need a mulch of animal manure in the summer.]

Clematis Jackmani.—I have a *Clematis Jackmani* on a wall about 10 feet high, which is well furnished with top about 4 feet from the ground. Please state what the cause, and how I will get it to furnish at the bottom.—R. H.

[*C. Jackmani* flowers on the young or summer shoots. The aim, therefore, in pruning should be to develop vigorous young wood, which is done by cutting the summer growth back each season as soon as the frosts have disfigured the plants, say in November, to within about 6 inches of the soil. You ought to then mulch the surface with some rotten manure.]

Rudbeckia Sunset.—This—one of the annual *Rudbeckias*—has done remarkably well with me this season and is now in full bloom. As advertised, it should not have exceeded 36 inches in height, but it is nearly 3 feet. This I do not mind, as the plants occupy a space about 3 feet from the front of a wide herbaceous border and make a fine display. The plants are not at all weedy looking, but are, on the contrary, bushy, very robust, and full of bloom. The blooms are as large as those of *R. speciosa* (Newman), and instead of the rays or barbs being a fine golden-yellow, they have a rich brown band or stripe down the centre of each, which renders them very effective when the sun shines upon them. It is deserving of a position either in the herbaceous or mixed border, and another strong recommendation, from an amateur's point of view, is that it may be sown where it is to bloom about the middle of April, to be afterwards thinned out to form three or five plants in a group, leaving ample space between each for full development. During dry weather water should be supplied to the roots, and they also appreciate an application of weak liquid-manure now and again.—A. W.

Gaura Lindheimeri.—This has this season again proved one of the best subjects we have, forming good bold groups, about 3 feet from the margin of herbaceous borders. The flowers cannot be described as pure white, as they have just a suspicion of a pink shade on the petals; but this, instead of detracting from their appearance, rather enhances it. The plants, when in full flower, attain a height of rather more than a yard, and once they commence to bloom the flowers succeed each other in quick succession. I have been a great admirer of this plant since it was introduced, and raised



Tree-Pruney in a Hampshire garden. (See page 473.)

weeds. I have any place where I wish to grow them richly manured, not too deep, as they do not root very deeply. The bed is allowed to lie till any heat has gone out of the manure. The seed is sown in rows, which I find a better plan than broadcast. It is rubbed in dry soil to separate the seeds, which stick very much together, and sown on the top and a little soil sprinkled over it. I always water the bed first, and after sowing and putting soil on, press down seeds and soil with a spade. If dry give a watering in the evenings. The seedlings soon start, and after the third leaf growth much more quickly than at first. When the plants are fully grown, and just before they begin to bloom, I have well-decayed manure put between the rows, which protects them in winter. My old beds also when the foliage dies down get a little fresh soil on the top and a good dressing of old manure. E. Roxburgh, N.B.

Planting Daffodils.—"Daffodils planted close together never flower freely." I was once told, and there is a deal of truth in it.

place, and preferably at the foot of a sunny wall, the plant should do well. With growth completed, place a light over it in such a way that the rainfall does not reach the bulbs or roots, and so keep it for a period of three months at least. We get a wholesome lesson in growing this species some years ago, the ends of several rows getting what they appeared to relish—by the proximity of the hot-water pipes. The bulbs were planted in frames in rows, and each end was so superior that the thing could not be overlooked. Dryness for a long period, when heat was turned on the plants not only produced good foliage, but good spikes of bloom also, while those farther removed were of the usual pattern. Grown in pots, the plants should receive special attention in these particulars of heat and dryness, and, by keeping the bulbs near the surface, insure a fuller, or, at least, an earlier ripening. When potting or planting, plenty of sand or grit should be used, and fresh sea-sand, or such as may have been weathered somewhat, may be employed.]

Lilies for planting amongst flowering shrubs.—I am planting a bank with *Azalea* and other flowering shrubs, and I want to grow a few Lilies between

a good number from seed each year. This is, I believe, the best way to grow it, for although classed as a perennial, it is too tender to withstand the damp and cold of our winters. Mid-March is a good time to sow the seed, and the resulting plants may be treated in precisely the same manner as Asters, transferring them to the open border about the middle of May. The plants will withstand a considerable amount of drought without being apparently distressed, but when afforded water whenever occasion arises, and treated to a mild dose of liquid-manure now and again, they branch much more freely, and produce finer spikes of flower. I have also used this *Gaura* in front of shrub beds, the flowers then showing to excellent effect among the dark foliage of Rhododendrons and the like. Finally, the plant is not at all fastidious as to soil, as I have had it succeed well in heavy clayey loam.—A. W.

Seasonable notes.—This is a time when gardens, walks, etc., no matter how well they

scattering a handful or two of dry sand over and among the tubers. Dahlia roots will take no harm, and, in fact, are better left until November has set in. The foliage, if previously destroyed by frost, can be cut off, leaving about 6 inches of stem. Cuttings in cold frames should be kept well aired to prevent damping, which not infrequently destroys a whole batch of stuff if not checked in time. By well airing is not meant that the lights have to be very wide open—a space of 2 inches is ample.—D. G. McL.

Humea elegans.—On sheltered borders *Humea elegans*, with its imposing racemes, is very effective, but often it gets knocked about by rough winds and rains. Grown in a cool house in pots, this difficulty is got over, and one can prepare for next summer by sowing in the greenhouse now in well drained pans filled with loam two parts, leaf-mould and sand one part, making the surface even, scattering the seed thinly, and watering it in with a fine-rosed

tuberous-rooted Begonias. The three successive displays are most satisfactory, perhaps especially the Begonias. Their rich blossoms rise high in the centre and droop over the sides of the tub, almost meeting the sprays of Periwinkle, whose dark, shining foliage makes a beautiful background for them, and the shade of the trees seems to suit them exactly. They do best kept in their pots and plunged. The Tulips were also very beautiful. This year a robin made her nest under their broad leaves, and reared her family of five quite happily.—C. E. S.

A CORNER IN A HAMPSHIRE GARDEN.

The illustration represents a corner in a very old garden, at this time of the year made wonderfully beautiful by a mass of Clematis Flammula, with its myriads of star-like blossoms, covering like a white cloud the top of the gateway and old wall. I have found this



A corner in a Hampshire garden. From a photograph sent by Mrs. Deane, Fairfields.

may have been kept, look very untidy, due to the falling leaves. Little can be done to mend matters, until a good sharp frost throws down the bulk, when a general clear-up should be made. Some people allow the leaves to lie as they fall, digging them into the ground during the early winter. This is a mistake, as the leaves, instead of enriching the ground—the ordinary course of things—make it sour and quite unfit for profitable gardening. Far better is it to cart them away to some out-of-the-way corner and allow them to decay naturally, when valuable leaf-soil is the outcome. After the Chrysanthemums are housed, Dahlias and Begonias in beds will need attention, presuming that cuttings of Tufted Pansies, Calceolarias (shrubby), Pentstemons, Antirrhiums, etc., are in, which must first be attended to. Begonias are better lifted as soon as the frost destroys the foliage. All the soil should be shaken from the roots, and the tubers stored in boxes in a frost-proof place, putting, if possible, only a single layer, and

watering-can. A moderate temperature is sufficient for *Humea elegans* from start to finish. The seedlings must be taken out of the seed-pan as soon as possible, potted on until 7-inch or 8-inch pots are reached, a good stout stake being placed to each plant in order to secure the centre spike, otherwise the plants get top-heavy.—LEADERS.

A shaded border.—The following simple plan has given me so much pleasure that I venture to tell you of it. I have a border on two sides of my small garden, facing north and west, which is so much overshadowed by trees and impoverished by their roots that I cannot expect flowers to do well in it. Happily, it is thickly carpeted by the large blue Periwinkle. But in order to get a little more colour I have placed among these at intervals eight tubs (the half paraffin casks so often described in your columns), and these are filled (1) with Crocuses of all colours, (2) with May-flowering Tulips, planted beneath the Crocuses, and (3), when the tubs have been removed, with

season specially unfavourable to Clematises of all kinds. Many have died altogether, and even the strong-growing Clematis in the picture (taken in October, 1901) is not nearly so good as usual. French Marigolds, Petunias, Nasturtiums, on the left, with a background of Dahlias, Hollyhocks, and Sunflowers, make this a very gay corner, an old Fig tree covering the wall behind the flowers. M. DEANE. Fairfields, Farcham.

Verbena venosa.—Some twenty or more years ago this was far more grown than now. I have used it in the mixed border during the last two or three years in large masses with the best results. It goes on blooming far into the autumn, and is most useful for cutting from. Some plants of it have stood out safely where the roots had run under some stones. I find it best to take up a portion of the old plants, wintering them in boxes in a cold-pit.—F.

CHRYSANTHEMUMS,

KEEPING CHRYSANTHEMUM FLOWERS.

ONE of the best qualities which Chrysanthemums possess is the long time they will remain fresh, either growing on the plants or in a cut state; still, much to the disappointment of many growers for exhibition, they often fail to keep long enough. This is, however, very often owing to not knowing how to manage them properly. Blooms are much more difficult to keep fresh in the south of England than they are in the northern counties, as they develop more quickly in the south than in the north. The greatest trouble growers situated in the northern counties have to contend against in many seasons is the non-development of the flowers naturally in time for the shows. Those possessing the darkest shades of colour, namely, the chestnuts, bronzes, and the deepest blues, retain their freshness for the shortest period, while the primrose, the white, and the yellow shades continue the longest in good condition. Some growers cut the blooms when expanded and strive to keep them a long time by placing them in dark closets in rooms in bottles of water, but they can be kept longer by judicious management upon the plants.

To have blooms in the best possible condition on any given date, four days previous is quite soon enough to cut them. If cut earlier the florets lose their necessary solidity, and in consequence are not so large as they otherwise would be; this is particularly noticeable in the Japanese section. It is useless to cut the blooms after they commence to decay in the hope of arresting their fading; when cut they should be perfectly developed, so that the solidity of the lower florets may be maintained. An experienced person can tell better by the feel of the lower petals than anything else when the blooms should be cut; they should be crisp and solid, not soft and flabby. When this occurs the white varieties will soon assume a pink tinge, and in some other varieties a faint brownness of the lower florets points to waning beauty; therefore, when the centre of the flower is developed and the lower florets fresh, the bloom will be right, and should be cut with a long stem, say, 12 inches, so that a small portion can be cut off every day. Place it in a bottle previously filled with water, amongst which a little salt or sulphate of ammonia has been mixed, three-quarters of a tablespoonful of the former to three half pints of water. It matters not whether the water be hard or soft. Half the quantity of sulphate of ammonia will suffice. Place the bottles in a cool, slightly darkened room having a dry atmosphere. Allow the blooms to remain on the plants until required, or at least two days before, when they may be cut with safety and treated as directed. The moment the blooms are at their best remove the plants to some cool structure which can be partly darkened and where air can be admitted freely. A potting-shed having a northern aspect, Mushroom-house not in use, coach-house, or, in fact, any place having the necessary requirements—viz., coolness, dryness, and partly excluded light—will be suitable.

EARLY CHRYSANTHEMUMS AT THE N.C.S. OCTOBER SHOW.

IT is only within the last few years that encouragement has been given to the early-flowering Chrysanthemums by the National Chrysanthemum Society, at least when not disbudded, in which form these flowers look best. A few classes were first tried as an experiment, and so well were they filled that others were subsequently added. Bunches of non-disbudded sprays of blossoms were prominent at the show, which began on October 7th. These appeared to create more interest in the minds of visitors than did the large, severely disbudded exhibition specimens. The latter, in most instances, were the result of an early and selection of what are generally termed mid-season or November-flowering varieties. As such they could not be regarded in the same light as they would be a month later, as many of the blooms were lacking in colour, and of somewhat indifferent form. It seems a pity

to encourage flowers of this character. Sufficient interest would be felt in a show of naturally early Chrysanthemums grown in the open air without disbudding, as this would show the value of these sorts. There is a brilliant future for the early Chrysanthemums if raisers and distributors of new varieties will only see that the right kinds are put into commerce. We have had instances in which plants and blooms have been placed before the floral committees of the N.C.S. and R.H.S., and the varieties certificated as early-flowering ones, and this recognition of their merits has been made in the closing days of September. On growing these same varieties and extending to the plants treatment as noted out to others which are really early-flowering, the result has been very disappointing. Sorts which were certificated last season, at the time of writing (October 15th) are not yet in flower, and if the weather remains open, cannot possibly be in full bloom until the end of October or early days of November. These facts prove how necessary it is to have the flowers which are submitted to the respective floral committees of the N.C.S. and R.H.S. exhibited in an undisbudded state, as this would necessarily represent the different varieties flowering from terminal buds. It is only in this way that it can be satisfactorily determined whether a plant is an early-flowering variety.

The bunches of Chrysanthemums staged in the various competitions at the October show of the National Chrysanthemum Society at the Royal Aquarium were all true early-flowering kinds, as they were all grown without disbudding, and in consequence flowering from terminal buds. Mme. Marie Masse, rose-pink, and its beautiful sports, Crimson Marie Masse, chestnut-bronze; Ralph Curtis, creamy-white; Robbie Burns, salmon-rose; and Horace Martin, rich golden-yellow, were more often in evidence than were any other varieties. These five sorts may be said to represent the ideal early-flowering Chrysanthemum, as the plants have a sturdy branching habit of growth, flower freely, and also have a good constitution. Their period of flowering commences in early August and continues well into late October. Ivy Stark is a charming sort, reminding one of Source d'Or, and may be said to be an early form of that excellent sort. Bronze Prince is but little known, and may be described as a rich bronze, tinted carmine. Lemon Queen is a rich, deep, yellow flower, and the plant is a profuse bloomer. Its form is good, and the flower has a long footstalk. Of Harvest Home too much cannot be said. This season it has done remarkably well, the flowers are large and their colour a rich and pleasing shade of crimson, tipped golden-yellow. September Beauty is a bronze sort, its height not exceeding 2 feet, and its habit is also good. Other good sorts were Chateau St. Victor, amaranth; Henri Yvon, rosy-salmon on yellow ground; Edith Syrett, magenta; Francois Vuillemet, lilac-pink; and Milo Guindudeau, pink.

EARLY-FLOWERING CHRYSANTHEMUMS.

WHAT a gorgeous display these have been making for the past few weeks, and will continue to do so for some little time longer, should there be no frost to destroy them. The earliest to bloom were, as a matter of course, the small-flowered Pompons, such as Piercy's Seedling, Little Bob, Fred Pele, White Pot (a bronze-coloured variety of the last-named), Alice Butcher, Leeds, Toreador, Flora (yellow), L'Ami Conderchet, and Golden Floece. Following close on their heels were the early Japanese varieties, such as Mme. Desgrango, G. Wermig, Queen of the Earlies, Mme. M. Masse, also the crimson and orange-flowered forms of the last-named variety, and Gladiador, a dwarf and, if anything, more free-flowering sort than Mme. M. Masse, and similar in colour. Then came Harvest Home and Ambrose Thomas' two beautiful free-flowering varieties, Yellow Boy, Mrs. Rice, Mad. C. de Brailles, Vice-President Hardy, and Crimson Queen. The next to open were Countess de Cariel (an exceedingly pretty variety), James Salter, Crimson Pride, Rycroft Glory, and M. A. Galy. All the above have been grown in narrow

borders in quantity by the side of the kitchen garden paths, two rows of plants in each, and arranged so that they stand 2 feet apart. They grew vigorously, and for a few weeks before flowering were assisted with liquid-manure. They have without exception flowered most profusely, and have brightened up very considerably what is often an unattractive part of the garden at this season of the year. When grown in the manner described, the long lines of plants in full flower present a beautiful piece of colouring, and it is really the best way of cultivating them if a fine and protected display is wished for. A. W.

ORCHIDS.

Odontoglossum Wallisi can be grown in a cool-house, 50 degs. at night, treated in every way as for *Odontoglossum crispum*. When the plant requires repotting place some Bracken-roots instead of crocks at the bottom of the pot, and use the compost as advised above. It is only of botanical interest.—H. J. C.

Leaf-soil for Orchids.—Many thanks for your reply to my queries, especially as to the cultivation in Belgian leaf-soil, of which I have got a sample basket, and propose giving it a trial. I am told to use only a single crock for the leaf-soil, and pot moderately firm. Is this right?—SAM C. BUCKLEY.

I am informed that leaf-mould is now used in the cultivation of Orchids, and as I have seen no mention of it in GARDENING, I shall be glad if you would give me some information regarding it—that is to say, for what Orchids it is suitable, and how applied? Also as to the sort of leaves from which the soil is made, and how it is prepared? I should imagine that leaf-mould would not be very lasting, and would have to be renewed frequently. My information of it was in a catalogue of sale by auction, which stated that *Vanda coerulea* would do well in it.—F. W.

[Whatever may have been said by other correspondents I have had no knowledge of, but as many of your queries have been replied to by me, I feel that I ought to state that the use of leaf-soil in the cultivation of Orchids by amateurs is a very risky business. Only those who are thoroughly acquainted with, and have had a long experience in the cultivation of Orchids should attempt its use, and even then many good cultivators of Orchids fail with it. Some writers surmise that watering is the key to the successful culture of Orchids in leaf-soil. My own experience convinces me that the situation and atmospheric conditions under which the plants are grown have a great deal more to do with success in the cultivation of Orchids in leaf-soil than anything else. I have proved that in the unfavourable conditions surrounding our large towns it is impossible to grow plants as some advise wholly in leaf-soil, especially "Belgian leaf-soil." If leaf-soil is used at all it should be thoroughly prepared "English" Oak or Beech-leaves, and then mixed with equal portions of fibrous peat, Sphagnum Moss, and rough sand, sufficient to retain it in a porous state. Water must even then be given sparingly, and with due caution. It should be pressed moderately firm. With this caution I would advise you to keep a sharp look-out, and, if detrimental effects become apparent, immediately transfer your plants to the tried mixture of about equal portions of fibrous peat and Sphagnum Moss.—H. J. C.]

Masdevallia picta.—This is a scarce and rather difficult subject to manage. Its small size necessitates its being planted in shallow pans, so that it can be suspended close to the roof glass. It is a small-flowered kind, so that it only displays its flowers to the best advantage when hung up where it can be seen. The pan should be filled one-third with broken crocks, the potting compost consisting of equal portions of fibrous peat and Sphagnum Moss, pressed moderately firm. It will do very well in the cool-house during the warm months of the year, but from, say, October to March it should be placed in a house that does not fall below 55 degs. during winter. The whole of the small-growing *Masdevallias* are best grown under warmer conditions during the winter months of the year.—H. J. C.

Request to readers of "Gardening."—Readers, both amateur and in the trade, will kindly remember that we are always very glad to see interesting specimens of plants or flowers to illustrate, if they will kindly send them to our office in as good a state as possible.

TREES AND SHRUBS.

ESCALLONIAS.

THE Escallonias are mostly natives of South America—chiefly Chili, Brazil, and Peru. Unfortunately, they are not quite hardy, save in favoured districts close to the sea, and even then they are often cut down in severe winters, but shoot up again from the bottom in the returning spring. Escallonias are, as a rule, of rapid growth and being easily propagated they have become common garden shrubs and can always be safely recommended for walls. The following are the best of the family:—

E. EXONIENSIS is a hybrid whose parentage is unknown. It is of compact habit and flowers freely. The tube of the flower is pink, the expanded portion of a paler hue.

E. LANGLEYENSIS.—This, a hybrid between *E. Philippiana* and the form of *E. macrantha*—known in gardens as *E. m. sanguinea*—is a pretty addition to hybrid shrubs. It has the growth and character of *E. Philippiana* with a profusion of rosy-pink blossoms in small trusses upon every shoot. The leaves are dark shining green. There are few finer shrubs than the popular

can be easily increased by cuttings put into a cold-frame towards the end of the summer.

E. PTEROCLADON is a very free-flowering kind with white and pink flowers, while

E. PUNCTATA has dark red flowers somewhat resembling those of *E. rubra*.

GARDEN PESTS AND FRIENDS.

Black Currant-mite.—I have a number of Black Currant-bushes, which are full of those round buds which I call useless. I would be very pleased if you could give me any information how to restore them to a healthy condition? They were replanted and thoroughly manured a year or two since, but they have gradually grown worse. I suggest pulling them out. If so, should the same ground be planted with Black Currant-bushes?—**BLACK CURRANT.**

[Your Currant-bushes have been attacked by the Black Currant-mite that can only be seen with a strong glass or microscope. Once a bud is attacked not only is it practically destroyed, but it is a centre for the breeding and diffusion of the mite. For these reasons it is advisable to gather any buds that are bare and burn them. That it may be difficult to combat this pest by bud-picking only in a large breadth is probable, but in small gardens it has been successfully done. All who grow Black Currants should examine the bushes now

search it well. If the part be in a pot it is best to lay it on its side: then there will be no chance of the beetle falling into the earth in the pot, and, perhaps, escaping detection, for they remain perfectly quiet as if dead for some little time. Small bundles of bay or dried Moss tied to the stems of plants or laid on the earth make good traps, as the weevils find them convenient places to hide in.]

American-blight on Apple-trees.—I have enclosed a piece of an Apple-tree, which seems to be swarmed with the insects as on specimen enclosed. Will you please state cause, remedy (if any), as I am afraid of losing the whole of them?—**YOUNG ESQUIRE.**

[Your trees are attacked by the "American blight" (*Sobionaura lanigera*), a very common pest on Apple-trees. You do not mention the size of the trees, but if they be small enough to reach all the infected parts, the best thing that you can do is scrape off all the rough bark at the part where the insects are, and then rub some paraffin emulsion on the part with a stiff brush, working it well into any cracks, etc., in which the insects may hide. If there be parts of the trees that you cannot reach, spray them with the paraffin emulsion, and in the winter spray the trees with a caustic wash.—**G. S. S.]**

Gooseberry caterpillar.—Will you kindly allow me to tell "W. E. W.," in reply to his inquiry in GARDENING ILLUSTRATED for October 25th, about the "Gooseberry caterpillar," of the simple and effective plan I adopt here to get rid of this tiresome pest? I use carbolic acid powder, the same as used for disinfecting purposes, which I sprinkle on the ground under the bushes as far as the branches extend all round. Sprinkle it on about as thickly as one would spread gaslime, or just lightly covering the ground with the powder. Then, with a round stick or piece of cane, jar the branches so that the insects drop into the powder. The bushes must be shaken several times. It is best to do this in fine weather, so that the powder remains dry for a few days. There is no chance for the insects to get down into the earth to breed. The above has been my plan for many years, and never without success. Last year (1901) my bushes were badly infested. I adopted the above plan, and this year my bushes were all healthy, laden with fruit, but not one caterpillar to be seen. The powder will not injure the roots of the bushes if dusted over just to whiten the ground lightly, and one dressing is sufficient for the season. There is no need to dig out and burn soil or spray the bushes.—**FRED WRIGHT.**



Escallonia Philippiana.

E. MACRANTHA, which is found in many English gardens, especially near the coast. We know also of several fine specimens on walls as far north as Aberdeen which have never suffered in any way, having been slightly protected during the winter. The dark green glossy leaves of this give it a handsome appearance all the winter, while clusters of crimson flowers adorn it in summer for several weeks. There is a variety of this called *sanguinea*, with deeper-coloured flowers. Somewhat similar to it is *E. rubra*, but the foliage is not so glossy and the flowers are paler.

E. MONTEVIDENSIS (syn. *E. floribunda*) bears large clusters of white flowers. It is a late-blooming kind, and the flowers are liable to be destroyed by frost. Flowering, however, at a season when few other shrubs are in bloom it is all the more valuable. There are many seedling forms of this in seaside gardens, Ingrami being the best, and hardier than *E. macrantha*.

E. PHILIPPIANA.—This, introduced from Valdivia in 1873, is the hardiest of all, and a valuable summer-flowering shrub. It is a free-growing, rather spreading, much-branched bush with small dark-green foliage, and after midsummer is thickly studded with little white blossoms, forming when in full bloom quite a mass of that tint. It does best in a fairly open loam that is a day's ride from the

and again early in the year, and if they pick off all the infested buds great good will follow, and in time the mite may be stamped out.]

Grubs among Cyclamen roots.—The enclosed grubs were found on the underside of a Cyclamen corm, they having eaten away the whole of the roots. Can you tell me what they are, and how they may be guarded against?—**R. B. ROGERS.**

[The grubs that you find at the roots of your Ferns are those of the "black Vine-weevil" (*Otiorrhynchus sulcatus*), or its very near relative, the "clay-coloured weevil" (*O. picipes*). These grubs are very destructive to the roots of Ferns, Primulas, Cyclamens, Begonias, and various other plants. There is no means of getting rid of them but picking them out from among the roots. The best way of destroying this insect is by killing the weevils. This is not a very easy task, as they are only to be found at night; during the day they hide themselves so cleverly that it is very difficult to find them. They feed on the foliage of various plants—Vines, Roses, Ferns, etc. The easiest way to catch them is to put, while it is daylight, a white cloth under the plant they are attacking, and then, after dark, to suddenly throw a bright light on the plant. This will generally make the beetles fall, when they will at once be seen on the cloth. If by doing so you give the plant a good shake, or

VEGETABLES.

LATE PEAS.

MUCH as we abuse the vagaries of the past summer, 1902 will long be remembered as most congenial to the well-being of leguminous plants, especially on light or gravelly soils, where during very hot, dry summers they are often a complete failure from July onwards, owing to the attacks of thrip or mildew, which, unless battled with in their first stages, soon cripple the growth, from which the plants seldom recover. Gardeners who have depended upon artificial manures for this crop cannot but have been well satisfied with the results, as the frequent showers throughout the season soon washed to the roots the properties of any surface dressing. As main crop varieties Criterion and No Plus Ultra stood us in good stead throughout August and early September as heavy cropping Peas of fine flavour. Glory of Devon again did well, fully maintaining all the raisers claim for it, while for the latest supply I rely chiefly upon Autocrat, a good Pea in every respect, and on account of its moderate height easily netted where birds are a trouble, while the haulm is not so liable to be blown about as that of varieties that reach 6 feet or more. When nets have to be put on they

hinder the pods from filling so quickly as they otherwise would do. We are still (Oct. 22nd) gathering a nice dish twice or thrice a week, but the sun having less power and the days getting shorter, and rather many wet, dull days, the pods do not fill the basket like they did a month since. On July 15th I sowed Gradus, Chelsea Gem, and Carter's Daisy as a chance crop. The first has given us a few gatherings, but the other two did nothing.

J. M. B.

NOTES AND REPLIES.

Forcing Rhubarb in frames.—I have tried to force Rhubarb in a small frame, covering the crowns with stable-manure, but without success. As soon as the growths vees a few inches up they damped off.—CREE.

[You should have placed a few inches of short manure in the bottom of the frame, and on that packed the Rhubarb roots closely, then filled in with soil, watered well, and covered up the frame with mats to keep out the light. Any dark, close place answers for forcing Rhubarb, but quickness of growth will entirely depend on the heat you have at command.]

Onion-seed.—Rather indifferent reports are made as to the Onion-seed crop this season, consequent on the unusual wetness of the weather, for Onion hulhs do not like too much wet when planted for seed production. Still farther, the frequent heavy rainfall has caused much of the bloom to set imperfectly, and where fungus prevailed a further factor of injury was found. No doubt there are ample stocks of the previous season's seed on hand, but growers generally like seed of the present year for sowing. The growers of great bulbs, who save their own seed, always use fresh. Still, they generally purchase some also, as it is now becoming good practice to vary seed, as too great dependence on one and a home-raised stock is not good policy. However, whilst with some bulbs, especially of the Crimson Globe, I have had poor results, from some very fine bulbs of Excelsior sent me, each of which carried from eight to ten heads of seed, though because of the rain not so perfectly set as in dry weather would have been the case, I had good results.—A. D.

FRUIT.

APPLE ALLINGTON PIPPIN.

WHEN first brought under the notice of the Fruit Committee of the Royal Horticultural Society this dessert Apple was exhibited under the name of South Lincoln Beauty, and was then certificated as such. The purchasers, Messrs. G. Bunyard and Co., however, thought well to change the name to that of Allington Pippin, and under that name it has so far had a very successful career. It is not all the new varieties of Apples which are from time to time introduced that possess the needful qualifications to render them popular with fruit growers generally, hence the reason why so many are unheard of a few years after being first introduced to the public. This is, however, not the case with Allington Pippin, for it excited great interest the first time it was exhibited, which has increased the more growers have become familiar with its free-cropping capabilities and the excellent quality of the fruit, until it is now very largely grown in various parts of the country both for market and home consumption. It is, generally speaking, medium in size (although the first time it bore with me some of the fruits were quite large), the skin is dull yellow and beautifully streaked with red on the side facing the sun, and its whole appearance is such as to attract once command attention. It has a rather deep-set eye, a long, slender stalk set in a deep round basin, which gives the fruits a semi-pendent character as seen growing, while the flavour is rich, but quite distinct from that of either Ribston or Cox's Orange Pippins. The variety has a capital constitution, as it both grows and bears freely; in fact, so prolific is it that quite young trees will carry a good few examples. As a bush for the garden and orchard Allington Pippin can be highly recommended, and there is no doubt that it will also succeed grown as a standard. Where Cox's Orange Pippin grows but indifferently

Allington Pippin may be substituted for it with every chance of its proving a success. Its keeping qualities are all that can be desired, as some specimens stored and tested late in January were found excellent, the flavour not having deteriorated in the slightest degree.

A. W.

NOTES AND REPLIES.

Manuring Raspberries.—I shall be glad if you will give me some information as to the best way of manuring Raspberries when grown by several acres? Spit manure is bad to get and costly to apply. What artificial

Add a sprinkling of nitrate of soda early in June, and hoe it in, giving 3 lb. per rod. Fish guano, at the rate of 7 lb. per rod, is a very good dressing. Never dig deep amongst Raspberries, or even use a spade—a fork is best. Do not wait for the leaves to fall before cutting out all weak or superfluous canes.]

Two good free-bearing dessert Plums.—After many years' experience and close observation of Plums, I have come to regard Kirke's and Jefferson as two of the best dessert kinds grown, all points con-



Bush-trees of Apple Allington Pippin. From a photograph by G. A. Champion.

manure would answer well, with spit manure given every fourth year or so?—C. B.

[Even better than heavy spit manure for Raspberries is good well-decayed garden refuse. Anything that will if put into a heap to decay, and is often turned to help it decay, will make for Raspberries the best of dressing. It should be spread about between the rows in the winter, and be but very lightly forked in. In the case of artificial manures, purchase from anyone who deals in them basic-slag, Kainit, and nitrate of soda. Mix the two first together, and strew it about between the Raspberries at the rate of 6 lb. per rod, just lightly forking it in. Do that so soon as the leaves are off and the pruning is done]

considered. I am aware that many of the Gages are better in flavour, but you have to consider the size, added to which Gages are not so reliable croppers. From a flavour point of view both these are hard to beat when well grown and well ripened. Nothing can be more handsome than a dish of these, either on the dinner or exhibition table, and for the latter purpose I doubt if any two kinds are so frequently seen. Some think them tender, but I have never found them so. I have them growing in a low-lying garden on walls and Jefferson as a standard in orchard, and I find they crop as well as any I grow. Added to this, they have better keeping powers than many other kinds when gathered.—J. C. BARK.

GARDEN WORK.

Conservatory.—This house will now be very bright with Chrysanthemums and other things. As regards arrangement, have as many features and as many changes as possible. Chrysanthemums must be well grown to bear isolation. Leggy plants must be grouped, but good specimens isolated among Ferns and fine-foliaged plants are very effective. If in groups the colours should either be placed so as to harmonise, or else to form contrasts. Indiscriminate mixtures sometimes offend the person of critical taste. The arrangement must be thought over and studied with a view to produce the best colour effects. The climbers will now have been much exposed, but sprays of scarlet Tropæolum, and the variegated Cobæa scandens hanging about are light and graceful, and give a little colour in the upper part of the house. Baskets filled with Cyclamens, Chinese Primulas, and Begonias, with the sides and bottom of the basket draped with foliage are effective. In a cool-house the variegated Periwinkle and the silver-leaved Ivies may be used with considerable effect. The broad-leaved Ivy (Adiantum variegatum) is quite as useful under glass in winter decorations as more expensive tender things. The main thing to keep in mind in the management of a conservatory or show-house is not to throw more water about than is absolutely necessary in winter, to do all the watering in the morning, and to open the ventilators early to dry up the damp. Keep down fires, especially during the time the Chrysanthemums are in flower, and when the weather is mild leave a little air all night. The early-struck Pelargoniums and the old cut-down plants will now be in their flowering pots. The best loam obtainable, enriched with about one fourth of old manure, some sand, a little bone-meal, and a dash of soot will grow these plants admirably. Firm potting is essential, and the plants should stand on a stage near the glass and be watered very carefully. The house should be well ventilated without creating a draught, and a little fire used to keep up a night temperature of 45 degs. Tree-Carnations are very useful now, and may be well grown under similar conditions to the Pelargoniums. The same treatment will suit Zonal Geraniums. We have a splendid show of these now from plants in 5-inch pots that were cut down for stock in July, and left to break outside in the bush. Our collection includes most of the best and newest varieties, and previous to seeing them do so well now, I was under the impression they would not flower so well in winter.

Stove.—Let Caladins go gradually to rest by withholding water. The pots may be set on their sides under the stage. We have generally succeeded in keeping them in this way, though, of course, there are other ways. Sometimes they are shaken out, and the corms packed in sand, but they should not be exposed to a low temperature. We have sometimes purchased new varieties from continental growers, and they generally come in the shape of small dry offsets or corms, so for this purpose they must have been dried. The great thing is to get them well dried by a gradual drying-off. Achimenes are easily kept. They will do very well on their sides under a stage in a warm greenhouse. The Gesneras will take the same, to some extent, of the summer-flowering fibrous plants. When grown in pans the different forms of Gesnera zebrina and cinnabarina are very attractive, and single specimens in 4-inch or 5-inch pots make useful plants for sale for a change. Their velvety foliage and bright flowers are distinct from those of most other plants which flower at this season. A warm, low, close pit is the best place for these and similar plants. Night temperature during the rapidly shortening days need not exceed 65 degs., in some cases 60 degs. will be better. Fuel is dear, and an extra 5 degs. makes some inroad in the coke bill. The less fire-heat the less water will be required. There will be plenty of flowers, including a few Orchids, now.

Pruning wall-trees.—As soon as the leaves are down the necessary pruning should

be done. In some cases where the spurs are crowded a gradual thinning should commence and be carried on from year to year. Old Pear and Plum-trees are often barren in the centre from the spurs being so crowded as to reduce the size of the foliage and weaken the growth, which reduces the size and strength of the buds. It is a good plan when this stage has been reached in the case of Plum-trees to lay in young shoots between the older rods or branches. These young shoots when ripened will bear freely. The same treatment may be adopted with Apricots. Sometimes in old gardens the trees are of inferior kinds, and these may be cut back and grafted with better sorts. It would pay to re-graft some of these old Pear-trees with such kinds as Doyenné du Comice, Marie Louise, and Glou Morceau. Some of these large, old trees which I have in my mind's eye might be made to carry several kinds. Bergamotts d'Esperey is a delicious late Pear. It bears freely on the Quince, but I have had it good on a cut-back old tree on a south wall. All these good late dessert Pears should have a good aspect. In pruning Marie Louise it is well to bear in mind that the blossom buds are often found on the ends of long spurs, so that this tree should not be pruned so close as other kinds which carry the fruit-spure nearer home.

Forcing Asparagus in hot-beds.—This is the simplest way, though Asparagus may be forced wherever there is a genial warmth. I have forced it in boxes in the Mushroom-house, and in boxes and flat baskets in the stove or any forcing-house. Like all other forcing work, the main thing is to secure strong roots with well developed crowns which have not been previously excited. Young, well-grown roots four years old will produce very fine heads, and these young plants are easily started. The hot-bed system is the best in country places where there is plenty of tree-leaves, as the heat costs nothing beyond the labour, a consideration now fuel is dear, and the result is so good, the warmth being so genial.

Early Peach-house.—When trees have been forced several seasons they are always ready to start when the usual time comes round, and not nearly so much forcing is required; therefore the early house should be in readiness now for the start—the walls lime-washed, and the borders top-dressed, and their condition as to dryness or otherwise seen to. Peaches will take a good deal of nourishment when cropped heavily. Very little fire-heat will be required at first, as 45 degs. at night need not be exceeded till the buds show signs of moving.

Window gardening.—Roman Hyacinths that were potted early may be taken from plunging bed indoors. Colchicums or Autumn Crocuses are pretty in pots, and Primulas of various kinds will be in flower nearly all winter. Berry-bearing plants are rather pretty, and there is plenty of winter-flowering Heaths that will succeed in a cool, light, well-ventilated room where the water-pot is used with judgment. There are still some flowers on Zonal Geraniums, and the Chrysanthemums are full of bloom now.

Outdoor garden.—Finish planting bulbs as soon as possible. The Autumn Crocuses (Colchicums) are now very bright in groups in sheltered parts of the borders. Sternbergia lutea also is very bright and the flowers are lasting. It wants a deep, well-drained soil, in sunny position. Lift the roots of Dahlias and Gladioli, dry them, and store in cool place safe from frost. Daisies, Pansies, and Violas are cheap, and make a good show. Early-sown Pansies are in bloom now. For bedding, seedlings are even more effective than plants raised from cuttings. Our Pansies in beds are now very bright, and if the weather is mild will continue to flower most of the winter. All the usual hardy plants may be planted now for spring blooming. Shrubs and trees of all kinds may also be planted. One never has too many Roses, and there are so many ways of using them. Rambler Roses are now much planted, and the Crimson Rambler seems inclined to flower in the autumn. I notice several clusters of buds on some of our plants which flowered freely in the summer. The double bicolor Gorse is a desirable thing to

have in the front of dark-leaved shrubs or on the rockery (elevated a little). Sweeping and rolling must be attended to now if lawns and walks are to be kept in order, but do not remove leaves from the shrubbery.

Fruit garden.—Plantations of Strawberries should be freed from weeds and runners, if not already done, and a top-dressing of manure given between the rows. The advantage of planting a few rows of plants for the production of runners is very great. The runners may be planted now, if not already done. Our rule is to plant 1 foot apart in the rows and 2 feet from row to row. Half the plants may be removed after the first crop has been gathered. Coe's Golden Drop and other late Plums will keep some time on the shelves in a cool, dry fruit-room after being gathered, if they are not bruised or damaged in any way. Those who are thinking of planting Figs outside should select a warm, sunny wall of 12 feet or more high, and make a border 4 feet or 5 feet wide on an impervious foundation, the position to be well drained. Figs are among the easiest fruits to grow, if the roots are properly controlled. Wide or extensive borders are not required, as liquid-manure can be given when the Figs are swelling off, and on heavy soils make the border above the natural level, and check the roots if they attempt to leave the bed prepared for them. The same course should be adopted with outdoor Vines, and the fruit will ripen better and the crops be heavier.

Vegetable garden.—This is a late season in every sense of the word. Rhubarb and Sea-kale are late with us in casting off their foliage, and some time must be allowed for rest before lifting for forcing, or, at any rate, if lifted, the roots may remain outside for a time to rest. As a rule, there is nothing gained by placing things in heat for forcing before they have been got ready, and this resting by exposure is a part of the work. All vacant land should be trenched 2 feet or 3 feet deep and thrown up rough to let in the air to break it up and fertilise it. Those who leave their land covered with weeds during the winter lose a good deal in the way of fertility. This is the season to improve heavy land by adding sand, ashes, burnt earth, and street sweepings which contain a good deal of grit; but where the roads are repaired with granite the sweepings set hard and are not so suitable. This is not the season for using artificial manures, but basic-slag or anything slow of action may be used now. We have obtained good results from using basic-slag now and nitrate of soda in spring and early summer. Turnips fit for use keep well if pulled up and the bulbs covered with earth in a trench, leaving the tops outside. Turnip-rooted Calery may be kept in the same way. Parsley for winter use should be in a position to be easily covered. E. HORDAY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

November 10th.—Dahlias have been lifted, and when dried will be stowed away on the border inside a late Peach-house. This is made a general store-house for this and similar things which require to be kept cool, at the same time safe from frost. All the late Gladioli have been lifted, and when dried will be stored away. Some years ago I lost a lot of good bulbs by storing them in one of the garden sheds. They were killed by frost, and I am not likely to forget it.

November 11th.—We have a heap of dry Bracken laid up in an open shed ready for sheltering anything when frost comes. Planted more French Beans in pots in a warm-house. We have commenced pruning fruit-trees and bushes, and shall continue the work at every favourable opportunity till finished. We generally manage to get all the work done before Christmas, as there are so many things requiring attention when the days lengthen.

November 12th.—Gathered the last of the Apples and Pears. We have still a few Plums of Blue Imperatrice on a tree on a north wall. This is the latest variety we have. Some roots of early Rhubarb have been taken up, and will be placed in the Mushroom-house. Successional

roots will be started from time to time as required. Sowed Sweet Peas in pots. They will be kept quite cool. A row has been sown outside also.

November 13th.—All the tender plants from beds and borders have been lifted and potted. A good many of the old Geraniums have been potted up for spring propagation, as spring-struck plants, if helped on in heat, will be equal to autumn-struck stuff grown cool, and it is always possible to get enough cuttings in the early autumn. Arrears of work in planting fruit-trees, Roses, etc., are being brought up as fast as possible.

November 14th.—Moved a few bulbs of Narcissus, Tulips, and Hyacinths to a warm house to hasten blooming. All hardy shrubs intended for forcing have been placed under cover. The pots of Peaches standing outside have been surrounded with dry Bracken to protect from frost. Early-sown Fancies are now very bright in the beds and borders. We have a good stock of the new double Arsbis from cuttings rooted during the autumn, and shall plant it in masses.

November 15th.—Rearranged conservatory to make room in a prominent position for groups of Tree-Carnations and Zonal Geraniums, which are now very bright. Duplicates of choice alpine plants, of which some are kept in pots, have been plunged in ashes in frames, though the lights will not be put on till bad weather comes. Stirred the soil among the Violets now flowering in frames, and gave liquid-manure.

LAW AND CUSTOM.

The Wild Birds' Protection Acts (A. R. A. G.).—On Sept. 19th you went out intending to catch some birds with bird lime, and you took with you a tame linnet and a goldfinch that you and your family have had for eight years. As you were commencing operations a policeman came up and took possession of the goldfinch and took it away with him. You have three times requested its return, but the man says he cannot return it without the consent of his sergeant. The police have requested the occupier of the land to take proceedings against you, but he has refused, saying you were doing no harm. At the most he could only have sued you in the county court for damages for trespass, and he acted wisely in refusing. You committed no offence against the criminal law, and the policeman had no power to take possession of the goldfinch. My advice is that you sue the policeman in the county court for damages and for the recovery of the goldfinch, and if you employ a solicitor you are certain to win your case.—K. C. T.

A gardener's tenancy.—I am a jobbing gardener, and attended to a garden and greenhouse for a gentleman who died some six years ago. At his death I took the house, garden, and greenhouse of his executors at the weekly rent of 6s. They knew that I took it for the purpose of growing plants for my trade, but they charged me nothing for a few plants then in the greenhouse, although I offered to pay for them. I am now thinking of giving up the place, and I have eight or ten times as many plants in the greenhouse as there were when I took it. How many plants must I leave?—H. H.

[You are not bound to leave any plants—those that remained when you entered were given to you by the executors. If the place is still owned by the executors, it might be an act of courtesy on your part to leave just as many as you found on entry, but if the place now belongs to other owners, there is no reason why you should leave any plants in the greenhouse.—K. C. T.]

Income tax.—I bought a small part of a field of freehold land, and converted this part into a garden and built a greenhouse upon it. Subsequently, on removing from the neighbourhood, I put up a notice that the plot was for sale, and, out of pure charity, allowed a poor man to use it rent free, on the condition that he gave it up at any time on demand. I have paid the rates on the land, and now am, for the first time for 15 years, required to pay income tax upon it. Can the demand for income tax be enforced?—NORTHWOOD.

[No, you derive no income from the land, so you cannot be taxed for it. Perhaps your tenant might be compelled to pay income tax if his income from all sources amounted to £16 a year, but it seems clear you cannot be taxed. Neither can you be compelled to pay rates, although your tenant could be compelled to pay them, as his occupation is clearly beneficial. It would have been better if you

better if you had stated in what form tax is demanded and under what schedule. My answer refers to landlord's property tax, schedule A of the income tax. If you had any money borrowed on the place, and you paid interest on the loan, you might be taxed on the mortgage interest, but you could deduct the tax when you paid the interest.—K. C. T.]

BIRDS.

Death of young Canary (J. Simmons).—The lungs of this very prettily-marked bird were in a state of inflammation, but the immediate cause of death was disease of the liver, which was quite incapable of discharging its natural functions in the system, the wonder being that the sufferer should have survived so long as it did. This trouble was, in all probability, brought about, as in the case of numberless young birds, through an extensive use of egg-food. It is all-important to get young Canaries on to seed, and to discontinue the egg-food with as little delay as possible, for if allowed the opportunity they are pretty certain to take more of this than is good for them, and soon become surfeited and contract disease of the liver and bowels. As to the lung trouble, it may have been caused through the bird having taken cold at the moulting period—this frequently happens through lack of care in keeping young Canaries free from draughts and changes of temperature at this critical period. As soon as a Canary shows signs of moulting, the cage should be carefully covered up from draughts, especially at night, while a few Groats and a little Maw-seed may be added to the usual diet. A piece of chalk or old mortar should be supplied, and a rusty nail put in the drinking water to furnish a mild tonic. Linned is very useful in helping birds over their moult, and toast-water is sometimes given.—S. S. G.

CORRESPONDENCE.

QUESTIONS.—Queries and answers are inserted in GARDENING free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of GARDENING, 17, Finsbury-street, Holborn, London, E.C. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be replied to in the terms immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is not clear that specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Early Chrysanthemums (Ignorant).—Procure the Chrysanthemums and Begonias in the spring, and plant in the open air in May. We have given lists of the best varieties in several of our late issues, which you had better consult before purchasing the plants in the coming spring.

Rose Reve d'Or as a standard (Inquirer).—This Rose makes a glorious head, but is rather shy in flowering. We think more suitable yellow or orange-coloured kinds for standards are W. A. Richardson, Bouquet d'Or, Billard and Barré, or Mme. Pierre Cochet.

Rambler Rose with injured growths (A. M. B.).—The brown appearance of the growths is caused by the wind, as we can detect no disease. It looks as though the growths had awayed about, and thus became chafed. Upon slightly scraping the bark we found it quite green beneath. You need not be alarmed at the appearance of the shoots, as they will quickly lose this.

Rose Reve d'Or not flowering (M. A. F.).—For the first two or three years this Rose is a very shy bloomer. When the growths become well matured and produce good stout laterals, these latter produce other laterals, which furnish the blossom. To assist the blossoming, the branches should be spread out as much as practicable, bending them to the right or left, and even partly bowing them over. This variety, being so very vigorous, should be planted where it has plenty of space. If used on a trellis, train the growths something after the style of an espalier fruit-tree.

Rose Marechal Niel in greenhouse (Thorp).—Apparently your plant is ripening off, and as *Natura* has now no further use for the old foliage, it is falling. The somewhat unnatural and dry dead wood you see in the greenhouse at this season of the year has nothing to do with

the plant rather earlier than usual, but it is better that the growths become really hard than go on growing late in the fall, as this Rose will frequently do. You must keep the plant somewhat dry at the root for a time. As soon as you see the green buds commence to swell rather prominently, you can water occasionally; but one good soaking would be better than dribble.

Roses on south wall not flowering (Mrs. Hudson, East End).—The Roses on south wall that have not made much growth this season must be allowed to remain as they are at present. Prune back growths in spring to good plump eyes to encourage new wood, although you may not obtain much blossom again next summer, you will ultimately do so if the young wood retained each year, merely cutting out that which is worn out or dead. The W. A. Richardson will blossom well next year if you bend over its growths slightly and do not prune them beyond removing extreme points. The Lady of the Valley should receive an annual top-dressing in autumn of short manure or rich soil, and the *Carmine* border would benefit by a like application.

Protecting Roses in winter (Miss Hobbs, East End).—Nothing is better for this purpose than to draw this around each plant to a depth of 5 inches or 6 inches, but should the bushes be planted close together you had better bring some soil from another part of the garden. Tea and other half-hardy Roses so protected would come through the winter safely. Probably the tops would be cut down to the soil, but beneath this soil wood would be sound. Some dry straw or Bracken fern will do good if stuck in among the branches in addition to the soil, but this should be removed during mild weather. Standard Teas should either be lifted and heeled in under a north wall and protected by boards or hurdles in winter, or their heads stuffed with dry straw or Bracken fern.

Evergreen Roses for arch (Perryle).—The proposed arrangement would answer well. Good kinds of Roses for the purpose and that retain their foliage in winter would be: *Felicité-Perpetue*, white; *Louisa*, *Rambler*, red; *Aglia*, yellowish-white; and *Rosa* (of *de Wurtemberg*, red. The best *Hoseynockles* will be *L. brachypoda* and *L. flexuosa*. *Clematis Flammula* and *C. F. rubra* are both very lovely and fragrant. They blossom in July and August. An early kind would be *montana*, and a later sort, *C. graveolens*. You could introduce a plant, perhaps, of *C. Jackmanii* in order to obtain some blue colour, and a good white companion is *C. Henryi*. The two last do not furnish the amount of growth of the other kinds, although their flowers are not so showy.

Datura (*Rosie*).—Planted out in a bed or border of any kind, and allowed plenty of room and abundance of moisture, this will soon form a handsome specimen. The long and white flowers are freely produced, and the seeds often continue in bloom till the end of the year. After moulting, the plant should be pruned at each year, below the pruning is done the plant should be allowed to get dry at the roots, otherwise bleeding will follow. If the tree well in the open air during the summer, choosing either a sheltered position with plenty of sunshine, planted out towards the end of May in a rather light, friable soil. If lifted in the autumn, potted and placed in a temperature-house, the plants will do good service for many years at the flower garden.

Covering delicate plants (C. M. F.).—We are not aware that protectors are made other than in the places where they are used. Some are made of galvanised iron wire, having four straight pieces as legs of 18 in. in the soil, and side and width pieces fastened together with smaller wire. At a height convenient, the wire is first turned outward slightly, and returned, say, 18 in. In this way a groove is formed, into which the plant may be placed. It is not a convenient method, but the only one seeing that the plants that require covering may vary in height and size. For all ordinary purposes, a sheet of glass fixed on the rock cases and kept in position by another sheet, does equally well—all that is required is that wet shall be thrown off, and a free current of air secured to the plant.

Description of flowers (Decon).—So far as we know, there is no book dealing with the description of florists' flowers, such as you name. At the same time, every florist issuing a catalogue usually appends descriptions to such groups as are catalogued by him. In certain instances, where a large group is specialised, the descriptions may also be a feature. All the large nurserymen issue such catalogues, and, as the varieties are frequently changing, these are, of necessity, more up-to-date than any work could possibly be. Houghton's book on Carnations and florists' flowers may assist you, but is confined to one or two groups only. Any florist supplying you with plants should be able, if called upon, to give you descriptions of the same.

Bougainvillea Sandieriana (Northfield).—The charming form of *B. glabra* succeeds well in the greenhouse, especially when clothing the light, sunny side of some similar position. It may also be grown in light tubs by tying the long, flexible shoots to a few sticks, and the specimens are sometimes grown in this way. Its proper treatment is in the open air, but during the winter, when in a cool-house, it will not be till the autumn is fairly advanced, the plants should be kept somewhat dry at the root, in order to thoroughly ripen the wood. With this in the way the plants will, on the return of spring, with the increased temperature and additional moisture, break out freely and produce their flowering shoots in great profusion. The flowers of this *Bougainvillea* are small, but insignificant, but are surrounded by large bright-coloured bracts, which supply the place of blossoms. They commence to develop soon after midsummer, and continue till the autumn. The more they are exposed to light and sunshine, the brighter will be the colour of the bracts.

TREE AND SHRUBS.

Plants under Beech-trees (E. Rra Harcourt).—You appear to possess a rather difficult piece of ground to deal with satisfactorily. The *Daphne* and the *Edy* of the Valley are among it least likely to succeed. You may, however, try such things as the *Candytuft* (*Persea* kind), the *St. John's Wort* or *Hypocistis*, the *London Pride* (which may be planted in several varieties), the *Arabis*, and *Suberbia* in several varieties. Of bulbous plants you could now plant *Scilla*, *Cyclamen*, *Flower of the Sun*, *Fritillaria*, and the *Lily*: will do

biennials, such things as Bugloss, Evening Primrose, Wallflowers, Snapdragon, and the like. To these may be added the Arnerias, Thymus lanuginosus, Helleborus, Cerastium, Achillea (dwarf kinds), Alyssum matrifida, Vinca, Saponaria, Draba, Aconite in variety, and many more. If sufficiently open and warm, the alpine plants and Dianthus generally should do quite well.

Rhododendron, moving (C. E. A.).—If prepared for lifting, the plant should move quite well. Dig a trench round about it at not nearer than 2 feet from its stem, and in such a way that all root fibres outside this limit are cut clean away; then return the soil, and wait till April next, before moving the plant. In April dig out the same trench, and, when the plant is loosened, work off some of the top or surface soil with hand-fork or similar thing. This will facilitate the moving and prevent the ball breaking in half. Finally, before lifting it out, work a mat about the ball of roots, and so take it to its fresh quarters. The hole should be in readiness, and should be so guarded that the plant when in position rests in a slight saucer-shaped hole to admit of thorough watering for a few weeks. Indeed, upon this and overhead moisture, together with a good peaty mixture or very sandy loam about the old ball, will the plant depend for its fresh start. We take it the plant has been some years in its present position.

FRUIT.

Wood Leopard-moth (Gross-patch).—Your fruit-trees have been attacked by the Wood Leopard-moth, which often is very destructive to fruit-trees. The moth lays its eggs on the bark, and the caterpillars eat their way into the tree. If the caterpillar cannot be reached with a wire, paraffin-oil or tar should be injected into the hole, which should then be closed with a pellet of clay.

Pruning Vines (S. Newton).—Cut off all the laterals, and do not depend on any of them. Some growers advise leaving long spurs at pruning time, but this is a mistake. It is far better to cut the laterals off to the first eye, and then, when the vine starts into growth, it is easy to rub off the weaker one. For the health of the vine, as well as for the neater appearance, it is always best to prune so as to have the spurs close home. You should cut down to the bottom one or two of the Rose bushes that have flowered, and in this way encourage the plant to break from the bottom.

VEGETABLES.

The Celery-maggot (Morag).—Your Celery endive has been attacked by the Celery-maggot, which, you examine the leaves, you will find between the leaves. If not speedily destroyed, it will entirely destroy the plants, especially if you have allowed them to become dry at the roots. Broadcast sprinklings of soot and lime will often prevent the flies depositing their eggs in the leaves, but when once the maggot has developed, nothing but rigid hand-picking will eradicate it, as it conceals itself between the tissues of the leaves, and defies all ordinary insecticides. You ought to go over your plants very carefully, and, wherever seen, destroy the maggot. Sometimes one picking over suffices, but if a second attack occurs this must be repeated.

Making a kitchen garden (Belvidere Road, Leicester).—As your ground is at present in a very rough, uneven state, you should have it well levelled and cleaned from weeds, then either deeply dug or, better still, trenched, carefully keeping the lower soil well down in the process. If in doing that you could mix with the clay a few laches thickness of street-sweepings, which contain a good deal of grit and horse-droppings, it would do great good. Feeling that, give a heavy dressing of soot. If you wish to make paths, throw out the soil after they have been properly marked out, 8 inches or 9 inches deep, fill in with clinkers or rubble, and on that gravel or ashes. Some kind of edging, such as boards or tiles, should be put down beside each path. Get fruit-trees planted so soon as the ground has been made ready and the paths set out. Plant preferably in rows across the garden, rather than beside the paths. Before sowing vegetable seeds in the spring, have the ground well forked over and first dressed with fish-guano or gritty manure, such as is earlier advised. Clay soil needs plenty of grit and fibre put into it.

SHORT REPLIES.

H. O.—Are you quite sure you have got the *Ampelopsis Velutina*? We have never heard of it notching to a wall. **Blanc.**—We do not think you will succeed. We saw the same thing tried just lately, and the cultivation was a failure. **Constant Reader.**—Vine-leaves to hand, but it is quite impossible, so late in the season, to form any opinion as to the trouble. **T. K.**—From the specimen leaf sent we should imagine that there is something wrong with the roots, they being either too dry or the drainage of the particular plant is at fault. **F. S.**—Try putting your Dahlia-tubers in sand in a box. When you lift them stand them upside down for a few hours, so that the water can drain out of them. **H. E. B.**—Seeing your plant is healthy and, as you say, doing well, you should leave it as it is. It will do no good to move it into a smaller pot. **Miss Hodson.**—Apply to T. Smith, Newry. **H. L. H.**—We know of no book dealing with the distillation of flowers. **W. K.**—You ought to have repeated the query when you sent the information as to the part of the country you write from. **T. Kennet Ware.**—You cannot do better than plant some of the many forms of *Helleborus*, *Michaelmas Daisies*, and *Lilliums* in variety. See article, "Lilies at Kew," in last week's issue. **Winter.**—Consult our advertisement columns. **Claude Flight.**—Yes, you can use horn-shavings, mixed with the soil, for pot plants, such as *Geraniums*, *Fuchsias*, *Cinerarias*, etc., and you will find it answer well. **Kelly.**—You ought to sow such things in boxes, pans, or pots, prick them out, and then, when strong enough, put them into their permanent quarters. Leave your fruit-trees as they are. Very likely your Plum-tree wants root-pruning. The curling of the Peach-tree leaves was owing to insect pests. You ought to have washed it well with some insecticide. **S. C. R.**—If you cannot obtain peat, use the next best material—viz., leaf-soil, which must be well mixed with the soil you have. Azaleas of all kinds must have peat to do well. **Floral Designs.**—The only book we know of is "Table Decoration," by Low, but we learn that it is out of

print. You may, however, be able to find a second-hand copy on a bookstall. We know of no book dealing with the other matters you inquire about. **T. H. M.**—Your *Chrysanthemums* have evidently been attacked by mildew, and you have applied the only remedy. **J. Britter.**—Roses will do no good in such soil as you send, and you will have to prepare stonions for them. **E. B.**—Scrape it off with a hoe; or you might try one of the many weed-killers now advertised. **E. O'H.**—You had better defer moving your Hare-foot Fern until the spring, when the growth is on the move. **T. N.**—Write to the Director of the Royal Gardens, Kew.

NAMES OF PLANTS AND FRUITS.

Names of plants.—**L. Nash.**—*Eccecarposacchar.*—*Northleigh.*—Double Ragged Robin (*Lychnia Pilocuculi fl. pl.*)—**G. W., Beckenharn.**—1, Oval-leaved Privet (*Ligustrum ovalifolium*); 2, Evidently a Forsythia, but must see flowers; 3, *Andromeda japonica*; 4, *Cypripedium Lawsoniae erecta viridis.*—**C. Pyke.**—1, The Scarlet-fruited Thorn (*Crataegus coccinea*), from North America. **J. E. Hodson.**—We cannot name florists' flowers. **Miss Noel Walker.**—Quite impossible to say from such a small scrap as you send. **R. H. S.**—1, *Aster Novo-Anglie W. Bowman*; 2, *A. Mima*. Cacheux, as far as we can judge from your specimen; 3, *Aster Novo-Anglie pulchellus.* **A. G. L.**—*Helleborus rigidus* Miss Mellish. **Marie.**—*Clematis Viticella rubra.* **Robert Canterbury.**—Bird Cherry (*Prunus Padus*). **J. K.**—Viper's Bugloss (*Echium vulgare*). **G. C.**—1, *Sedum Ewersi*; 2, *Lonicera aureo-reticulata*; 3, *Elaeagnus pungens.* **B. Brown.**—*Lycesterie formosa.*

Names of fruits.—**S. C.**—1, Sandringham; 2, Leatherroot Russet; 3, Flinders' Pippin; 4, Scarlet Nonpareil. **L. A. S.**—Apple Egremont Russet. **W. Campbell.**—Pears: Smooth, Doyenné Boussoch; Rough, Josephine de Malines. **J. C. L., Aberystwyth.**—1, Small's Admirable; 2, Lady's Finger; 3, D'Arcy Spice; 4, Yorkshire Beauty. **H. J. Graham, Dorset.**—1, Pimston Duchess; 2, Durondeau; 3, Beurre Clairgeau; 4, Calabasse. **H. Camden.**—No numbers affixed. **Stafford.**—Specimen insufficient; not, however, Louise Bonne de Jersey. **T. M., Yetminster.**—Evidently a local sort, not recognised. **John Stroud.**—Apples: 1, Newton Wonder; 2, Eymcr. Pears: 1, Brown Beurré; 2, Doyenné du Cornice.

Catalogues received.—Dammann and Co., Naples, Italy. **General Price List.**—Ernst Benary, Erfurt. **List of Novelties, etc.**—Amos Perry, Hardy Plant Farm, Winsborough Hill, London, N.—*Catalogue of Hardy Border and Rock Plants.*

The Prize Winners this week are: 1, Mrs. H. Peters, Bill Hill, Wokingham, for part of group of *Lilium giganteum*; 2, Mr. John Bolam, Bilton House, Lesbury, for *Jargonella Pear-tree* on house.



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- Collection B, 24/- per doz. (50 for £4 4s.).—Purple, purple crimson, crimson, cherry-red, deep amethyst, rich rose, rose, lilac-rose, rose-pink, and peach in equal proportions are included, and shades of white in less proportion.
- Collection C, 30/- per doz. (50 for £5 5s.).—The above colours, with the addition of maroon-crimson, faint blush, delicate cream and white, and sorts with fragrance are selected.
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GARDEN & PLANT PHOTOGRAPHS, 1902.

The Editor of GARDENING ILLUSTRATED announces Photographic Competition for the season of 1902.

Class 1.—SMALL GARDENS.—A prize of FIVE GUINEAS and a SECOND PRIZE of THREE GUINEAS for the best ten photographs or sketches of picturesque small gardens, including town and villa gardens, rectory, farmhouse, or cottage gardens.

Class 2.—FLOWERS AND SHRUBS OF THE OPEN AIR.—A prize of FIVE GUINEAS and a SECOND PRIZE of THREE GUINEAS to the sender of the best series of not less than twelve photographs of the above. These may include wild plants or bushes, or any plant, flower, or shrub grown in the open air, including also half hardy plants put out for the summer, and either single specimens or groups, or the effects resulting therefrom, in beds or borders. Shoots also of rare or beautiful plants photographed in the house may be included in this class.

Class 3.—INDOOR FLOWERS AND PLANTS.—A prize of FIVE GUINEAS and a SECOND PRIZE of THREE GUINEAS for the best series of indoor plants—greenhouse, stove plants, Orchids, or any other plant out of the open air—either single shoots, plants, or specimens, or the effects resulting from good grouping or other arrangements of such plants separately or in association with others. Ferns or groups of Ferns in houses may be included in this class.

Class 4.—BEST GARDEN FRUITS AND VEGETABLES.—A prize of FIVE GUINEAS and a SECOND PRIZE of TWO GUINEAS for not less than twelve photographs of the best kinds of garden fruits and vegetables, Grapes, Peaches, Apples, Pears, Plums, Cherries, or any other fruit grown in Britain, to be shown singly or on the branches. Overcrowding, as in dishes at shows, should be avoided. The aim should be to show well the form of each kind, and as far as may be life-size. The object of this is to get good representations of the best garden fruits and vegetables under the old names, though we do not want to exclude real novelties when they are such.

Class 5.—GENERAL SUBJECTS.—A prize of FIVE GUINEAS will be awarded for the best twelve photographs of any garden subject not included in the previous classes, such as water gardens, waterside effects, rock gardens, picturesque effects in gardens, vases, cut flowers, table decorations, and pretty garden structures.

All competitors not winning a prize will for each photograph chosen receive the sum of half a guinea. In order to give ample time to prepare good photographs the competition will be kept open until November 29th, 1902.

WHAT TO AVOID.—Cut flowers or plants should not be arranged in vases with patterns on them. Backgrounds should be plain, so as not to come into competition with flowers. Figures of men or women, barrows, watering-pots, rakes, hoes, rollers, and other implements, iron railings, wire, or iron supports of any kind, labels, and all like objects should be omitted from these photographs. Dwarf flowers are ineffective when taken directly from above. The camera should be brought low down for such. All photographs should be mounted singly, and not several on a card. They should not be mounted on cards with black backs, and the photographs should not be less in size than 5 inches by 4 inches. The subjects should not be overcrowded. The following are the rules to be observed by all competitors:—

FIRST.—The photographs may be of objects in the possession of either the sender or others; but the source whence they are obtained must be stated, and none the copyright of which is open to question must be sent. There is no limit as to number, and no fee to pay. The Editor is to have the right of engraving and publishing any of the chosen photographs. The photographs may be printed on any good paper that shows the subjects clearly. Platinotypes and bromides should not be sent, but those on albumenized and printing out papers are preferred for engraving. All photographs should be properly toned.

SECOND.—The name and address of the sender, together with the name and description of the objects shown, should be plainly written in ink on the back of each photograph. Care should be taken to avoid the ink being seen on the face of the photograph. This is very important.

THIRD.—All communications relating to the competition must be addressed to the Editor, 17, FURNIVAL-STREET, EOLBORN, LONDON, E.C., and the class for which the photographs are intended should be marked on the parcel, which must also be labelled "Photographic Competition." Unsuccessful competitors who wish their photographs returned must enclose sufficient postage stamps for this purpose.

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FRUIT.

LATE GRAPES.

The past season has been none too favourable for Grape growers. The spring was a fortnight late, and we did not have sufficient hot weather during the summer to make up for the loss of time. In houses where no fire has been used Black Hamburgs were only colouring in the last week of September, whereas last year I was cutting good ripe fruit at that time. In spite of the unfavourable summer, grapes have been, and are now, so plentiful in the London and provincial markets, that prices have reached a lower level than has hitherto been the case. Some years ago I ventured to predict that good English Grapes would be sold for one shilling per pound in Covent Garden Market. The prediction has been verified, for last winter really good Alicantes were disposed of in December at that price, and there does not appear to be any prospect of improvement this season. Whether these low prices will continue I cannot say, but when one takes into consideration the vast amount of glass that has been devoted to grape growing during the last ten years or so, there does not seem much prospect of Alicante and Gros Colman making from 1s. 6d. to 2s. 6d. per pound, as was the case several years ago. What can be expected when one man alone covers seven acres of land with vinerias? In all parts of the country big glass-houses, such as the past generation would never have dreamt of, have been, and are being, erected, and the greater portion of these are planted with Vines, crops of Tomatoes being taken from them until the Vines have covered the roof. A friend of mine, who had two houses, 376 feet long each by 25 feet wide, as now put up six more, each one 125 feet long by 25 feet wide. There can be no doubt that the production of late Grapes has been very profitable during the last twenty years, but the time when there was much money in grapes has passed, and he who now invests money in vinerias will have to be content with fair interest on his outlay.

The best paying Grape is undoubtedly the Muscat—that is to say, where the soil suits it well enough to allow the grower to annually take from the Vines a good weight of fruit. Those who have a soil naturally favourable will have no difficulty in keeping their Vines at a sufficiently high state of health to enable them to bear during the first twenty years of their life bunches running from 1 lb. to 3 lb. in weight. Unfortunately, all soils do not suit this Grape, and when this is the case the Vines quickly deteriorate, and the bunches come narrow-shouldered, do not always set well, and will take on that rich amber tint that recommends them to the salesman and fruiterer. Better far grow the Alicante or Gros Colman, and grow them well, than produce Muscats that are lacking in colour and flavour. The Muscat loves a loamy soil, not heavy, and well drained. It will do very well in lighter soils, but the grower

has to be very careful in the matter of cropping. If the Vines when they come into full bearing are allowed to carry all the bunches they form, they are sure to deteriorate. I have known more than one good house of Muscats to be quite ruined by incautious cropping, and in one case the Vines had to be rooted out.

Owing to its good keeping, heavy-cropping qualities, size, and appearance, Gros Colman has been so largely planted during the last few years that really good prices for fine samples seem to be a thing of the past. Some five years ago Gros Colman realised 30 per cent. to 50 per cent. more than Alicante—now there is very little difference, and this I know, that good Alicantes will make more than indifferently-grown Gros Colman. I fancy that some have made a mistake in planting so many of the Gros Colman, which, in soils naturally favourable, is a grand Grape, taking on a high colour, and forming bunches of from 2 lb. to 4 lb., with enormous berries. In some soils considerable difficulty is experienced in colouring this Grape, and badly-coloured Gros Colman is a drug in the market. The worst of it is that unless the berries take on their proper colour they will not keep well, so that the grower has to get rid of them long before he can expect to see any rise in the price. I once knew of a case where the greater portion of a large house had to be sold at 4d. per lb. The house was not so well heated as it should have been, the season was rather bad, so that the berries generally were of a dull red at the close of the growing season. The grower was glad to sell the whole lot at Christmas for less than 6d. per lb. This Grape should be started about the latter end of February in the north of England, and not later than the middle of March in the warmer counties, so that the berries get thoroughly ripened. Without the necessary amount of saccharine juice they will not keep through the dulllest months of the year. The worst of Gros Colman is that it has, in an even greater degree than other varieties, a tendency to push its roots into the subsoil. This is very marked in the case of light soils, but may in a measure be counteracted by judicious root-pruning every four or five years. Both this Grape and the Alicante may be subjected to root pruning, but one must be very careful with respect to the Muscat, as this Grape does not make roots so freely as the black kinds do. J. C. B.

THE PLANTING SEASON.

It is a decided gain to get young trees from the nurseries and plant them properly before the winter fairly sets in. Before the late heavy rains, the ground, both in the open and in particular against walls, was much too dry for transplanting operations to be carried out without risk of failure, and it is doubtful if the borders sheltered by walls are yet well moistened. Before, therefore, trees are moved the border should be examined and water given freely if the soil is found at all dry, while if the soil that surrounds the roots after planting is done is also dry, or even on the dry side, a good soaking ought to be given before the surface is levelled over and mulched with

straw litter. These waterings help to settle the soil well about the roots, doing this more effectually and better in every way than it can be done by tramping. Especially should water be given when trees are moved while yet some of the leaves are green. Allowance must always be made for a settlement of the newly-moved soil, and it should also be remembered that there is a tendency for the soil of a border to increase in depth farthest away from a walk. If, therefore, the trees are not planted rather high, the collars being kept well above the ordinary ground level, there is every likelihood of their becoming too deeply buried, not thriving or proving so profitable as desirable accordingly. More particularly is high planting advisable in the case of trees on cold, heavy soils. The roots are only too liable to strike downwards into cold or poor subsoils; whereas they render the best service when kept active on or near to the surface. A rich compost should not be given to quite young trees, as this may promote a too rank, unfruitful growth. On the other hand, when fairly large trees are moved from strong ground, many roots being unavoidably, and in some cases recklessly damaged, undue exposure to drying winds also doing much injury, then they must not be given a poor soil, or they are not likely to grow satisfactorily next season. Sometimes the trees received have been already badly started in the nurseries, and must be grown out of it before they prove profitable. If newly-purchased trees cannot be properly planted soon after arriving, then ought they to be laid in thinly by the heels, taking good care to surround the roots with good fine soil in a moist state. Laying whole bundles of them in together will not do, as in this case the bulk of the roots does not come into contact with the soil.

VINES FAILING.

Will you kindly inform me through the medium of your paper, GARDENING ILLUSTRATED, what should be done with my Grape Vines? For the past two or three years the fruit has been getting poorer and smaller in size, especially this season's crop, which has been a fairly large one, but the Grapes very irregular in size and only about half on a bunch reaching maturity. I have two houses, one containing six Vines about twenty years old, the other three about 10 years, black Grapes, all, I believe, of one sort. Some are rooted inside in deep bed, and others rooted outside. The gardener has of late taken to keep other potted plants in the same houses at different periods of the year. Would such action be detrimental to the health of the Vines, also skinning the rods annually? The houses are well ventilated and, of course, heated. I shall be greatly obliged if you will advise me whether you think these Vines can be brought round, and in what way? Or if not, how, when, and with what kinds I should replace the old ones.—H. V. R.

[The cause of the partial failure of your Vines is due to their faulty root action. Vines have a natural tendency to ramble away from the border, no matter how good this may be, unless their treatment is of the very best. There are many Vine borders that are given an annual complement of manure dressings and water but which contain very few active roots, and these are at such a depth that they derive no benefit from surface tillage. Yours present to us a similar state, and we should not be surprised if you found on examination that the roots had gone deeply into the subsoil, and

probably right away from the border altogether. You do not intimate a desire to have more kinds of Grapes, but as a means of succession it is well to employ more variety. The better course would be to root out the oldest Vines and replant, after having made an entirely new border. This can be done piecemeal—that is to say, a yard wide would suffice for two years, and an additional yard could be added in alternate years until the space was filled. Good turfy, calcareous loam is that best suited to your purpose, and it is advisable when making a border to do it well, because once made it lasts a good many years. Lime-rubble is a valuable addition to the loam, and so are bones, $\frac{1}{2}$ inch or larger. Beyond this and a little artificial Vine manure, nothing should be required at present. Some employ loose manure, but it is not usually necessary. If your younger Vines are Black Hamburgs, then we should plant the other house with Alicante, Appley Towers, and Gros Colman. A Vine of Black Hamburg may be added, and if a white Grape is desired, choose Foster's Seedling. Omit Gros Colman if the house is not started by March 1, or is not continuously heated. The other Vines should be overhauled and a search made for roots by cutting out a trench along the outer edge and bringing any roots found to the surface, first liberating them with a fork. The sooner this is done the better, because the autumn-formed roots help the Vines to become re-established. In this case much good would be done by the employment of new soil to incorporate with the old, as also would some fresh horse-droppings and a light dressing of a special Vine manure. Young Vines may be planted in March. Although vineries are better kept free from plants, there is not so much harm done by them as some suppose to Vines or border. Peeling of the rods in winter is necessary only if they are infested with insect pests, such as mealy-bug or red-spider. If these abound, then it is necessary to remove the old or outer bark, so as to be able more easily to deal with insects. We have no sympathy with the wholesale peeling some gardeners practice when it is done simply out of custom, and for no other reason or purpose. It is an unnatural practice, but one rendered necessary when the rods are infested with mealy-bug.]

FINE FRUIT FROM YOUNG TREES.

In no department of the garden has more change been noticeable during the past few years than in that connected with the cultivation of hardy fruits. In my young days, if anyone planted Pears it was said he was planting for his heirs. Thanks to greater knowledge of grafting on stocks suited for producing fruitful trees, we now get the very finest fruit from trees that only a few years back would have been hardly out of the trainer's hands. One of the first things in the way of pruning, in my early days, was to cut newly planted trees quite close back to the graft, so that several years elapsed before there was any bearing wood at all. Now the work of preparing fruitful trees is much better understood, and it is quite a common thing in the autumn to see young trees in the nursery rows carrying a good crop of fruit, quite small trees being usually as well set with fruit buds as the older bearing trees are. If you wish trees that will carry the finest fruits, you must constantly replace any that begin to fail with young trees. I have not got a fruit-tree of any kind that is much over twenty years old, and the majority are under that age. Every year at this time I go over them, mark any that are not satisfactory, and grub them out. After a thorough preparation of the site with new soil, manure, etc., I shift a good strong tree that wants more space into its place, and then there is no waiting for a crop. In fact, maiden or one-year-old, or one-year-trained trees, as received from the nurseries, should be planted out for at least two years before they are finally placed in position. If they are removed with care early in the autumn, they will, in all probability, set their fruit just as well, and produce far finer samples than old-established trees. By getting the trees so early into a fruitful state the pruning is reduced to a minimum, as the strength of the tree goes to

forming fruit-buds, and there is very little useless wood to remove. The best antidote to gross, unfruitful wood is a very firm and not over-matured soil at first, varying the pruning with the varieties. If it grows strongly, leave the annual shoots double the length of those of a kind that produces little growth, and do not aim at uniformity of growth, for almost every variety has its distinctive character. Root-pruning is doubtless necessary sometimes, and will, if skilfully done, change an over-luxuriant tree into a very fruitful one. Gooseberries and Currants are often left too long in one place, for the finest berries are produced by young, vigorous trees. JAMES GROOM, Gosport.

APPLE SANDRINGHAM.

This solid, white-fleshed Apple is valuable for cooking from November to March, its good flavour and juicy, tender flesh making it when fully ripe a very refreshing dessert fruit when juicy Apples are scarce. It bears freely, trees on the Crab cropping well in about five years from grafting. The growth is upright and fairly strong, though not gross. On the Paradise tree the fruits are very large, and as an orchard tree the fruit is above the average size. It is of handsome shape, the fruits mostly highly coloured, deep purple-red on the exposed side and green, changing to yellow, at the base



A good late Apple—Sandringham.

and on the sheltered side. A striking characteristic is the heavy bloom with which the fruits are covered, and it is also thickly speckled all over with tiny dots.

NOTES AND REPLIES.

Strawberry St. Joseph rotting.—I have sent samples of St. Joseph Strawberry, showing decayed state of fruit, and shall be obliged if you can tell me the easiest remedy? The plants have fruited continuously in open ground from June, and ripened perfectly until about three weeks ago. Latterly, however, a large number of the berries on each plant have decayed. I have still a quantity of fruit, ripe and unripe, most of it at present healthy, but some showing signs of turning bad. As I find this the most serviceable variety to grow, fruiting, as it does, for six months in succession, I shall be much obliged for your advice.—Q. K.

[Due, no doubt, to the weather. You ought to lift the fruit off the ground on to slates or bricks.]

Apricot-tree not blooming.—I bought from a good nursery four years ago an Apricot-tree. It is growing very strongly, but has not flowered. What treatment do you advise? It has made tremendous growth this year, and is on a wooden fence facing north.—K. G.

[Your Apricot-tree is evidently growing in too rich soil. Dig a trench at about 3 feet from the stem, remove some of the soil about the roots, and mix with it a liberal quantity of lime rubble, first cutting back any strong roots there may be, and then treading the soil replaced firmly in the trench. An absence of lime and soil rich in humus are certain to set up a vigorous growth, which will produce neither flowers nor fruit.]

Defoliating Vines.—I have read with some interest an article in your last issue on

“Defoliating Vines,” by J. Crook. I think we can let light into our vineries by shortening the shoots back to three eyes without injuring the Vines in any way. J. Crook says it is no uncommon thing to go into vineries in September and then see Vines stripped of their foliage. He does not mention if these Vines have been hard forced, or have been heavily fruited. I think that would be more the cause than shortening the shoots when growth has almost ceased.

Seedling Peaches.—I have two Peach-trees two years old which my children have grown from stones. They are about 4 feet high and very healthy. Should they be pruned now or in spring, and will they fruit without budding, and when? One faces west and the other east.—K. G.

[We presume your trees have grown where the stones were originally planted, and have had no training. Assuming this to be so, and that they have grown upward on a single stem, they may be cut down to within a foot of the soil in February next. By cutting them down thus, several lateral growths, that in time may be trained to the wall in the form of an open fan, will be formed. Seedlings are slow to come into bearing, but there is no need to bud them in order to procure fruit. We have recently seen growing against a wall several seedling Peaches and Nectarines, that are from three to four years old, which this year bore just a few fruits—some would have a dozen, others not more than two or three. We find the trees flower freely enough, but for some reason they do not set their fruits like trees worked on other stocks. This, however, may be a failing only when so young. They grow freely enough, and in some cases too strongly, and need much attention in spring and summer in dealing with the superfluous shoots and lateral growth. There is an interest attached to seedling trees almost unknown to the recognised named varieties. The chance seedling is not likely to develop into anything highly superior; still, if there is average merit it is worth retaining, especially if there is an interest in its history. The prospective value of seedling fruit-trees depends on their spring and summer treatment, and we might say they are not so easily manipulated as are worked trees.]

Plum Grand Duke.—For cooking, Grand Duke ought, owing to its freedom of cropping, good size, colour and lateness in ripening, to gain favour. With me it has not failed to crop for several years; indeed, not since it first came into bearing, and in this year of dearth it seems peculiarly marked in its freedom of bearing. My tree, just in the height of its vigour, has been this year literally roped with handsome fruits, providing a supply until mid-October, a time it must be admitted when Plums are serviceable in the kitchen. From the lateness of its ripening, it need scarcely be said that the shelter of a wall is advantageous, because high winds or a severe autumn frost soon spell ruin to unprotected Plums.—W. S.

Planting fruit-trees on espaliers.—I am having a fence 84 feet long made between the kitchen and Rose garden, and should be much obliged if you could advise me as to the best kind of fruit-tree for it, whether Apples, Peas, or Cherry? The fence faces south-east, and a very strong north-east wind blows from the back of it. The soil is fairly loamy, Roses doing very well with me.—Abolton, Nottingham.

[The term “espalier” is used in relation to trees only, and not to the fence on which trained, which is, as we understand, 84 feet long. The height is not stated, but for espaliers trees a good height is 5 feet, the wires or wood laths being 10 inches apart, the lowest being just so far from the ground. In the length named you should be able to plant eight trees, thus allowing intervals of 10½ feet between them. That is, however, none too much, but it generally suffices. As you say the trees would look south-east—a very good aspect—and that you have behind strong, cold, north-west winds, you should, if possible, plant as a break some sort of hedge, say, 4 feet behind the trellis, which could grow up and be kept hard trimmed. Unless you have some such break we fear the exceedingly cold draughts between the fruit-tree branches, which would at times prevail, would injure the trees, as the hardest would

inevitably suffer if exposed to cold currents of air. If you cannot plant a hedge, could you fix weather-boards to the back of your trellis fence, as those would not occupy space? This matter should have serious attention. Your soil seems to be admirably suited for fruit-trees, but most likely the addition to it of some wood-ashes, old lime-rubbish, and soot would be better for the trees than at first adding any animal manure. You should plant, of eating Apples: King of the Pippins and Cox's Orange Pippin. Of cooking Apples: Lord Grosvenor and Lord Derby. Of Pears: Louise Bonne and Cantillac, a stewing Pear; and of Plums: Rivers' Early, Victoria, and Monarch. It may be too cold for Cherries, especially as, if not warm enough, the shoots do not ripen, and blight is rapidly created. Dig the ground deeply dug 4 feet wide in front of the trellis, and plant at once, but not too deeply. Leave the trees to settle for a month before you tie them to the trellis, or even prune them.]

Apple Blenheim Orange.—The excellent illustration (page 437) correctly represents good specimens of this popular Apple, and "T." does well to warn amateurs who have got a limited space against growing this, for unless it can get plenty of room to extend it is useless. Unfortunately, this is not the only good Apple that is useless for small gardens, and intending planters should consult reliable works on fruit culture before selecting any kind, however good it may be, if it has not been proved to succeed in their own locality, and above all to be fruitful in a small state. I have fruiting trees of a very large number of kinds of Apples, but should never recommend for small gardens Blenheim Orange, Peasgood's Nonsuch, or Bramley's Seedling, simply because they will not fruit in a size suitable to amateurs' gardens. I am well aware how handsome they look in collections of fruit, but each needs special culture to get the fine fruit to perfection, and the ordinary amateur wants a tree well set with fruit buds, to begin with, and that will grow into a good shaped bush and yield a regular crop every year. If the compilers of fruit catalogues would tell their customers what sorts to avoid, they would do them a greater service than telling them what to plant. Really good free-cropping Apples that succeed with reasonable care are too numerous, and the good varieties that have never had a name would fill large volumes. I frequently see loads of Apples that come to this locality from the New Forest orchards, the majority of the trees being chance seedlings or very old and well-known varieties.—J. Groom, Gosport.

Transplanting fruit-trees.—There is ample evidence that summer shoots on fruit-trees, even on walls, will ripen rather later than usual. But the lifting or replanting of fruit-trees need not be delayed in consequence. It will, in many cases, do trees good if they now receive some root check so as to cause the flow of the sap to materially cease, the wood harden, and the leaves to fall. It is so much better that operation should take place under the influence of ripening, rather than be forced by frost. Then it is a very good plan to have leaves on trees when they are transplanted, because these exercise some useful influence in promoting quick root-action, and that is of material value in helping to establish trees early in the winter. The sooner the planting is done also, the warmer is the soil, and warmth at the roots also helps to promote quick rooting. The old practice of running a Birch-broom over wall-trees to cause the leaves to fall is not desirable in ordinary seasons, and certainly not in the case of trees it is proposed to transplant. But this autumn some assistance in removing the leaves on permanent trees may be desirable.—A. D.

TREES AND SHRUBS.

LAURUSTINUS (VIBURNUM TINUS).

This beautiful and fragrant evergreen thrives over a large area of Great Britain and Ireland, especially near the sea and on warm and gravelly soil, though occasionally injured by severe frost even in the districts south of London. In sunny districts it flowers freely, and we noted some fine bushes in full bloom on November 1 in a garden near Ealing, the soil being gravelly and well drained. It will keep up a succession of bloom until March.

There are several varieties of Laurustinus, the best being the form here figured:

V. T. LUCIDUM, in which the leaves are larger, shining, and almost smooth on both sides, the flower-trusses also much larger. This is found to be less hardy than the type, and on this account should always have a sheltered and sunny spot. Another variety is

V. T. HIRTUM, in which the leaves and branches are hairy, while in the case of

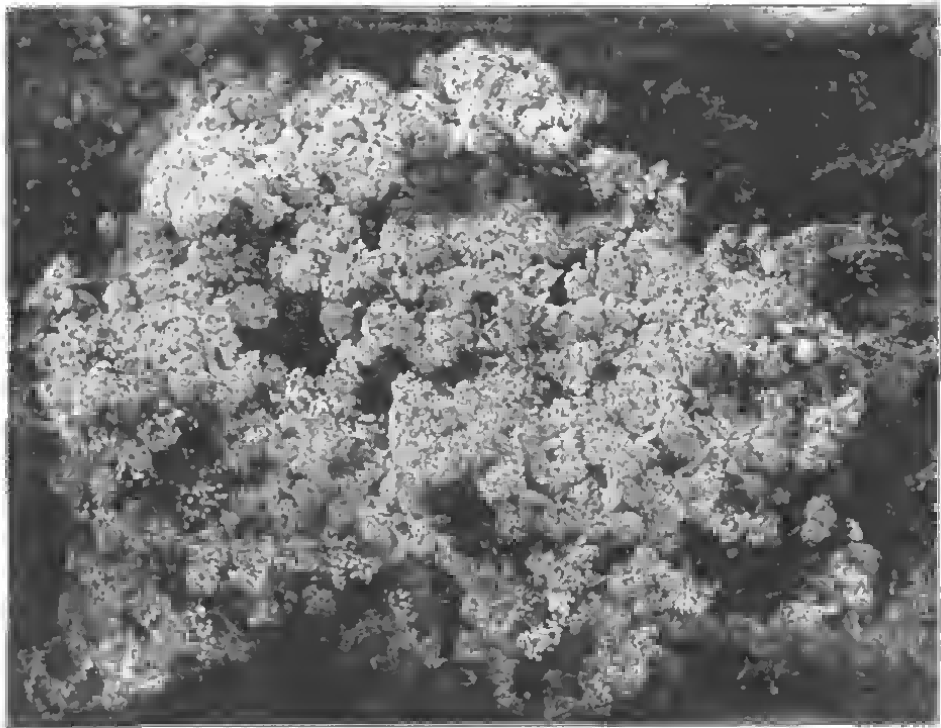
V. T. PURPUREUM the leaves are suffused with a dull purple tinge.

NOTES AND REPLIES.

Raising Gorse.—I am about to lay out and plant a site in the country. The soil is light and the spot somewhat wild, and I wish to preserve its character. I am therefore thinking of planting Gorse hedges, and shall feel greatly obliged if you will kindly give me the following information in your next issue: 1, Best mode to propagate Gorse, either cuttings or seeds? 2, Seed is certainly the best, sowing this in the spring, but if you have any Gorse in your district, you will probably find young plants in their vicinity which can be transplanted? 3, How to plant—in one or more rows, and distance apart? (The great point is to sow or plant thickly.) 4, Is any special preparation of the ground required? (None whatever.) 5, About how many years would it take to get up a hedge, say, 4 feet high? (You will have good growth the first year and good hedges in two or three years.) Site is now Grass land, about 18 inches of light, friable loam and then sandy loam. Gorse grows splendidly on the site now. (You have the best possible condition for Gorse to grow.)—SUFFOLK.

Evergreen shrubs.—I should be very pleased if you would tell me the twelve best evergreen shrubs—compact varieties are preferred—that will make good specimens? Do you think Cryptomeria japonica is hardy enough to stand the winter outside here?—A. Y. L., Leicester.

[Without knowing the purpose for which your overgreens are needed, and whether you wish Conifers to be included, it is rather a difficult matter to advise. If your soil is suit-



Viburnum Tinus lucidum. From a photograph by Mrs. Heath, Dunley, Bovey Tracey.

The Laurustinus is also very useful for forcing into bloom early in the year. Anyone who has a warm house may employ the Laurustinus to great advantage, as the plants may be stood in a light shed or cold-frame, and introduced to heat as required. Where there are draughty corridors to decorate these forced plants will be found very useful, as they last a long time in flower, and do not suffer when exposed to changes of temperature. It would be well to grow some of these always in pots or tubs, as, apart from the enjoyment to be derived from them early in the year, they serve as a guarantee against exceptionally severe winters, when the outdoor plants are due to cut down. The trusses of bloom, too, are very useful for cutting, a single truss with a background of its own foliage, a Geranium leaf, or a sprig of Maidenhair Fern, being much esteemed as a buttonhole. It is well, after the flowers have fully opened, to move the plants to a cooler structure, where they will remain in good condition for several weeks. Little plants lifted from the borders, potted in spring, and attended to during the summer, giving them a sunny position to thoroughly ripen the growth, come in well the following season for

able, Rhododendrons must be included in the list, but if it is necessary to omit them the following may be relied on to all succeed in ordinary soil. Aucubas, both green and variegated, and if you plant a male and female plant together you will have a crop of their bright-coloured berries; Berberis Darwinii, 6 feet to 8 feet high, orange flowers, May; B. stenophylla, 6 feet, golden-yellow blossoms, May; B. Aquifolium, 4 feet, rich yellow flowers, March and April; Eleagnus pungens variegata, 5 feet to 6 feet, a pretty variegated-leaved shrub; Euonymus japonicus, and its variegated varieties, 3 feet to 6 feet; Hollies (Ilex) of sorts, including green and variegated, while Ilex crenata is a pretty little Japanese evergreen, with tiny deep green leaves; Olearia Haastii, a dense rounded bush, 3 feet to 4 feet high, clothed with deep green Box-like leaves, and bearing in July little white starry blossoms; Osmanthus illicifolius, a Holly-like shrub, whose deep green leaves are tinged with purple; Skimmia Foremanni, a delightful shrub 2 feet to 3 feet high, that bears its bright red berries in great profusion. As you speak of the Cryptomeria, we think perhaps that your question refers to Conifers, in which case the following should suit you: Cupressus

Lawsoniana compacta, C. Lawsoniana gracilis, C. Lawsoniana nana, Prumnopitys elegans, Retinospora filifera, R. obtusa compacta, R. plumosa, R. plumosa aurea, R. squarrosa, Taxus adpressa, Thuja orientalis aurea, and Thujopsis dolabreta. You need have no doubt that Cryptomeria japonica is quite hardy enough to stand the winter outside with you.]

PLANTS AND FLOWERS.

ROSES.

MY EXPERIENCE WITH ROSE CUTTINGS.

As I have gained all my knowledge of gardening from your paper and descriptions given therein by amateurs I contribute my experience for others' benefit. Last year, in the end of October, I put in twelve cuttings of the Crimson Rambler Rose and six of Gloire de Dijon. All the former have grown into good plants with from three to six good shoots, two of which are over 3 feet in length. Only two of the latter have grown, but one of them is a specimen, several growths, and one very strong, 3 feet 6 inches in length. Why I am surprised at my success is that I took no trouble with the cuttings. I simply cut up some growths of the year into about 12 inches long, forced the spade into the ordinary garden soil, pushed the cuttings well down, and stamped my foot on each side. Possibly this is the correct way; at any rate, it has resulted in success. I have to-day (Oct. 30)—just twelve months since putting them in—potted them into 8-inch pots, so as to be able to plant them at any time. I shall bury the pots in ashes, and leave them out in the open ready for transplanting into permanent positions. I have also been very fortunate in budding. In July and August of last year I budded twelve Briers, ten of which bloomed this year—viz., two Gloire de Dijon, one W. A. Richardson, one Baroness Rothschild, three Mrs. Paul, two Dupuy Jamain, and one John Stuart Mill. I have also budded ten more this year, and they have all taken, including two Crimson Rambler, which I tried for experiment. I think anyone who loves Roses, and has only a small garden, might beautify his house, if even he only grew two or three of the Ramblers on the walls, by putting in a cutting or two now against the side of the house; by next year he may have some 2 feet or 3 feet of growth, and in two years a good space may be covered with some bloom (some of my cuttings before mentioned bloomed this year, but I pinched them off). My friends may say: "This is all very well on paper, but where is anyone to get the cuttings to start with?" Well, at this time of year, anyone who has Roses of the Rambler kind has always superfluous shoots, which must be cut away, or, at any rate, could be dispensed with. These he would be glad to give to anyone who might ask for them.

Llandaff, S. Wales.

C. PERRY.

CHINA ROSES.

Among the China and Hybrid China Roses are to be found some of the most constant and free-flowering of all the Roses, as they are seldom out of bloom from the commencement of the early summer months until the autumn—in fact, they never cease flowering altogether until overtaken by severe weather. This constant and prolonged habit of flowering renders these Roses peculiarly suitable for growing in masses in large beds or borders or for covering banks. They are mostly free or vigorous growers, and quickly cover a good space. They are as hardy as the Hybrid Teas, and require but a moderate amount of pruning each spring. The same amount of protection afforded the class of Rose just alluded to, answers for the Chinas, whether it takes the form of loose litter, Bracken, or drawing the soil up to a certain height round the stems or cluster of stems composing each separate bush. Like Tea Roses and their hybrids, Chinas like generous treatment—such as a good dressing of well-rotted manure placed on the surface as a mulch in late autumn, and dug in after the pruning is performed in the spring. Artificial manure afforded during the growing period is

also beneficial, and this may take the form of equal parts of fine bone-meal and dried blood, with a small proportion of muriate of potash added. When mixed, just enough of this may be sprinkled on the surface of the soil to colour it, and it should at once be hoed or raked in, or, what is better, watered home with diluted sewage. Such a dressing as described may be administered twice, and in the case of poor soils thrice, during the season with advantage.

Some of the China Roses vie with Tea varieties in the exquisite colouring of their blossoms, more particularly when in the bud state, for they are then charming, and never fail to arrest attention. Queen Mab, Lauretta Messimy, and Mme. Eugene Resal are perhaps the most beautiful of all the Chinas, the first having apricot-coloured flowers shaded with rose, the next may be described as rose shaded with yellow, and the last-mentioned is variable—sometimes salmon shaded with pink and yellow, and at others coppery-red suffused with rose. Duke of York has beautiful rosy-pink flowers, which are produced in great profusion. In Ducher we have a creamy-white variety, forming a nice contrast to the rich velvety-crimson flowers of Cramoisie-Supérieure, which is too well known to need further description. Archduke Charles has rose-coloured blossoms suffused with crimson, and then there is the common or Blush Chine, better known perhaps under its old title of the Monthly Rose. The next two to be named, Mrs. Bosanquet and Armosa, are classed as Hybrid Bourbons, but they associate so well with the Chinas, and produce such large quantities of blossoms withal, that this must be my apology for including them in my list. Mrs. Bosanquet has beautiful delicate flesh-coloured flowers, and Armosa, lilac-pink, is a grand variety for massing. Aurore, a yellow flower suffused with salmon, is exceedingly pretty, as is Jean Bach Sisley, which yields large silvery rose-coloured blossoms. A. W.

NOTES AND REPLIES.

The Seven Sisters Rose.—This, one of our old Roses, bearing clusters of white blossoms, is of vigorous growth, and soon covers a wall or trellis. I have one over a lattice fence, and in the past summer it has been much admired. All the pruning it gets is a shortening of the ends of the strongest shoots each year, and this treatment seems to suit it. Where other Roses would die this old variety thrives, and if the blossoms are not fine as some count them, they make a good show.—W. F. D.

Perpetual-flowering Roses for exposed situation.—Will you kindly give me names of China and Perpetual-flowering Roses suitable for planting in an exposed bed with a bleak, north aspect? Will Laurette Messimy be too tender a Rose?—Scribble.

[Laurette Messimy would be a very good kind and quite hardy enough for the situation. If earthed up about the base in winter one need have no fear of such Roses succeeding. A few other good kinds are the common Monthly, Jean Bach Sisley, Armosa or Hermosa, Mrs. Bosanquet, Augustino Guinoisseau, La France, Caroline Testout, Camoens, Grace Darling, Viscountess Folkestone, Mme. Pernet Ducher, Mme. Abel Chatanay, Ferdinand Jemin, Mme. Wagram, and Gruss an Teplitz.]

Pruning Rose Soleil d'Or.—Kindly let me know if the new Rose Soleil d'Or should be pruned same as a H.P.—D. W.

[This may be pruned at the proper time somewhat in the same manner as one would a vigorous-growing H.P.—that is to say, leave its new wood about 7 inches or 8 inches in length, and any lateral growths cut back to three or four eyes. I believe it will prove to be a useful pillar Rose, and perhaps in this form or as a hedge Rose we shall see it at its best, but it also makes a fine standard. The flower is rather too double to expand well in a wet season, so that we may not see it in its full glory until a hot summer occurs again. Under glass every flower opens well. The fragrance is pleasing, and has gained this Rose many admirers this season.—ROSA.]

Rose W. A. Richardson.—I saw quite recently in a cemetery some excellent plants of this favourite Rose employed as miniature arches over graves, and the bending of the shoots compelled a freer blossoming than sometimes is the case with this variety. These

arches were covered with dozens of the orange-coloured buds, and beautiful they looked in the autumn days. W. A. Richardson is especially good for a chalky subsoil, and blooms more freely where the roots cannot penetrate too deeply. It is not necessary to peg down the growths, as by pruning moderately they blossom very freely. I think this Rose should always be on the Brier stock in some form or other.—ROSA.

Rose Crimson Perpetual.—This very old Rose, known as Lee's Perpetual, also as Rose du Roi, has been flowering very freely this autumn. Although when compared with our modern Hybrid Perpetuals the variety would scarcely be tolerated to-day, yet when sent out by Lee early last century it was in much demand, as, of course, then autumn Roses were very few in number. The form of the flowers is cupped, and the colour is a bright crimson. A very pretty striped form of this Rose was sent out some few years ago under the name of Panache de Lyon. The flowers were as prettily marked as a Carnation and sweet scented. Can anyone say why the group to which this Rose belongs is called R. Portlandica or Portland Rose? I cannot find any authority for this, and there may be others interested in the matter. If old Roses drop out of cultivation it is often helpful in knowing their history, in order to assist the raiser and hybridiser in their work.—ROSA.

CHRYSANTHEMUMS.

NATURALLY-GROWN CHRYSANTHEMUMS.

The term "naturally grown" is usually given to Chrysanthemums that are made to develop a bushy form and which are not subjected to the severe disbudding necessary if flowers of exhibition quality are desired. It is, however, a misnomer, for, strictly speaking, a naturally-grown plant would have neither its shoot-stopped nor any of its flower-buds removed, both of which operations are nearly always practised. In growing Chrysanthemums of what may be termed the exhibition type, the sole object in view is to obtain flowers at once of the largest size and as near as possible of the form that has been set up by the florist as an ideal one. In the cultivation of that class with which the present observations deal, the aim is entirely different; it is, in a word, the beauty and effectiveness of the plant as a whole rather than those of the individual flower. In growing this class of plants it is of great importance that each should be clothed with foliage almost or quite to the base of its stems, and that whilst the shoots should be disposed and supported so as to secure sufficient symmetry of form, the stiff outlines and unwieldiness of the "specimen" plant of the exhibition should be as carefully avoided. With regard to the flowers themselves, the aim should be to obtain them large enough to show the true and distinctive character of the variety, and yet in sufficient number to fully furnish the plant, thus avoiding the wasteful process which accrues from restricting the energies of the plant to the production of two or three flowers.

It is questionable whether by encouraging so exclusively as exhibitions do the big flower and the conventional specimen plant, the true interests of horticulture are furthered as much as would be done by adopting a system of culture that requires as much real gardening skill to obtain the best results, and which, from an artistic standpoint at least, are infinitely more pleasing. The groups of plants seen at even our best shows, with their carefully sloped surfaces, look brilliant and gorgeous enough at the top; but to the inquisitive eye that searches below there is revealed a huddled mass of long stalks and pots (the latter not infrequently stood one above another), which is to the last degree unsightly. Looked at singly, such plants are hideous, and even when massed together in a formal sloping bank, which is the only arrangement they are presentable in, the few square yards of colour they give cannot be said to be an adequate return for all the expense and labour they have entailed during the previous twelve months.

OUTDOOR PLANTS.

HARDY CRINUMS.

In English gardens Crinumms are frequently grown in pots in hothouses, but so restricted they give one a poor idea of their value, hence it is encouraging to know that in the south of England and in Ireland they can be grown to great perfection in the open air. One of the best known is *C. capense* syn. *Amaryllis longifolia*, which grows from 2 feet to 3 feet high, flowering in the late summer, and bearing its large, funnel-shaped blooms in umbels of 10 or

A deep rich border between the buttresses of a wall suits them perfectly, or a warm corner near a heated greenhouse or plant stove. Dig a large hole and fill it up with good turfy loam, coarse sand, peat fibre, and leaf-mould, well mixed. Crude manure should never be used; but if some good bones can be added, these will prove of great assistance. Care must be taken when the border is low-lying or wet that the drainage is good, this being formed of 18 inches or a foot of rough stones or brick-rubble. When established and in fine growth abundance of water in the summer is necessary if the weather is dry. In very cold situations

obvious is that the plant must be in itself handsome and somewhat showy. The next, and one of the most important, is that it should remain a good while in flower. Plants that are in flower a few days only and then are done are of little use in the mixed border, unless their foliage is unusually handsome and persistent, in which case this is so valuable a quality that it may redeem the plant.

The choice of kinds being decided on, the way in which they are arranged then becomes the matter of chief importance. It seems a natural arrangement to use the creeping and short-growing plants in front and the next in



Crinum Powellii in Mr. Gumbleton's garden at Belgrove, Queenstown, Co. Cork.

15 on a stout stem. There are now several varieties in addition to *C. capense* which have proved quite hardy, these being *C. Moorei* and its variety *C. M. album* and *C. Powellii*, of which there is also a white form. *C. Powellii* is the result of a cross between *C. capense* and *C. Moorei*. Many seedlings were raised, all varying in colour from deep rose crimson in the bud to pure white. Practically speaking, there are three distinct forms of *C. Powellii*—viz., a dark rosy flower, a light rose form, and a pure white kind; each scape is from 2 feet to 4 feet in height and bears from seven to 15 flowers. If the clumps are doing well from five to 20 spikes are thrown up each season. Once well planted Crinumms are best left alone

a little heap of leaves should be placed over the bulbs, the tops of which should not be less than 8 inches below the surface.

THE MIXED BORDER BEAUTIFUL.

It is not altogether an easy matter to keep a mixed border well furnished throughout the flowery months of the year, and to avoid unsightly gaps, but there are ways of doing it, and even beginners should not be afraid of facing this fact, and of thinking out ways and contriving methods so as to have as few empty places as may be. There are some commonsense considerations that will be a guide to the choice of plants to use. The first and most

stature behind them, and the tall ones at the back. This is obviously a good general rule, but if not varied with judicious exceptions the result will be very monotonous. Now and then some of the tall backward groups should break forward. Think of the way in which the lateral spurs of a mountain chain descend into the valley or plain. They all do come down to the level, but in how varied and beautiful a way. Think of this and then think of the dull and ugly slope of a slate roof, and then think of your border and apply the lesson. Then try and get hold of some definite scheme of colouring, to get richness and brilliancy with dignity. It saves much trouble and puzzling at planting time to have a regular

scheme of simple progression of colour from end to end, so that if you have a yellow-flowered thing to plant you put it in the yellow place and so on. In no way can you get so much real power of colour, by which is meant strength, richness, and brilliancy, as by beginning very quietly at the ends of the border with cool-coloured bluish foliage and lowers of tender colouring, white, pale blue, and palest sulphur-yellow, and even with these, palest pink; beginning quite *piano*, then feeling the way to full, and from that to strong yellows; then by a gradual *crescendo* to rich orange, and from that to the *forte* and *fortissimo* of scarlets and strong blood-crimsons, and then again descending in the scale of strength to the pale and tender colouring.

In other parts of the garden you may have incidents of brilliant contrast, which are especially desirable in the case of strong blue flowers; but in the mixed border the way of having the rich and brilliant harmony approached by more delicate colouring can scarcely be improved upon, and so only can the vice of garish vulgarity be avoided.

Plants of the same colouring are intergrouped, so that the red group, whether early or late, is always a red group, and so on throughout. There are ways of filling gaps by training plants down to fill the spaces. For this use, Everlasting Peas, tall perennial Sunflowers, Rudbeckias, and Dahlias are especially accommodating.

Nothing is so destructive of good effect in the mixed border as the old unthinking mixed up way. Plants of the same kind, instead of being dotted at equal intervals, should be grouped together, each group dying away into the neighbouring group, or if there is only one plant of a kind there is no harm in its being one alone if only it is in its right place.

Of course there are other ways of arranging the details of a mixed border, and many devices that may be used to enhance its effect at the different seasons, but these suggestions will be a good basis of operation to anyone who is without experience and desires general instructions.—*The Gardener*.

THE OLD BLACK AND WHITE PINK.

AN old and valued correspondent of ours is looking for the above plant. Perhaps some of our readers in the north may be able to tell us where plants can be had. The following is the description of it:—

"The old 'Black and White' Pink that I am always looking for is like a single kind called Beauty, in double, not too double, not more than two more rows of petals, perhaps only one, as the dark blotch shows plainly. I have enquired for it in the papers over and over again, and many people have kindly sent blooms and plants, but the right thing has never come, except once from Scotland, a rather weak plant that I unfortunately lost. Nearly all that were sent were laced or somehow coloured at the edge. The real Black and White is nothing but black and white, a black blotch in the middle, so dark a red-black that it tells us black, and all the rest white, no lacing, no pink tinting anywhere. The whole habit of the plant is like that of the White Pink, the size of bloom and leafage almost identical, and it follows the White Pink in time of blooming."

PERENNIALS AND BULBS.

I SHOULD be much obliged if you would give in your most useful paper, GARDENING ILLUSTRATED, a list of perennial plants and bulbs which would give fairly continuous flowering during all months (except June and July), in a bed about 36 feet by 7 feet, running north and south, sheltered from all winds, but not getting much early morning or late evening sun. The bed runs along one of the walks, and is seen from one of the drawing-room windows, therefore I wish to keep it as bright as possible. The soil is limestone, but we have plenty of peat. Climate damp, west of Ireland. I shall be grateful for suggestions.—*AGATA C. CORLETON*.

[You will, perhaps, do well to arrange the bed in small groups, so that by a system of double planting quite a prolonged flowering season will result. For instance, as back row plants you may employ the following: Helianthus multiflorus plenus, H. m. Soleil d'Or, H. rigidus, H. tomentosus, Aster N.-Belgii Ariadne, A. N.-Angliae ruber, A. N.-A. Melpomene, A. N.-A. pulchellus, Kniphofia aloides, *Lilium candidum, *L. tigrinum, *L. t. Fortunei, *L. speciosum album, *L. crenatum,

*L. s. Melpomene. These range from 3½ feet to 4½ feet high. What we suggest is that of the herbaceous things you obtain three plants of each, and so form a small group, while the bulbous plants, which are marked thus *, may intersect the other groups and appear slightly in front of them. By planting three or six in a group having a ground area, say, of 12 inches or 18 inches a good show would result in autumn. By reason of its fine colour, we suggest two groups of the Aster N.-B. Ariadne. It is one of the best of the Michaelmas Daisies.

In the next line you could arrange such things as *Galtonia candicans, red and white Perennial Pea, Aster cordifolius Diana, A. c. Photograph, Rudbeckia purpurea, Pontstemon barbatus, Astilbe cordifolia, a selection of herbaceous Peonies, Gaillardia grandiflora, *Lilium Martagon, *L. dalmaticum, *L. Hansoni, *L. testaceum, Iris pallida dalmatica, I. Mme. Chereau, I. Dr. Bernice, I. Cheltes, Iris orientalis, Galega officinalis and G. o. alba, a few Delphiniums, such as conspicua, Landseer, Life-guardsmen, etc. These may be arranged similarly to the first, and 2½ feet from them in the row.

In a third row, or nearly a front row so far as the taller things are concerned, the following may appear: Aster Amellus, A. A. Riverslea, A. A. Distinction, A. levigatus, A. acris, Incarvillea Delavayi, Anthericum Liliustrum majus, Hemerocallis flava, H. Middendorfsiana, Rudbeckia Newmani, Primula lenticulata, P. d. Cashmeriana, P. rosea, P. Sioboldi in three varieties, Arnebia echinoides, Senecio Doronicum, Doronicum austriacum, Iris Mrs. Darwin, I. Victorine, I. Queen of May, I. stylosa, Megasea cordifolia purpurea, Phlox divaricata, and a set of hardy free-flowering Carnations, such as Old Glove, Ruby Castle, Uriah Pike, Alice Ayres, and others. The Carnations would be best several in a group, and the remainder as previously recommended. In the spaces between these plant such Daffodils as *Sir Watkin, *Barri conspicuus, *Emperor, *Horsfieldi, *ornatus, *poeticus fl. pl., *Stella, *Cynosure, *Frank Miles, and *maximus, with such other bulbous things as *Fritillaria Melegris and alba, *Crown Imperials, May-flowering *Tulips, *Spanish Irises in variety, and such-like. Then in the immediate front the bed may be carpeted with Aubrietias, Alpine Phloxes, and such things, or you may employ the Tufted Pansies in the same way, putting in good rooted cuttings all over the ground when the border is planted, and allowing them to form a general carpet to the entire bed. You could in this way plant in blocks of one colour, and with the new growth and the bulbs pushing through and flowering a very pretty effect would result. The front portion may be sprinkled with Snowdrops, Chionodoxa, Muscari, Snowflake, Anemones, and so forth, which would provide an ever-changing picture. Some very showy midsummer flowers are omitted—those for July, etc.—as you request. Bulbs are marked *.]

NOTES AND REPLIES.

Rudbeckia pinnata.—For a garden where the soil is poor and few things will thrive, Rudbeckia pinnata would suit. It grows in almost any situation, and for a couple of months one may depend upon the yellow blossoms, which are useful for cutting in early autumn. For a back-row border in town gardens I can recommend it, and it is at this season when it can be propagated by division of the roots.—*W. F.*

Border facing east.—May I trouble you to give me a list of herbaceous plants suitable for a border looking due east, about 6 feet deep and with a brick wall 8 feet high at the back? The border gets next to no sun.—*A. W. L.*

[Any of the species of Spirea, of Astilbe, Japanese Anemones, Kniphofias, Michaelmas Daisies, Day Lilies, Lenten and Christmas Roses, Peonies, quite a large array of the Flag Irises, such Primulas as P. Sieboldi, P. rosea, P. cashmeriana, Oriental Poppies, Perennial Pea, Montbretias, Helianthus, single and double Pyrethrams, Gaillardias, and, indeed, many other plants of the showy class. Quite a large number of the good hardy plants, as Stenactis speciosa, Harpaliums, and others above named, are not fastidious in the least, and in their day the majority of

sunlight is so great that their flowering is assured in almost any aspect you may select. The only difference is one of time in opening. Alstromerias, Hyacinthus candicans, such bulbous things as Crown Imperials, Fritillaria Melegris, Daffodils, May-flowering Tulips, Colchicums, and Crocus species, may all be expected to thrive, provided a good bed of fairly rich soil is at command. Lilium candidum, L. Martagon, L. testaceum, L. pinnatum, L. Harrisii, L. chalcodonicum, L. croceum, L. tigrinum, etc., may also be planted.]

The Burning Bush (Dictamnus Fraxinella).—One of the best known of old time garden plants is the Dictamnus, and seen to advantage often in country gardens, where, as with many, it is left alone. Indeed, one of the reasons why some fail to succeed with it is because of its being disturbed unnecessarily. Like Crinum, Peonies, and one or two more plants one could mention, the Dittany, to call it by its familiar name, should be planted in good deep soil and left alone. A border with the red and white forms in bloom in July is attractive, and all who wish to add this old-fashioned subject should secure plants as getting them in during open weather. It is one of the few plants that needs no support of any kind.—*W. F.*

Single Pyrethrams.—I grow many of the single sorts of Pyrethrams, mainly on account of their being more useful for cutting, to say nothing of their delicate colour. Perhaps this is one reason why of late years more of the single varieties have been grown. A dealer told me that where double sorts were once asked, now the singles are sought after, and, doubtless, the qualities named are answerable for their popularity. As June flowers, Pyrethrams are useful, but many put off until too late procuring them. Now is the best time to plant in open weather, and amongst singles the following are charming: Warrior, carmine-purple; Juno, rose; Aladdin, pure white; Jubilee, crimson; Duke of Connaught, carmine; Mrs. Bruce Findlay, deep rose; Nellie Goodman, rose carmine; Elsie Gertrude, pale flesh; Carmen Sylva, blush-white.—*TOWNSEND*.

A fasciated stem of Tropaeolum tuberosum.—I send you an extraordinary growth of Tropaeolum tuberosum. You will see that the flattened stem is fully 2½ inches wide, other stems have the same growth. The stems begin to flatten almost from the ground. The plant has not produced a single bloom. Is it probable that the root bulbs, if it has formed any, will be liable to the same defect?—*T. B. W. S.*

[No, it will not affect the roots in any way.]

Wallflowers.—I have three large boxes of Wallflowers, all with two and three leaves and 1½ inches high. How must I proceed with these to get them to flower next March or May?—*E. T. ORR*.

[No method of cultivation will make of these seedlings good flowering plants by the time stated. The plants are obviously a result of too late sowing, or the seeds have not vegetated quickly. All you can do now is to winter the plants in a frame or light, giving them more root room by planting out; otherwise, if the plants become hido-bound they may refuse to move at all briskly. It is quite likely that seeds sown now or to the end of the year will make as good or better plants if grown or without check, which is the most important item of all for any quick-growing annuals or biennials.]

Thalicttrum.—I have a box of Thalicttrum (marest) The seedlings are well up, and doing well if it was not for the two top leaves of the seedlings being eaten or dropping right off and only leaving stem. I have killed several woodlice lately. Would they be the cause? The same thing is happening to a box of Pyrethrum aureum and a box of Camassia. Kindly advise me what to do?—*E. T. ORR*.

[The woodlice may be responsible for the damage to the Pansies and Pyrethrams, but the above-named loses its leaves each year. It is the nature of any true herbaceous plant. The woodlice may be easily trapped in the evening by laying slices of Potatoes about. Meanwhile, elevate the boxes of young plants over a pan of water. Place a large saucer of water, with a flower-pot in it upside down, and on this stand the box of seedling plants. In this way the seedlings are safe, and the pest may be trapped at will.]

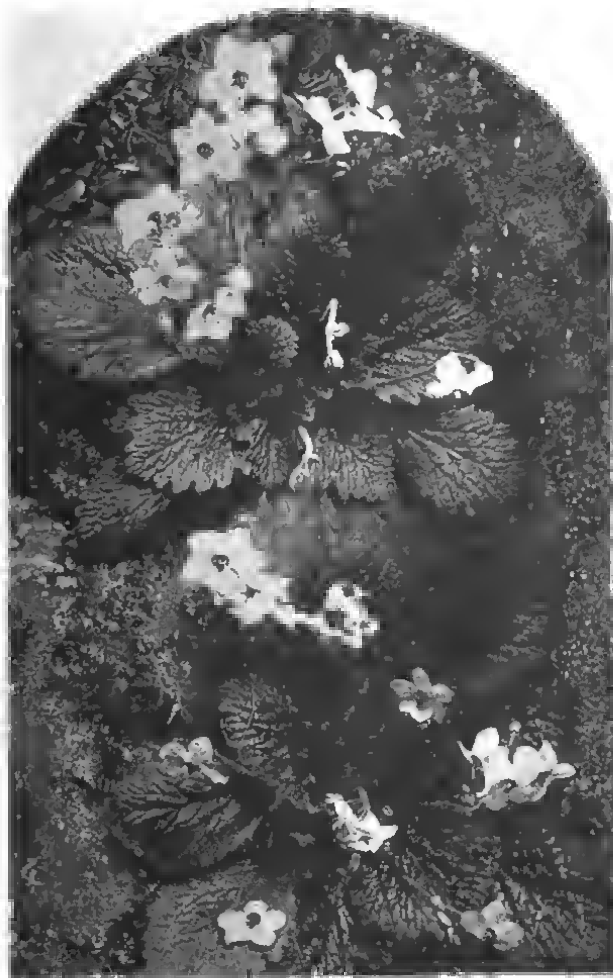
RAMONDIA (ROSETTE MULLEIN).

An interesting Pyrenean plant, with leaves in rosettes close to the ground, the flowers purple-violet in colour, with orange yellow centre, 1 inch to 1 1/2 inches across, on stems 2 inches to 6 inches

things that much dislikes removal, and should be planted where it can remain without disturbance, and where it can enjoy plenty of sun, a free circulation of air, and ample room to extend. Given these conditions, a small plant will develop in the course of three years

cask first, then adding the sulphate. Then get a rosed watering-can, and apply the mixture to the lawn over a space of 1 1/2 square yards. Apply it as soon as made. It should also be made with soft, or rain water, avoiding, if possible, that in which there is any lime. This may be done at any time during the year. When the Moss turns black the sulphate is known to be acting. If the solution is too weak, the Moss will only turn red, and another application is necessary. Moss, as a rule, indicates poorness of soil, and it is well after the Moss is destroyed to apply a good top-dressing of loamy soil, manure, and wood-ashes. Another way is to rake the Mossy parts well over with an iron rake, so as to clear off as much of the Moss as possible. If the ground is poor, give a dressing of good soil and sow in the spring some Grass seed, taking care not to use that from a hay loft.

Christmas Roses.—The scarcity of flowers in the open air in the depth of winter is responsible for the blooms of the Helleborus being so greatly valued. During a mild winter flowers may be gathered freely, but during periods of frost and snow blooms that would otherwise be pure are marred. It is, under these circumstances, well to remember in planting that the most sheltered quarter the garden affords should be set apart for them, a place where, if the weather prove unfavourable, it will be an easy matter to place over the bed a frame with one or two lights. So treated, it will be an easy matter in the worst of weather to gather blooms pure and clean. Christmas Roses may be grown in most gardens, provided they are given a deep, well-drained soil, and when once planted it is not advisable to disturb them too frequently. A good friable loam, into which has been worked some cow-manure, is the best compost for them; but I have seen them blooming freely when planted in ordinary garden soil when the drainage has been right. The latter point with regard to the Helleborus is often overlooked, and I am convinced that many causes of failure with them are due solely to this and to removing the plants too frequently. Although the white-flowering sorts



The Rosette Mullein (*Ramondia pyrenaica*) in the rock garden at York. From a photograph by Mr. Elliott.

long, in spring and early summer. There has been a good deal of writing about its cultivation, but it is really not difficult; growing in cool peat borders, on the lower ledges of the rock-garden, or in moist chinks. It is found in the valleys of the Pyrenees, on the face of steep and rather shady rocks. There is a rare white variety which does well in borders of American shrubs in peat soil. Other varieties are *R. Heldreichi*, *R. serbica*, and *R. serbica* var. *Natalia*, the last two found in Serbia, and which will be found described in our issue of Nov. 6, 1901, p. 484.

***Lychnis vespertina* fl. pl.**—Although this has been in cultivation a good many years, it is by no means common. This is probably due to the fact that it is not so easily increased as hardy flowers generally. No seeds are produced, and the root-stock increases so slowly that propagation by division can scarcely be reckoned on. A certain measure of success attends propagation from cuttings. If the young shoots that push from the crown in spring are taken off at the base when about 2 inches long, and inserted round the sides of 2 1/2-inch pots, keeping them in a cold-frame, close and shaded, a certain proportion will make roots. For a light, poor, porous soil I know of few better things than this *Lychnis*. It bears periods of hot, dry weather remarkably well, producing with freedom its pure double white *Gardenia*-like blooms all through the hottest months of the year. It is one of those

into a fine specimen a yard or more across, and which will carry in the course of the summer some hundreds of blooms.—J. C. B.

Hardy annuals.—I planted a bed with about twenty kinds of hardy annuals and hardy perennials about the middle of September. Wallflowers, Candytuft, Chrysanthemum (hardy annual), Virginian Stock, Calliopsis, and Prince's Feather are well up, but the others are not up yet. Will they all survive the winter? I have a cool conservatory.—E. T. OPIE.

[It is quite possible the seeds of the hardy perennials will not vegetate before spring, and that some of the annuals will succumb to the first severe frost. Virginian Stock, for example, or again, the Chrysanthemums, particularly if these be of the *C. tricolor* strain, would not endure frost. We hardly see your motive in this matter. Some few hardy annuals may be made to flower earlier by autumn sowing, but of those named the only ones likely to survive are Wallflowers, Candytuft, and Prince's Feather. The others may survive if transferred to cold-frame, but any heated structure would be bad. A few seeds sown in January in a pot, and transferred bodily to where to flower, would provide a far more reliable as well as early display. Indeed, we are surprised this last method does not find greater favour, the trouble being so very slight.]

Moss in lawn (*B. G. F. and Jocko*).—Get some sulphate of iron, and mix it in the proportion of 1 lb. of sulphate to 2 gallons of water. The solution should be made in a wooden cask, putting the plain water into the



Ramondia pyrenaica alba.

are mostly in demand—notably *H. niger* and *H. angustifolius*—*H. colchicus* (red) and *H. maximus* (tinged pink) should not be forgotten. They are best increased by division, an operation which should be performed in July. —WOODBASTWICK

ZONAL GERANIUMS IN WINTER.

For winter blooming strike the cuttings in March in heat in small pots singly. The best position for the cuttings is on a board placed over the hot-water pipes in a rather warm house. Select robust shoots which have been grown in heat. In a fortnight the cuttings will be rooted, and there ought to be no failure. Shift into 3½-inch pots, and grow on a shelf near the glass in an intermediate house, and when the plants have fairly started growth after repotting rub out the terminal buds. By June the plants will be ready for 5-inch pots, and when the roots have reached the sides of the pots place outside on a coal-ash bed and remove all flower-buds till September. Young plants produce the finest trusses, and the above method is, in my opinion, the best for obtaining really fine trusses. For earlier blooming I have frequently taken autumn-struck plants, and grown them on into 5-inch pots and let them bloom in spring, as these things have to be looked at from a commercial point of view. By the end of June the plants will be outside ripening, and shortly afterwards they are cut down and the cuttings inserted. These cuttings are potted off as soon as rooted, or they may be struck in a bed outside and potted up as soon as rooted and shifted on into 4-inch pots, in which pots they will be in flower on a shelf near the glass from Christmas onwards. The old plants that have been cut down in June will break strongly if left in the sunshine outside and not over-watered, and will flower very freely on a shelf near the glass till Christmas if required, and if shifted into 6-inch pots will form very large specimens for the conservatory, or will be very useful for producing cuttings for stock. There is a demand for these bright, broad-petalled flowers, especially when produced by plants of sturdy habit. This sturdy habit is mainly a matter of cultivation. The soil should consist of the best yellow loam two-thirds and one-third leaf-mould or very old cow or stable-manure, with enough sharp sand to make it open and sweet. There is some advantage in mixing a little soot or charcoal dust with the soil, as there is less danger of overwatering when the plants are making roots freely. Firm potting is very essential, and for winter-flowering the plants should have been ripened outside and the pots must be well filled with healthy roots. Weak liquid-manure may be given when the plants are approaching the flowering stage and have filled the pots with roots. The best winter temperature for these plants when in bloom is about 50 degs. at night; a degree or two either way is not important. The position should be a light one near the glass, and the atmosphere of the house should be reasonably dry, or, at any rate, not saturated. Ventilate freely on fine days, and give water only when the plants are dry. Watering is an important matter, especially if the drainage of the pots has been carelessly done. We have a large collection, and are continually adding thereto and weeding out those which have been superseded. The following is a selection from our collection, and some others equally good might be added: King of Purples, Edith Strachan, Ian McLaren, salmon; Chaucer, cerise; Mark Twain, carmine on white ground; Andrew Lang, Sir H. Irving, Pink Domino, Jerome K. Jerome, reddish orange; Heric, crimson-scarlet; Launce, rosy-pink, white blotches on upper petals; Snowdrop, Lord Idlesloy, Lancelot, Lady Reed, Athlete, Mrs. Miller, Magnificent, H. Cannell, Sunbeam, Duchess of Marlborough, King of Crimson, Bluebeard, Ruddyard Kipling, dark crimson-purple; Olivia, cerise; Sir Percival, white; and Duchess of Buckingham, rose. The above are all singles. We find the doubles, with the exception of Mme. Rozaine, white, and Raspail Improved, scarlet, not so much called for. The last-named is excellent for bedding, and is also a good winter bloomer. E. HOBDAV.

[With the above notes we received a very fine lot of flowers, consisting of most of the varieties mentioned above. The trusses were large, the individual tips also being excellent, and the colours rich and varied. We wonder the Zonal Pelargonium is not more grown for

winter decoration, as what could be brighter than a house filled with well-grown plants of the many fine varieties now in cultivation?]

NOTES AND REPLIES.

India-rubber plant.—(Can you kindly tell me what to do to an India-rubber plant which is growing up too near my drawing-room ceiling? It is within an inch or so of 8 feet high, and as it is well covered with leaves looks very handsome. A branch appeared this spring 1 foot 6 inches from the soil, and has now three leaves, and I have fancied indications of other such branches before, which have, however, not come to anything.—R. BAZA PLANT.)

[The only thing you can do is to cut back your India-rubber plant, and, unfortunately, that will disfigure it for some considerable time. We presume that it consists of but a single stem, with the exception of the shoot referred to as being 18 inches from the soil. We should advise in April next cutting it down to about 4 feet, which will doubtless cause the production of new shoots, and throw a good deal of vigour into the one that has already made its appearance. If, after cutting down,

Passifloras a free root-run, as they are great feeders, and, if planted in pots, soon exhaust the nutriment of the soil. Constance Elliot, I might add, is a capital sort for a glass porch, where it can be kept under control.—DEBRY.

Keeping Geraniums.—I have three dozen Geraniums which have been flowering, some in pots and the others in my garden. Will they be any good next year? I have no greenhouse or frame. What treatment do they require?—W. K. R.

[It is little use trying to keep your outdoor plants, we fear. You ought to have lifted them, and, after carefully trimming them up, potted them in September into as small pots as they would go, and stood them in a sunny window, potting them on in the spring and planting out in the usual way. It is now too late to do anything with them, as very likely frost will have touched them. Those in pots you can trim up and stand in the window, keeping them fairly dry through the winter, and when they break into growth next spring potting on as may be necessary.]

Aspidistras.—A friend of mine has sent me a few Aspidistras and India-rubber plants to look after for the



Zonal Pelargonium Duchess of Buckingham.

you can place it in a warm greenhouse for a time, the production of new shoots will be hastened thereby. We know a plant that was too tall for the room, and was then treated as above recommended, which is now (four years after) a fine specimen with half a dozen branches, all well clothed with handsome leaves. It stands in a large bay window, and, of course, occupies a considerable space.]

Passifloras.—Many houses contain Passifloras, like *cœrulea* and *Constance Elliot*, that would be much better if they were planted in some sheltered position out-of-doors—say, on a south wall. One sometimes finds them covering the whole of the greenhouse roof, thus admitting very little light to the place, and consequently other plants suffer. On the other hand, there are less rampant growers, such as *princeps*, *Imperatrice Eugénie* (with pink and white blossoms), *fulgens* (brilliant scarlet), and *kermesina* (deep crimson), that delight in the warmth a greenhouse affords, but do not fill the roof with abnormal growth, as do the first-named two. It is best to give

winter, as his house is closed. They are small plants and not in good condition, but have been reported by a jobbing gardener into 8-inch and 9-inch pots, which appear to me to be altogether too large. Would it be advisable to report them into smaller pots, say 6-inch, as such large pots are very clumsy for table use, or is it too late for this season? I keep them in the greenhouse from 45 degs. to 50 degs., although the *Chrysanthemums* taking up so much room just now they have to be crowded into a rather dark corner for the present.—SOUTH STAFFORD.

[You ought to put the plants into the smallest pots you can get the roots into. It was a mistake to put them into such large pots, more especially as the plants were in bad health. Give them the best position in the house you can, and be very careful with the watering-pot. Even then it is doubtful if you will be able to keep the India-rubber plant.]

Cypripedium insigne.—This, as all who grow it know, needs nothing beyond ordinary greenhouse treatment—i.e., where mixed collections of plants are kept, and houses are heated from October to April, there one may succeed with it. It flowers for months together, and individual blooms when cut will keep good for a month or more. Fibrous loam

and peat, in pots well crocked, are necessary, and one need not repot very often. When pot-bound give stimulants a little oftener. A little charcoal added to the compost is also desirable.—TOWNSMAN.

GARDEN WORK.

Conservatory.—*Primula obconica* makes a pretty group among Maidenhair Ferns now. It has received a bad name in some instances from those who have delicate skins, but I imagine very few people suffer in this way, and, of course, they need not grow them. Seeds sown early in spring in heat will make good flowering plants in 5-inch and 6-inch pots now, and in a light position they will bloom all the winter. There is a very pretty *Primula* of the Chinese section which has star-shaped flowers—*dellata*, I think it is called. It has a more graceful style of growth than the common form, and the flowers are more lasting, and therefore useful for filling small vases for the table. As a rule, the single Chinese *Primula* is not of much use for cutting, as the flowers soon fall. The star-shaped variety of the greenhouse *Ciacarria* is another useful break away from the old form, exceedingly valuable in the conservatory and for cutting. The plants are easily raised from seeds or offsets in spring, and if grown in freely, and shifted into 5-inch pots, plants a yard high and as much in diameter may be obtained. There is a considerable variety of colour, though I have not seen quite so much variety as in the old-fashioned class. I am afraid this type will not be of much use to the market grower. The plant is hardly sufficiently compact in habit, though of late years there has been a tendency to break away from the 5-inch pot, or, in other words, larger plants are wanted, and so the 6-inch and even larger pots come into use. Lilies of the longiflorum section recently imported should be potted and plunged for a time in ashes or Cocoa-nut-fibre in a cool-house or pit to make roots. These Lilies are cheaper than they were, and bulbs from Japan are in good condition—at least, so far as I have seen. This is a most useful Lily, and, by using retarded bulbs, it may be had in bloom all the year round. I was in a large establishment a short time ago, and saw a large number of bulbs coming on for flowering at Christmas. We still grow a few of *Harrisii*, but our principal stock is the giant variety of longiflorum—*lilium laucifolium* should be gradually ripened off.

Stove.—There is, or should be, plenty of colour in this house now. Besides *Begonias*, *Poinsettias*, and *Euphorbias*, there will be a few *Orchids* where *Orchids* are grown, and most people with a warm-house will grow a few *Dendrobies*, *Cypripediums*, *Calanthes*, etc., which flower more or less in winter in heat. *Manettia bicolor* is a pretty little twining plant; it is rather of a modest nature, and is pretty in a basket with the flowering sprays hanging down. It is easily propagated in sandy peat under a bell-glass. There will be plenty of *Eucharis Lilies* now. Weak liquid-manure will bring up the flower-spikes speedily. Where there is a number of plants it is quite possible to have a continuous supply of these flowers by introducing them in succession. I have seen them do well planted in beds of turfy soil in positions where there is a command of bottom-heat, but where it can be turned off whilst the plants are resting. *Gardenias* which have well ripened will soon flower in a warm, moist atmosphere, with weak liquid-manure twice a week or so. Of course, it is useless giving stimulants to plants which have not filled the pots with roots. The only time when the full benefit of liquid-manure can be seen is when the roots are abundant and are seeking for food. *Ipomoea Horsfallii* is a bright-flowered climbing plant; each flower, like most of the *Ipomoeas*, only lasts one day, but fresh blooms open every morning, so there is always a brightness present in the house. Night temperature now 65 degs., a little air to be given at 80 degs.

The unheated greenhouse will be very bright now with *Chrysanthemums*, and to keep the flowers as long as possible air must be left on night and day. We have had no frost to do any harm yet, but a damp, stagnant atmosphere

will soon spoil the blossoms, therefore constant ventilation is important. To follow the *Chrysanthemums*, there should be two or three good flowering bushes of *Laurustinus*, and for Christmas the *Christmas Roses* should be a special feature. I have seen in tubs grand clumps full of flower at Christmas. If a few well-grown roots were purchased now and potted in old rotten turf with some old cow-manure and enough broken charcoal and sand to keep it open and sweet, the plants will flower freely this season, and it will be money better spent than buying things which may give a little temporary colour and then die. *Coprosma Baueriana* is a pretty golden Japanese shrub that only requires protection in winter. The *Pernettyas* are very pretty berry-bearing plants, very suitable for the cold-house.

Violets in frames.—Stir the surface when necessary, and remove everything in the shape of dead or damaged leaves. Give air very freely when mild, both night and day, but keep out cold rains. If the soil is dry moisten it with liquid-manure which has been exposed to the atmosphere for some time, or add a little hot water from the boiler to raise its temperature. The hardiest kinds of Violets do not require anything in the nature of forcing, but the Neapolitan are more tender than the Russian family, and a little warmth will help them. If the plants have been well grown they will flower under any circumstances, but a little warm liquid is a help when the weather is cold. We always find Violets do well after Melons when a little of the summer warmth is left in the bed.

Winter Cucumbers.—Clear houses may be planted for succession at any time. I have tried several kinds for winter bearing, but I think a good form of *Telegraph* will be the most profitable. Cucumbers are a long time wearing out—but they do wear out. For many years we have been growing *Lockie's Perfection*, but it has not been quite so vigorous during the last year or two as formerly. *Emerald Beauty* is one of the *Telegraph* crosses, and is a very prolific kind. Winter Cucumbers require careful management, especially in the matter of top-dressings and watering. Do all the pruning required with the finger and thumb. Night temperature 65 degs. to 68 degs.

Window gardening.—Get the window-boxes filled outside. Bulbs, such as *Tulips*, *Hyacinths*, *Snowdrops*, *Squills*, and *Crocuses*, may either be used alone or in mixture with other things. A cheap early spring effect may be had with golden *Wallflowers* and *Forget-me-nots*. The berry-bearing *Pernettyas* and *Narcissi* are a break away from the common arrangements. *Pansies* will flower through the autumn and winter. I fancy there is not so much demand for small shrubs as there was in our district; they so soon turn brown when exposed to cold winds. Hardy overgreen Ferns are useful in shady positions.

Outdoor garden.—Gather up leaves and place in heap to make leaf-mould. We generally use them first to make hot-beds, as the heat can be utilised for forcing various things and the fermentation causes rapid decay. Leaf-mould may be used for many choice shrubs and flowers, and it forms a good mulch for *Lilies*, *Fuchsias*, or any other tender-rooted plant which is left in the ground through the winter. *Dry Brackea* is a very good protection for any plant which needs shelter from cold. When the roots are made comfortable the tops are not likely to suffer so much. Moss-litter-manure is a good mulch for bulb borders, and it may be left on the surface till the bulbs are starting into growth in spring and then be forked in. Borders containing many bulbs should not be disturbed now. This is one of the principal causes why bulbs disappear. When the border is disturbed now the loose soil holds the water and the temperature is lowered. Herbaceous borders are better mulched and left undisturbed till February. In replanting herbaceous borders, if the soil is of a clayey nature, lay the plants in and throw the soil up roughly for the atmosphere to work upon, and replant in February. Unless the replanting can be done in October, it is better to wait till spring, and all new plants bought in should be kept till spring.

Fruit garden.—This is the season for pruning fruit-trees and bushes, except *Nuts* and *Figs*, which should be left till after Christmas. *Gooseberries* and *Currants* are sometimes left, where birds are troublesome, till spring, but I have never adopted that plan, as the bushes are usually in a sorry plight when the birds have worked their will upon them. Better prune, and dress with lime and soot to keep off the birds. Besides keeping off the birds, the dressing has some value in cleansing the bark of the trees and bushes. Neglected wall-trees with long rough old spurs may have some of the old spurs removed. Work of this kind is best spread over several years. We generally begin with the *Pears*, and then follow on with *Plums*, *Cherries*, and the *Apricots* and *Peaches* last, except *Figs*, which in cold districts are generally covered till February or later. Some kinds of *Pears* bear fruit on the ends of rather long spurs. *Marie Louise* crops in this way. It is not difficult to tell the buds which are likely to produce blossoms by their shape. Blossom-buds are round and plump, wood-buds are more elongated, though occasionally one finds buds which appear to have been arrested in their growth before the work has been fully accomplished, and then the buds either fail to produce blossoms or the flowers are imperfect and fail to set. There is no difference of opinion amongst fruit growers about pruning wall-trees. It is in the free-growing bushes and pyramidal trees that mistakes are made.

Vegetable garden.—More Cabbages may be planted, and the earliest plants may have a little soil drawn up to them. Lettuces may be planted on warm borders to come in for spring. The Bath Cos is a favourite kind. There is a Cabbage-Lettuce grown in the neighbourhood of Norwich called *The Texter*, a good hardy Lettuce that turns in quickly. *Paris Market Cabbage* is a success under glass. Clear off all exhausted plants, including *Tomatoes*, *Peas*, *Cauliflowers*, etc., and turn up the land roughly to benefit from exposure to the atmosphere. If there comes very severe weather the green crops are likely to suffer, as they are soft and sappy. Those who have not beeded in their *Broccoli* may still do so if they wish to be safe under all conditions of weather. What a time the weeds have had lately! Woody land should be cleared either by digging the weeds in, or clearing them off and mixing lime in the heap to hasten decomposition. Dressings of lime are beneficial to old gardens that have been freely manured. It is easy to make mistakes in manuring, especially as regards the best time to apply it, and the right crops to plant on freshly-manured land. Potato land may be freely manured, and should also be deeply worked. Plants having long, tapering roots, such as *Beet* and *Carrots*, are better without manure. The usual course is to set apart for root crops land which has been liberally manured for the previous crop. Light, sandy land should not be manured in the autumn. E. HORDAY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

November 17th.—We are busy now pruning the fruit-trees and bushes, and this work will be in hand regularly for some time. Of course, special men who have been trained for the work will be employed on this job. A good pruner is the most useful man in the fruit garden, as it usually happens he is above the average in intelligence, and is also good at other work. It is difficult to keep the untrained man from doing too much. In pruning wall trees an old spur here and there is removed to encourage the production of young spurs near home.

November 15th.—All *Dahlia* roots have been dried and stored away; special care has been taken to secure the labels to the stems, as it is very annoying to lose the names. *Salvia patens*, of which we want a large stock, has been packed in sand safe from frost. *Gladioli* have been cleaned and placed in drawers in a frost-proof place. Double *Daffodils* starting in pots have been moved to a heated house; these want a good deal of water when starting.

November 14th.—The early *Chrysanthemums* are moved from the conservatory as the flowers

fads, and other later kinds take their place. Usually the house is rearranged every week and the necessary changes effected. We generally have Chrysanthemums up till the end of January. We find these late sorts very valuable, especially for cutting. There is a demand for long-stemmed flowers. Winter-flowering Begonias are lovely now. Some of the old sorts are still grown. *B. inchoisoides* planted in a light position continues to grow and flower all winter. *B. insignis* is also useful.

November 20th.—The bulk of the Potatoes and other root crops are covered with soil. Roots retain their flavour better covered with earth than when kept in sheds. Horseradish for winter use has been lifted and laid in on the north side of a wall, where it can easily be got at when the earth is icebound. Asparagus has been started in a hot-bed. Strong roots soon start in a genial temperature. The frames are matted up till the heads are coming through the soil, when light is necessary to give colour and flavour.

November 21st.—As fast as the trees and bushes are pruned a dressing of a suitable insecticide is applied; the borders or beds are then manured and forked over, but not deep enough to injure them. A spade is never used over the roots of fruit-trees, and no vegetable crops are planted near. We always put up a lot of Geraniums when the beds are cleared. Some of the large leaves are cut off, but the shoots are left on them, as we want them for cuttings later. The old plants are useful to fill vases next season.

November 22nd.—Pricked off a lot of seedling Ferns into shallow boxes in warm-house. We are always doing a little potting among young Ferns as they keep moving in heat, and there is a demand for fresh young plants in small pots for table decoration. Finished potting and boxing bulbs of all kinds. They are plunged in cold pits, from which they will be taken out as required for forcing. The demand for Narcissi for cutting is enormous. They take the place of the Chrysanthemums. Retarded crowns of Lily of the Valley are used for forcing, as the newly imported crowns do not start so quickly.

POULTRY.

Roupe.—A short time back I bought eight buff Orpington pullets, which I found out afterwards had roupe badly. They now appear to have recovered from it. Would these be quite healthy for stock, or would they breed a roupy lot of chickens? I want the eggs only for hatching, and intend to keep the stock pure.—LANEWOOD.

[This common and contagious complaint amongst poultry generally arises from overcrowding, bad ventilation in the hen-house, or dampness. It was unfortunate that your pullets had suffered from it before coming into your possession, but under careful and improved management it will not reappear in all probability. Their progeny will not inherit the complaint, and it will be some time before you use the eggs of your pullets for setting.—S. S. G.]

BIRDS.

Canary eating its feathers.—Can you suggest remedy for caged bird, Skinkin, suffering from some irritation of the skin, causing it to pick out its feathers as fast as they grow, also to peck at its feet constantly and appear restless and uncomfortable in cage? I have given Lettuce-seed, as you recommended a correspondent some time ago, also a fair amount of green food, but the trouble, whatever it is, appears chronic. The bird is not an old one, and has a bath most days.—C. F.

[This bad habit when once acquired is very difficult to cure. When a bird is kept in an overheated atmosphere or is allowed to partake too freely of sugar, sweet cake, and similar dainties, a gross condition of the system is often produced, with irritation of the skin, which will induce the sufferer to peck and scratch itself, and result in feather-eating. Canaries kept in a gas-lighted room will eat their feathers at other times than the proper moulting season, and consume the young quills as fast as they appear, and so remain bare to the end. Another cause of feather-eating is the presence of parasites in the cage, which prove very troublesome to the inmates. The presence of these pests may be known if white or greyish spots be observed about the woodwork of the inside of the cage, or, if a cloth or handkerchief be thrown over the cage at night, some of the

vermin will be found adhering to it in the morning. In this case the cage must be scalded in boiling water, and, when dry, painted over with Fir-tree-oil. Cuttle-fish-bone is a very excellent thing for keeping birds in health in purifying the blood, and you might find that providing a bit of this for your Canary to nibble at would help to cure it of the feather-eating habit.]

BEES.

Foreign Bees.—Would you kindly give me your opinion of five yellow-banded Italians or section honey? I am told the three-banded are bad comb builders and get Carniolans, as they have a bad name for swarming. I have heard that swarming bred therefrom are non-swarmers. What is your experience of them? Can this strain be had now, and where? I thought of trying a 2-inch ventilator in bottom of hive, and in April placing a crate under brood-nest with a few sections in it, and then as they worked these transferring them. I may say I have looked through back numbers of GARDENING, and see no reference to these points. I have taken it for ten years, and have read all your articles. In Vol. XVIII, p. 158, Mignonette is said to be the best annual for Bees, and no doubt it is very good. Of course, 1902 will long be remembered as a black year for honey. I have a large flower garden and Apple-trees. This, no doubt, with double-walled hives, which kept temperature more uniform, accounted for my having 40 lb. in sections from my two hives of blacks, although my neighbours have had practically nothing. I had a long border of Papaver nudicaule, which for four months was a delight to the Bees. I have never heard this mentioned before for Bees.—G. J. PADBURY.

[You are to be congratulated upon obtaining so good a honey harvest during the late disastrous season for Bees. No doubt your double-walled hives keeping the internal temperature uniform, together with your good yield of honey-flowers, had much to do with your success. Having good Bee pasturage close at home is a great acquisition in our changeable climate, as it enables the Bees to obtain supplies at times when long flights would end in disaster. Fruit trees when in flower should prove of great value in yielding early supplies, but how often are the Bees kept within the hive through stress of weather at the very time the fruit blossoms are at their best! Of course, there is much in autumn and winter management combined with spring feeding to encourage brood rearing. A large population ready to take full advantage of every possible opportunity of collecting honey is, no doubt, the secret of obtaining filled supers. Hives depopulated and low in the store department in the spring cannot yield surplus honey, the whole season being occupied in providing for the needs of the inmates. As to foreign races, I have long since come to the conclusion that they are unsuited to our climate, and should advise you to keep to your old friends "the blacks"—you have proved their value in your own case during the past season. Although Carniolans excel every other race in the beautiful appearance of their section honey, their disposition for excessive swarming is greatly against them. You would very possibly succeed in getting your Bees to work in sections under the floor-board, passing through a 2-inch ventilator, but you had better not try the experiment so early in the season as April; rather wait till the hive is full to overflowing with Bees before opening the passage-way. As a proof that honey will sometimes be stored below the hive, I once, on driving a stock of Bees for a cottager, found the cheese-box, which had been used as a stand for the straw skep, literally full of the most beautiful lot of white comb honey we ever had the pleasure of seeing. The Bees had passed down into the box through a crack under the skep.—S. S. G.]

LAW AND CUSTOM.

A gardener's notice.—I am engaged at a weekly wage of 18s. as gardener, but my master pays me monthly for his own convenience. What notice should I give to terminate service? I do not live in house or on grounds.—F. C.

[The question as to what notice is necessary to determine the service of a gardener engaged at a weekly wage is a moot one. But as the only factor in the case is that the hiring is at so much per week, I think your contract can be determined by a week's notice.—K. C. T.]

The Prize Winners this week are: 1, Miss J. Niblett, Uplam, Ledbury, for Californian Poppy; 2, Mrs. Cumberland, Codicote, Herts, for Lilies in old stone vases. Original

CORRESPONDENCE.

Questions.—Queries and answers are inserted in GARDENING free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF GARDENING, 17, Pall-mall-street, Holborn, London, E.C. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind are greatly assist in its determination. We have received from several correspondents single specimens of fruit for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruit are, in many cases, so trifling that it is necessary that two specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only in the above directions are observed.

PLANTS AND FLOWERS.

Lilium auratum (T. Drew).—This is quite hardy so far as the bulb and winter frosts are concerned. If planted 6 inches deep the bulbs will be quite safe.

Dahlia (H. R.).—There is, we believe, an "orange" glare of the garden, but no other shade so far as we know. Elfin, bright rose, is a decorative Pompon, while Chequfulness, Mercury, and The Duke are other Pompon Dahlias worthy a trial.

Some good Fesonies (W. H. L., Sherlock Smith).—The following are all good kinds: *Festiva maxima*, a grand massive white; *Eclatante*, deep rose; *Grandiflora*, light rose; *Purpurella*, saffron-rose and white; *Ima*, an *Houtte*, crimson; and *Lady Brooke*, white shaded flesh, a very lovely flower.

Carnations diseased (W. H. L.).—Your Carnations have evidently been attacked by the fungus known as *Helminthosporium echinulatum*. This fungus attacks between the two membranes of the leaf, and cannot be reached by any sulphuring process without injuring the leaves. The only thing you can do is to pick off all the infested leaves and burn them.

Sea sand (T. Drew).—This may be used with impunity in the garden for most things, but for tender subjects and for propagating it is safer that the soil be exposed for some time to the weather. It has been employed in a very large way. The danger is most likely to arise when without thought the fresh-arrived sand is employed indiscriminately. This should be done.

Feet-loving Lilies (T. Drew).—The really peat-loving Lilies are *L. auratum*, *elegans*, *Humboldtii*, and *pardallium*, etc. Quite a large number, however, may be grown in equal parts of peat, loam, and sand, while such as *Martagon*, *chalcidonicum*, *candidum*, *speciosum*, are best in sandy loam; indeed, the two first, with *L. giganteum*, do infinitely better in quite a strong loam, which, however, should always be of good depth and well drained.

Worms in lawn (R. L. Routh).—Lime-water is a good remedy as you say. Pour 2 gallons of water on 1 lb. of unslaked lime, or if more is wanted use the same proportions. Stir this well up and let the liquid stand for eight hours. Water the lawn with the clear liquid through a rose watering-pot during damp weather, giving a good soaking on the evening succeeding that on which the ground has been well moistened. This will bring the worms to the surface, when they may be swept up and cleared away.

Agapanthus and Crinum (New Subscriber).—The pots containing these may be placed anywhere free from frost, giving very little water to either during the winter months. The *Crinum* (*Amaryllis liotholida*) is quite hardy, and few plants repay better for a sheltered, warm position and deep, rich soil, with abundance of water in the summer. In very cold situations a little heap of leaves over the bulbs will keep them quite safe. In the case of your *Crinum*, very little water is necessary during the winter. You will find an article dealing with these in our issue of Aug. 9, p. 307.

The Martagon Lily (Thomas Drew).—This may be planted at once, and good bulbs will flower next year. The white *Martagon* does not recover so quickly when disturbed, and often takes two years before becoming established. The flowering of the *Helladonna* (*Amaryllis Helladonna*) depends upon the size of the bulbs. This also resents frequent removal. The bulbs should be planted in a warm border of deep sandy loam, peat, and old mortar, with plenty of sand or grit, even on clay soil. Cover the roots 6 inches deep just firmly. The soil should be quite 15 inches deep, and a south border is best. Dry bulbs may be planted now.

Lawn weed (E. T. R.).—The weed is not a species of *Polygonum* as we first suggested, but belongs to the Labiate order. To name it a flowering example is necessary. We should suppose its prevalence to be due to its rooting freely along the under surface of the stems, and also to free seedling. In these cases there is no remedy except weeding out, on the one hand, and sowing thickly the patches with Clover and Grass to outgrow the pest. Some weeds are difficult to eradicate, especially those that are self-increasing by seeds and by rooting along the under surface. Some of the weedy Veronicas do this, but continually working against them is the only possible way of overcoming them.

Lilies after flowering (Sonia).—Your Lilies should have been stood outdoors and watered till the leaves turn yellow, when the supply must be diminished, but at no time must they be parched up. Then when the flower-stems are quite dead repot them. If the bulbs are in good condition, pot 1 inch or even 2 inches wider than the present. They should be stood outdoors for a time in a

sheltered spot, under which treatment the roots will soon take possession of the new soil. Then when frost comes remove them to an ordinary frame or a greenhouse. As soon as they commence to grow see that the plants have as much air and light as possible. You will find as a rule that bulbs kept over from the preceding year flower somewhat earlier than freshly imported bulbs.

Daisies in lawn (Iris).—You may rid the lawn of lumpy roots by grubbing them out. This may be done at any convenient time now or during winter. Then in spring, about March, you may fork up the bare patches and work to some fresh soil. Any good garden soil free of weeds will do, and in April or May sow freely some good Grass seed. This you must protect from birds with low branches of trees or nets. If the lawn generally is low, get a load of very old manure and another of fine soil, and dress the lawn all over, sweeping it in well to the roots with a hard broom. A lawn requires attention in his way annually, particularly if it is much trodden on and worn in summer.

Amaryllis (E. S. B.).—If your bulbs are those of the greenhouse Amaryllis, or lippastrum, as they are now called, you will require to keep the soil rather dry from now to the end of January, when a rather more moist condition may be the rule. Firm potting with good soil, is not over rich, in what these things require. With a view to growth appearing, take care that the plant does not suffer from lack of moisture, and on the other hand avoid the commonest error of all—viz., that of giving too much water incessantly. These little drops more quickly reach the soil than any of the larger drops, and deposit a very much on the size of the bulb and the year in which it was grown last season. You cannot err, either, in following the above treatment with that given in a previous issue.

Pyrethrums, Phloxes, and Delphiniums (E.).—Of the first you do not say whether single or double-flowered kinds are required. We give some of the best. Single: Mrs. Bateman Brown, Hamlet, Sherlock, orion, Monarch, Snowdrift, Princess Marie, Pascal, and the double: Approdite, J. N. Twedy, No Plus Ultra, Mrs. Kelway, Wega, Pericles, Mont Blanc, Capt. Nares, Mrs. Voss, Melton, Duchess of Teck, and Lady Kildare. Double: Bayadere, Sphynx, Mrs. E. H. Jenkins, Mrs. Wines, Cornelia, Jocelyn, Countess of Aberdeen, Roi de Roses, Bacheaote, Etna, Edith, Wm. Robinson, and Mrs. Delphinium: Sir John Forrest, Imperial Jack, Rev. J. Stubbs, Sir George Newnes, Flying Fox, W. Scott, Perfection, Life Guardsman, Duke of Devonshire, Mrs. Blue, Percy Scott, British Empire, and many more novelties, and at present are directed to spreading lists of the best kinds in commerce, and you had at the usual rates.

Applying Liquid-manure (Thomas Dreer).—Liquid manure may be applied at any time while the plants are in a growing state with advantage. The majority of hardy plants are benefited by its use. Peonies, lilies, roses, pyrethrums, and all such in particular. Lilies need it, and unless they were old clumps growing on a rich soil where the soil is more or less exhausted, we did not use it. Even then the plants would be better lifted and replanted. Weak doses may be given once or twice in each week. A good liquid may be made by using a bushel of manure in a tub or tank, stirring it up for a short time. By also adding two pecks of soot, and in a coarse bag and only loosely tied, this may be used up and down to discharge its virtues. The liquid filtering from the above should be equal to 30 gallons, and to be employed at all strengths. By supplementing the soil with fresh from time to time, a good all-round effect may be kept up.

Yucca grandiflora (Australia).—This, known as the Yucca of Table Mountain, should be potted in a cask of light turfy loam and fibrous peat, mixed with one sharp sand and nodules of charcoal, the pots being drained. This should be done about Christmas or a week earlier, as the plants begin to root during the winter months. During this time they may be kept in a cold-house, the frost being carefully excluded, or at the cool end of an Odontoglossum-house. In the summer plunge the pots in moist material in the frame, when plenty of water may be admitted, and a thin shading from the sun can be given. A moderate supply of water should be given to the roots, and when the weather is bright in the early morning and the growth active, gentle syringing twice in the day will do good, as this prevents red-spider and black fly, both of which prey upon it and do much damage, killing the plants. Any plant nurseryman should be able to get you plants of this size.

TREES AND SHRUBS.
The Tamarisk, propagating (Seaside).—This easily increased by cuttings put under a handlight, even to the open air in spring or autumn. Any amount soil to which has been added plenty of sand will serve well.

Creeper for unsightly building (Iris).—There are many creepers for covering unsightly buildings. The most common is the large-leaved Virginia Creeper: *Ampelopsis hederacea*, *Clematis montana*, many beautiful species, the hardy Vines, *Vitis Coccinea* and others. All these handsome foliage and are quick in growth also.

Irish Yews too tall (K. O. H.).—The upright or tall Yews can, if too tall, be easily shortened without injuring them in the least. Their habit of growth is such, and the upright shoots are but sparingly produced, so if the tallest ones are cut back and a piece or two of wire passed around the upper part, it will serve to keep the minor shoots in their place and preserve the natural habit of the specimen. This may be done now, and carefully carried out it will be difficult to see that the plants have been shortened back at all. We cannot understand the necessity of training and cutting Irish Yews to a point, as they naturally assume that shape.

FRUIT.

Seedling Orange-tree (E. O. H.).—Your Orange-tree will doubtless flower in time, perhaps in eight or ten years from now. It will be necessary to exercise a considerable amount of patience. It will not bear any pruning, but early in the spring before growth commences, a better way will be to pick out the points of the three or four buds in order to induce a more bushy habit of growth. Our plant may be used as a stock on which to graft a better tree taken from a mature flowering plant, and this may

reasonably be expected to bloom in a couple of years or so.

Keeping Grapes (W. H. W.).—The very fact of your bottling your Grapes when mildew was on them accounts for the failure. Grapes to be kept must have special provision made for them. Dryness is the first consideration, and the Grape-room should also be heated, so that it may be possible to drive out damp if necessary. When once Grapes are placed in a room, the less frequently it is opened the better, as the admission of damp air must be carefully avoided.

VEGETABLES.

Celery decaying (C. H.).—From the appearance of the stick of Celery that you send, we should imagine that the seed has been sown too early, and that the seedlings had been allowed to remain too long in the seed-bed. The head showed that the plants had bolted, and that in earthing up some soil had been allowed to get into the heart, thus causing the centre to decay. When earthing up it is always advisable to tie a piece of matting round the plant to prevent the soil getting into the centre of the plant.

SHORT REPLIES.

J. C.—See reply to Augta, C. Coulbrook re "Perenniate and Bulbs," p. 488.—**Henry Stratley.** You can get plants of *Lychnis formosa* from any nurseryman who grows trees and shrubs.—**H. E. B.**—Move your Lilac to a sunny position, so that the wood can get well ripened, and do not cut in any way.—**T. Harris.**—You will find an article dealing with the Hollyhock in our issue of Sept. 6, p. 264, and also a note on the same in the issue of Sept. 27, p. 337.—**W. M. Cooper.**—No, mulch with Cocoanut-fibre or, if you can get it, Moss-litter-manure. The liveryman-manure is not necessary.—**E. Tisdall.**—You will not be able to keep your Pelargoniums as you suggest. Sawdust is one of the worst manures you could use for storing plants in. See reply to "W. K. R.," p. 490.

Scotus.—You ought to get one of the many weed-killers now advertised, and follow the directions sent therewith. They may be applied at any time.—**E. L. C.**

W.—We need to trouble about the loose bark on outdoor Vines, unless there are any insects present and you wish to dress with any insecticide, in which case pull it off, but do not scrape the rods in any way.—**Enquirer.**

The origin of the name is what you suggest.—Major Victor's Wife.—We know of no one who makes such burlesque as you refer to.—**G. Murray.**—Give the manure now, and apply the artificial manures to assist the crops that you put into the ground. If you manure well now, we see no reason for using artificial manure in the spring.

Blair.—The only thing you can do is, when mildew attacks the plants next season, to at once apply some insecticide to destroy it. See our article on "Growing Violets," in the issue of Nov. 1, p. 461.—**Constant.**

Forster.—See reply to "Cree," in our issue of Nov. 8, p. 478, re "Foreign Rhubarb."—**E. Gee.**—See reply to "Antique," re "Canary dying," in our issue of Oct. 25, p. 456, and to "Anon," re "Pears Cracking," in the issue of Oct. 11, p. 403.—**Forster.**—Hobday's "Villa Gardening," from this office, price 6s. 6d.

We do not quite understand your other query. If you want to buy the seeds, try M.M. Vilmorin at Cle, Paris, or Haage and Schmidt, Erfurt.—**E. C. A.**—Try *Passiflora coriacea* and its white form, *Clematis indivisa*, or *Lapageria rosea*, which last must have a peaty soil and plenty of drainage. We take it you can plant these out.—**Mrs. Delany.**—You cannot do better than fill the bed with some of the later-flowering Narcissus, such as *N. poeticus* or *N. p. orotus*. The spaces you have marked may also be filled with some of the many forms of Narcissus, or, if you prefer it, try Tulted Pausses; see reply to J. R. Phillips. In the rock garden, Narcissus springing from a bed of such as *Aubrieta*, *Arabis*, *Alyssum*, *Forget-me-not*, etc., would look well.

H. A. M.—Try Emerald Green Ivy, one of the best strong-growing kinds. We doubt, however, if it will succeed on a tarred wall.—**Aurora One.**—We should think one of the many contrivances you will find advertised in our column would answer.—**Coogee.**—We suppose you mean the Planet Jr. hoe, a very useful and labour-saving appliance.—**Iris.**—Unless you really want to get up a large stock, the best plan is to destroy the old rhizomes, only keeping those which have developed leaves.—**J. Wolfe.**—See reply to "Monmouthshire," re "Pergola for Roses," in our issue of Nov. 8, p. 472.—**Ignatius.**—You had better get "Hobday's Villa Gardening," from this office, price 6s. 6d.

NAMES OF PLANTS AND FRUITS.

Names of plants.—**Jas. McGeary (no box).**—20, Quite impossible to name from dried-up, withered leaves; 21, *Aster cordifolius* var.—**Major Victor's Wife.**—*Berberis Aquifolium*.—**Mrs. Ross.**—*Aster diffusus* horizontalis.—**Mrs. E. Saunders.**—*Salvia tarinacea*.—**T. P.**—*Monarda delicata*.—**J. Cocks.**—Evidently a washed-out bloom of *Georges Nabonnand*.—**Riduna.**—Specimen too dried up to be able to identify correctly.—**L. R.**—*Cotoneaster frigida*.—**Stanley Chipperfield.**—1, *Veronica spicata*; 2, *Lilium tigrinum* Fortune; 3, *Solidago* (Golden Rod); 4, *Send in flower.*—**Australia.**—*Elaeagnus pungens*.

Names of fruit.—**Mrs. Standing.**—*Apple Mère de Ménage*.—**H. Child.**—1, *Winter Hawthorn*; 2, *Probably small Cellini*; 3 and 4, *King of the Pippin*.—**C. M.**—Evidently the common *Damson*. Should like to have seen the young growth. **For.**—1, *Court Parson Flak*; 2, *Strawberry Pippin*.—**W. Wylie.**—*Pear Autumn Bergamot.*—**Wendelline.**—Evidently *Josephine de Malines*, but difficult to say from one specimen only.

Catalogues received.—**Harlan P. Kelsey, Boston, Mass.**—*Hardy American Plants and Carolina Mountain Flowers.*—**Haage and Schmidt, Erfurt.**—*Smellies in Seeds for 1903.*—**Little and Ballantyne, Carlisle.**—*List of Ornamental and Forest Trees, Roses, &c.*—**W. and T. Savson, Kilmarnock.**—*Crested and Ornamental Trees, Roses, &c.*—**W. Smith and Son, Aberdeen.**—*Seedling and Transplanted Trees, Roses, &c.*—**Jas. Cocker and Son, Aberdeen.**—*Roses, Hardy Herbaceous Plants, Fruit-trees, Shrubs, &c.*—**Howden and Co., Inverness.**—*List of Fruit and Ornamental Trees, Roses, &c.*—**Cheal and Son, Crawley, Sussex.**—*Ornamental Trees and Shrubs, Fruit-trees, &c.*

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Founded by W. Robinson, Author of "The English Flower Garden."

NOVEMBER 22, 1902.

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VEGETABLES.

RAISING TOMATOES.

Always tell me the best time for sowing Tomato seeds to have the plants on as early as possible in greenhouse, minimum temperature 45 degs. in winter, also what kinds you recommend.—HOPKIN.

[Where convenience exists for the steady progress of seedling Tomatoes there is a gain in autumn over that of early spring sowing. The object of the grower is that of securing ripe fruit at the earliest possible date. Plants raised in autumn are hardier, can be given cold treatment, and they respond well to warmer treatment and repotting as spring comes round. By many it might be supposed that the present is an unusually early period to sow Tomatoes for obtaining ripe fruit next summer, and so it undoubtedly is. That, however, is not the point. The aim of every grower is to obtain a maximum crop with a minimum of uncertainty and labour. Some may say, why sow seed in autumn when it can be just as well left until January or February? An answer may be found in many a market nursery where Tomatoes are grown by the ton. Market growers are not likely to err in sowing in the autumn if this could be deferred with the certainty of the same and being gained by sowing in the spring. At the same time, it must not be thought that the amateur's solitary greenhouse, heated only in the worst weather, is likely to furnish the conditions to make autumn sowing a success. Tomatoes must have a little more warmth than obtains in any such structures, and yet there are many places that the right conditions are available. One important point to observe is to keep the plants near the glass and elevated on a shelf. Unless this is done they soon become drawn and in a measure spilt. A shallow box, say, 1½ inches deep, would be even better than pots for sowing in, and if the seeds are so placed that every plant stands quite clear of a neighbour, early repotting is unnecessary. Leaf-mould or Cocoa-nut-fibre mixed liberally with the soil will ensure a better ball of roots when transplanted, and when this is done in winter place the stems against the sides of the pots and bury up to the seed-leaf in the soil. In the spring everyone knows how quickly Tomatoes suitably accommodated grow; but in the autumn the case is different, as progress is slower. In this way a sturdy growth is built up, so that when the time for real work commences the plant is well developed and an earlier set is secured. To obtain this, restricted root-space, plenty of light, careful watering and ventilation must be attended to. Tomatoes are now such an every-day necessity that efforts are made to acquire a supply over as long a period as is possible, and though at the time of the earliest ripened fruit there is abundance of imported Tomatoes, the home-grown fruit is much preferred. The month of October is probably the best time for seed sowing, there being then sufficient sun-heat to help on the plants in their early stages of growth, which, of necessity, is slower than in March. In point of early ripening there is, perhaps, none better than Earliest of All, and Early

Ruby is earlier than some. Variety, however, is not so much a matter of concern, because any sort adapts itself to autumn sowing, and even if they are slightly slower in ripening, Becker's XL All, Lister's Prolific, and Holmes' Supreme are varieties I should choose, because of their freedom and smoothness of outline. These are all of medium size, the first-named being the largest fruited of the three, and, though scarcely large enough to satisfy some exhibitors, it is nevertheless good for every other purpose.—W. S.]

NOTES AND REPLIES.

Forcing Rhubarb.—I have been forcing Rhubarb for the last two years, taking the roots up from garden about this time and putting them in my greenhouse, which I keep at about 60 degs. I have been successful in forcing the Rhubarb, but when I planted the roots back in the garden about April they all died. I have always thought they should live and produce some sticks the following year.—S. J.

[Each year you must plant some seedlings or divisions, and so keep up a constant supply. Your latest forced roots could be divided for planting, taking care that they are well hardened off before planting out. To continue forcing you must have at least a quarter of an acre of ground at disposal, and so be able to make a plantation every year. The crowns will be of no use for forcing until the third year. The first year you must not pull any stalks, and even during the second year only a few stalks are used, while in the third year a fair crop may be obtained.]

Tomato-houses.—I am about to take the roofs off some cow-sheds, lower the walls, and convert them into Tomato and Cucumber-houses, about 200 feet. I propose lowering the walls to 3 feet 6 inches, the ridge 9 feet from ground level, the borders about 8 feet wide, with paths 2 feet 6 inches, and two rows of 4-inch pipes down each side. Total width of ground covered, 40 feet. Would it be advisable to have glass partitions down the centre to form separate houses? Would you also kindly tell me what depth of soil should be placed in the borders? I can obtain any amount of turf from the road-sides, also heaps of road scrapings and sweepings. Would they, singly or mixed, make a suitable soil for growing the above crops? Any suggestions you may make will be highly appreciated.—FRANCOIS.

[So far as we gather from your description, the method of reconstruction is quite correct. It is quite unnecessary to have a partition in the house, but in lieu thereof, and for greater convenience generally, we should prefer houses of 100 feet long to others of double that length. In these crops there is of necessity a change of soil required now and then, and wheeling every barrowful, say, 100 feet from the centre to the door where houses are 200 feet long, makes a long, laborious task of the work. These long houses, too, are not so convenient in many ways. In heating, for instance, where a 200 feet range exists, a small rise all the way throws the flow pipe very high up, but with houses 100 feet long the range may be right and left of boiler, and worked conveniently as well as heated with greater uniformity. Many people have put up long houses in the past at great cost, and they would not do so again, because the error is clear and the cost of working obviously greater than in smaller places. If the borders for soil are to be 8 feet wide, 12 inches or 18 inches of soil will be ample for the borders, placing

good layer of cow-manure at 12 inches deep. The turf you speak of would do quite well, but we should prefer it for use after it had been some months stacked, and as you appear to have a good supply at command, we suggest you stack it, mixing with it a fourth part of manure, together with bone-meal, soot, and lime in separate layers. In this way, and by turning the heap once at least in six months, you will have at command a mass of invaluable material, which on your own showing can be added to at leisure. Thus prepared the soil is much more nutritious for the crops.]

Growing Mushrooms (Anxious).—Mushrooms are not difficult to cultivate by those who have had experience and have a good supply of suitable manure and good spawn. You should begin on a small scale till you have mastered some of the difficulties of the subject. To ensure regular success there must be a good supply of manure from stables where the horses have hard, dry food only, care being taken that no manure from sick horses is used. After the longest litter has been shaken out the short manure must be turned every three days for a fortnight to drive off some of the surplus moisture. When in a hurry the experienced grower will mix one in four or five of dryish loam with the manure to absorb the moisture, and in this way the beds may be made up in three or four days after the manure comes to hand. The beds in a cellar should be of a manageable size. If round the wall sides 3 feet wide and from 12 inches to 15 inches deep will be necessary. Build the beds up firmly, and when the temperature is fairly steady at something like 85 degs. (we need not be particular as to a degree or two) the bricks of new spawn should be broken up into pieces 2 inches in diameter and inserted 2 inches to 3 inches deep and 9 inches apart all over the surface of the bed, and when the bed has been formed again and no appearance of the heat rising above 90 degs., place on the bed 1½ inches of leamy soil and beat down firmly. In a cellar it may not be necessary to cover the beds, though generally a covering of coarse hay is beneficial in keeping the bed in an equable condition of heat and moisture.

Protecting vegetables from frost.—Care will now have to be taken that Lettuce and Endive which are being preserved in frames are not injured by frost, as where these are of fairly large size decay sets in very rapidly if frost is allowed to reach them. In the case of severe weather the lights should have a thick covering of litter or Bracken placed upon them, and if the frost continues, allow it to remain on until it has passed away. The sides of the frames will also require some litter placed around. On the other hand, ventilation will have to be attended to on all fine days. Cauliflowers will also need protecting, but these must not be unduly coddled. Parsley will also require attention. Once let Parsley become injured by a severe frost or beaten down by snow, decay will rapidly set in. Parsley must not upon any account be coddled, a free circulation of air being essential during damp or mild weather. Protection from frost and snow and a free circulation of air are other ones are not needed.

TREES AND SHRUBS.

A SEASIDE SHRUB (DESFONTAINEA SPINOSA).

In many districts of England, especially near the sea, this Chilean shrub will both grow and flower in a satisfactory manner, but where such



Desfontainea spinosa.

is not the case it is well worth the protection of a greenhouse, as its blossoms are very striking and distinct in character. The plant is of a sturdy, freely-branched habit of growth, with foliage very much like that of a Holly, while the drooping, tubular-shaped blossoms are scarlet tipped with yellow. In Devon, Cornwall, and many parts of Ireland it is at home, and so is the Fire Bush (*Embothrium coccineum*) from the same region, which, when laden with its clusters of brilliant Honeysuckle-like blossoms, is such a gorgeous sight as to recall some native of the Tropics. The *Desfontainea* may be propagated by means of cuttings taken when the young growth is about half-ripened, inserted into well-drained pots of sandy soil, and kept close in a temperature slightly higher than that in which they are grown. T.

CLIPPING TREES AND SHRUBS.

At this time of the year, when gardens are being cleared of summer bedding plants and tidied up ready for the winter season, it is very distressing to see the many beautiful hardy Evergreens that make gardens bright and cheerful having nearly all the growth they have made during the past summer so reduced. It is all very well to clear off decaying plants, or the luxuriant shoots of climbers or trailers, but why Evergreens, that are planted for their warm, cheerful effect in winter, should be so barbarously treated just as the winter is coming on passes my comprehension. In this locality the many varieties of *Euonymus*, both green and variegated, are very much in evidence, and very beautiful they look clothed with glossy, shining foliage; but they seem a mark for the shears, for in nearly all the public parks or promenades one finds men busy at work clipping them into forms that are really eyesores to anyone who delights in naturally grown trees or shrubs. If it is necessary to restrict them to any specified height or size it could just as well be done by thinning out the shoots with a knife, and leaving the younger shoots with the foliage intact. This clipping mania is copied by nearly all the owners of small gardens, who seem to consider it the correct thing to do. In this way no trace is left of the naturally beautiful form that the shrubs would assume if left to develop their growth in a natural manner.

JAMES GROOM, *Gosport.*

Moving a Guelder Rose.—I wish to transplant a large standard Guelder Rose. Can you advise me the best means to adopt and the best time of year to do so?

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It has made a good deal of new wood this year. Would it be necessary to cut this back before transplanting?—MARY M. ANDREWS.

[No need to cut the plant back in any way. You ought to move it at once, taking care that the hole into which you put it is sufficiently large to allow of the roots being spread well out. Cut off any damaged pieces of root and water well in, putting a mulching of rotten

manure over the roots so as to retain the moisture. Dig out a trench about 2 feet from the trunk, and then work underneath the ball of soil, taking care to get as much soil with the roots as you can. It is a good plan to put a mat round the ball of soil to keep it firm while being moved.]

PLANTS AND FLOWERS.

ORCHIDS.

CATTLEYS MAKING SECOND GROWTH.

I HAVE noticed several of my Cattleyas this season have made, and are now making, a second growth, the first not having produced sheaths as usual or flowered, probably owing to the cold nights during the summer and want of the average sun heat.—F. W.

[It is not at all unusual for Cattleyas to produce secondary growth—in fact, there are many species and hybrids that need to be specially treated to prevent this. I will take three of the kinds which commence making their growth during the summer—*Cattleya Warscewiczii* (*gigas*), *C. Dowiana aurea*, and *C. labiata*. The first-named species frequently commences to grow in May and through the months of June and July, when the outside conditions are such as to afford encouragement to the development of growth—in fact, it often occurs that the growth ripens and flowers are expanded by the middle or end of July and early in August. This being the case, the conditions then prevailing generally tend to cause the flowers to fade quickly, consequently there is little strain on the plants, and the liberal treatment afforded in the matter of root-moisture in the endeavour to finish the yet undeveloped growth often causes the secondary growth to appear before the previous pseudo-bulb has reached maturity. Plants of this species that have failed to flower are still more

likely to develop secondary growth. Such growth, if started before the end of August, with due encouragement will generally ripen in a satisfactory manner. Growths appearing after that period are generally difficult to manage and need a great deal of encouragement and careful treatment to induce them to produce pseudo-bulbs of normal size and to get them thoroughly ripened. One of the principal items in the treatment of plants developing winter growth is to see that they are placed in the warmest house available, and in such a position that they may obtain the maximum amount of light. Careful watering also is necessary, or the moisture accumulates inside the bracts which surround the pseudo-bulb, and quickly turns the outer covering black at the base, this frequently leading to the ultimate decay of the pseudo-bulb. This latter difficulty generally occurs when plants are grown under such conditions that they cannot obtain sufficient light to properly ripen the base of the pseudo-bulb. It is a good plan to suspend plants with secondary growth close to the roof-glass.

My remarks on *C. Warscewiczii* will apply also to the other species mentioned, and to the hybrids which usually flower in autumn or early winter. I would advise you to place plants of these kinds under cooler and drier conditions immediately after the growth reaches maturity, or after flowering. It is a better plan still to mark the particular kinds which are producing secondary growth, and place them under cooler conditions so as to keep the plants dormant and retard growth for two or three weeks. This generally produces more satisfactory results. It has, no doubt, been a trying season for all kinds of plants, and things generally are unusually late. I am inclined to think too liberal treatment must have been the cause from which you complain. I live not much further north, but have been afraid of the results that would be obtained from the unusual late starting owing to the cold spring and summer with very little sunshine. The last few weeks, however, and the continuation of milder weather have brought more favourable results than could reasonably have been expected. It will be desirable, perhaps, to keep the plants cooler to prevent the difficulty of which you complain occurring another season. *Cattleya Trianae*, *C. Mossii*, *C. Mendeli*, and others, often flower without producing flower-sheaths, so that if you can ripen the pseudo-bulbs properly, you may get the benefit of both growths flowering in proper season.—H. J. C.]

Snowflakes.—The Spring Snowflake (*Leucojum vernum*) should be found in every



The Lily of the Field (*Stembergia lutea*). (See page 47.)

garden where early spring flowers are grown, and bulb buyers have now an opportunity of getting it in this autumn. Snowflakes like a light and fairly rich soil, and when once

established never fail to bloom, their green-tipped white bells, produced on somewhat stiff stalks, having a very pretty effect in the borders. *L. carpaticum*, blooming a little later, has larger blooms. The Summer Snowflake (*L. aestivum*), also white, may be planted in the autumn.—LEAHURST.

OUTDOOR PLANTS.

STERNBERGIA (LILY OF THE FIELD).
PRETTY and very interesting hardy bulbs, which deserve to be better known. The autumn Crocuses help to carry us through the dull months, but the flowers of the Sternbergias, being of much firmer texture, are able to withstand a far greater amount of bad weather than those of the Crocuses, and are thus better adapted for our climate. One source of failure with Sternbergias and other bulbs is moving them at the wrong time, or before growth has fully developed. What they want is thorough ripening in summer and slight protection, such

S. LUTEA.—This is the winter Daffodil of Parkinson and a pretty hardy plant, best on some gravelly soils. The absence of seed on this bulb in a cultivated state is remarkable, seeing how plentiful it is and how freely it flowers in many parts of the country. The bulbe must be large before they will bloom freely. There is a narrow-leaved form of this named *angustifolia*, which flowers very freely and is of rather more vigorous growth than *S. lutea*.

S. GRECA, from the mountains of Greece, has very narrow leaves and broad perianth segments.

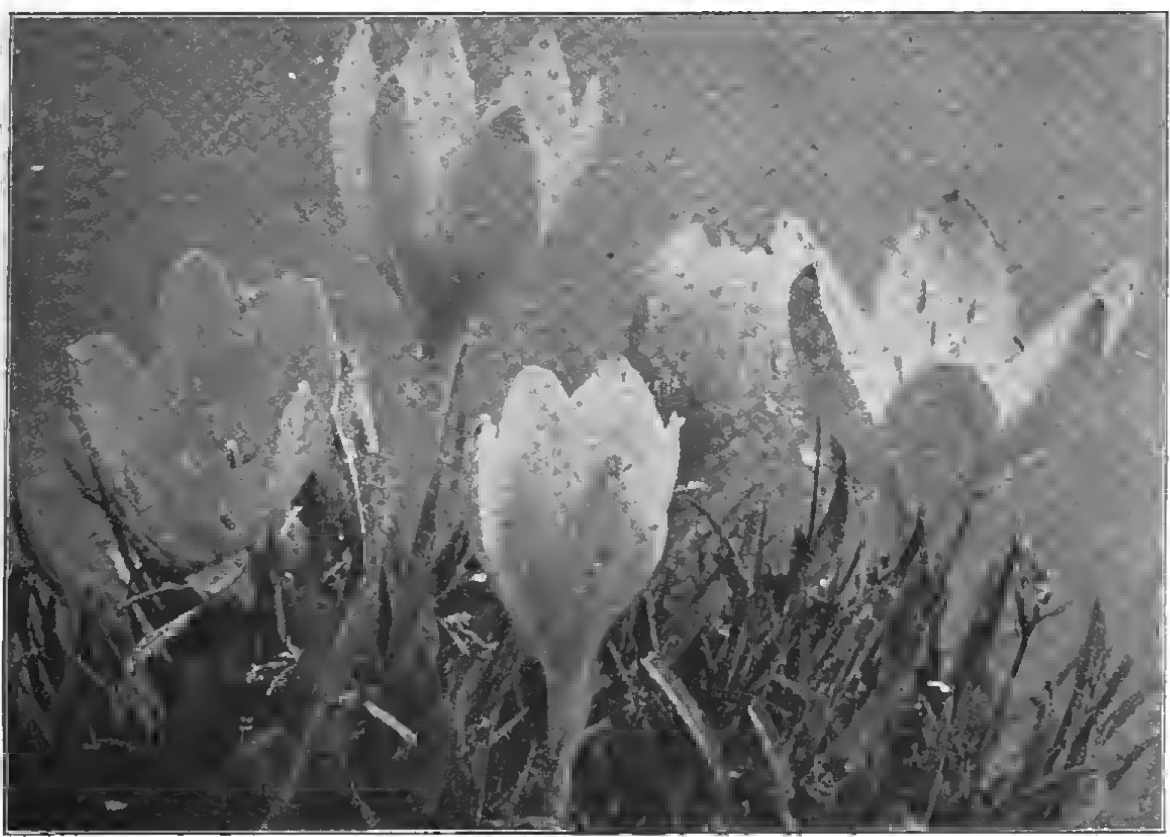
S. SICULA is a form with narrower leaves and segments than the type, while the Cretan variety has considerably larger flowers.

S. MACRANTHA, introduced by Mr. Whittall from the mountains of Smyrna, is, as will be seen by our illustration, a very handsome form. The leaves are each about an inch broad when fully developed, flowers bright yellow, appearing in the autumn.

The rarer kinds should have a place in our

ness of ice prevailed. Walking some distance from the pond you are sensible of a pleasing Almond perfume being wafted to you. The oblong leaves spread out on the surface and the buds rise a few inches higher, covered by a green conical cap, which the expanding flower pushes off. These very pretty and peculiar white fragrant blooms are produced for many months. I enclose a few, which I trust will reach you in such a condition that when placed in water they will diffuse a pleasant perfume in your office. Every flower throws off about fifty seeds; these are contained in filmy envelopes and for a short time float about on the surface, then burst their cases and sink to the bottom, and when doing so a small shoot about one-third of an inch long is already visible.

My mode of growing the Aponogeton may possibly interest your readers. I procure an empty paraffin-oil cask, saw it in half to make two tubs, then drop a piece of lighted paper in to burn out the remains of the oil. When the flame gets low sprinkle water from a can to prevent the tub itself being burnt. I



The large-flowered Lily of the Field (*Sternbergia macrantha*).

as dry litter, during the winter. In sandy loams, and fully exposed to the sun, the bulbs will get the necessary ripening without being lifted, and the best plan will be to leave them undisturbed until they attain flowering size. We have even known the plants thrive on stiff soils without being moved.

S. COLCHICIFLORA.—This is one of the old garden plants, having been cultivated by Clusius and Parkinson. It is described as fragrant, and perfuming, with its Jessamine-scented flowers, the fields of the Crimea about the Bosphorus. The leaves are narrow, and come with the fruit in spring; and the sulphur-yellow flowers appear in autumn at about the same time as those of *S. lutea*. It is found on dry, exposed positions in the Caucasus and Crimea, and is hardy in this country. *S. dalmatica* and *S. pulchella* are varieties.

S. FISCHERIANA is nearly allied, and has the habit of *S. lutea*, from which it differs chiefly in flowering in spring instead of in the autumn.

bulb borders, or on rocky borders in gritty or open soil, associated with the rarer Narcissus and the choicer hardy bulbs. The effect produced by *S. lutea* when grouped near the shelter of walls is very fine when the plants are in bloom.

THE CAPE POND WEED (APONOGETON DISTACHYON).

THIS beautiful, interesting, and sweetly-fragrant aquatic is not so extensively known and so generally cultivated as it deserves. It is suitable for the smallest garden, hardy, and requires only a minimum of attention. When first introduced into this country from the Cape of Good Hope, many years ago, it was deemed scarcely suitable for our climate, and in the Edinburgh Botanic Garden was grown under glass, but by some accident, or perhaps designedly, a few seeds found their way into the open pond, where the plants soon spread over a considerable space, and proved that they required no protection, even when some thick

then sink the tub in the ground till the edge is about 3 inches above the soil, put about 9 inches of ordinary garden soil in, insert the plant in the centre, and fill up the tub with water. No further attention is required beyond filling up the tub occasionally to compensate for evaporation. I have seen the Aponogeton flowering in a large inverted bell-glass placed on an office table. It grows at Kew in the outdoor tank contiguous to that containing the beautiful Nymphaeas.

A. B. HERRERT.

Morden, Surrey, Nov. 8th, 1902.

THE TREE-PEONIES.

THE Moutan Peony of northern China and Japan is one of the handsomest of all our shrubby garden flowers. It was introduced as long ago as 1789, and very noble specimens exist here and there in old English and Irish gardens. It has long been cultivated in the gardens of China, and of late years many very fine seedling varieties of the most varied colours

have been imported from Japanese nurseries. Some of these have white, flesh-pink, rosy-salmon, lilac-purple, or crimson flowers, with or without darker markings at the base of their satin-like petals. There are single, semi-double, and full double forms. The fine old specimens of *P. Mouton*, to be found in gardens wherein they were planted, in some cases a century or more ago, are often 5 feet to 8 feet in height and 10 feet to 15 feet in diameter, producing in good years from 50 to 200 or more flowers.

It must be clearly recognised, however, that these old examples were not grafted, but have always existed on their own roots, propagation being effected either by layering the lower branches or by the careful division of old clumps. It is important to remember this, because the plants as now imported by the hundred or thousand from the nurseries of Japan are all grafted on a long-rooted and coarse-growing stock, and even in pots many minor troubles and losses innumerable have been experienced in their cultivation. The plants flower well the first season, carrying from one to three or more flowers, and then every succeeding year is marked more or less by failures in growth and in flowering. All this is very disappointing. Some cultivators have in part succeeded in remedying the evils of grafting Tree-Pæonies by planting them so deeply in tubs or pots, or in mounding up their stems so high, that roots have been induced to appear above the union between the wild stock and the young scion. The demand in Japan is now so great that one can scarcely expect the gardeners there to abandon the system of grafting now in vogue in favour of sending us own-rooted divisions or layers on their own roots. As it is, the grafting suits growers and dealers in Japan, who make these plants to sell, rather than to grow on permanently and form large and healthy bushes in the open air, as their older prototypes have done in many places. It is a great pity that grafting as a means of increase has been resorted to in the case of the Tree-Pæony, seeing that it may be layered so easily, and that the plants growing on their own roots live so much longer. Layered Pæonies, like layered Rhododendrons, are free from suckers, which are often, even if not always, a nuisance with grafted plants.

Our advice to all who have failed to grow the newer-imported varieties in the open air is to so treat them that they are sure that the scions are rooted above the graft line before they think of planting them outside, and, moreover, to harden off the plants carefully before the experiment is made. Tree-Pæoniae are quite hardy in deep, rich, warm soils near the sea almost everywhere, but especially so in the south and western parts of the British Islands. The real danger comes with the late spring frosts of March and April, hence it is advisable to select a sheltered position for them where they are shaded from the sunshine of the early morning, which otherwise is very likely to blacken their early appearing flower-buds and foliage. A south-western exposure suits them best, and we have noted splendid specimens in such aspects.—*Fidd.*

PENTSTEMONS FROM SEED (I. NAMED KINDS).

There are few, if any, hardy border plants more easily raised from seed than Pentstemons, and from a garden point of view I have come to regard them as of great value. I have always pinned my faith to seedlings, and have previously been satisfied with the quality and variety of colours obtained by those means. Lately, however, some of my ideals have been somewhat ruthlessly shattered, for on inspecting a breadth of named kinds in a provincial nursery I find my seedling stock was poor in comparison, and I went away with somewhat mixed feelings. In the named kinds there were none without immense bells, towering spikes, and splendid colours. Some of these were very rich in tone, especially the darker reds and crimsons. These Pentstemons are mostly, it seems, of continental origin. Whether those with British names are home raised I did not learn, but they were in the minority. The following are a few which to me were the most striking: Cpt. Marchand,

André Lebon, Jean Mace, Dragon, Gabriel Barde, Commandant Larmy, Dr. Chantennesse, Miss Willmot, Lady Brodie, Lord Lister, Pres. Carnot, Talma, Phryne, Jane Misme, Jules Barbier, and Louis Grandeau. These take in a wide range of colour, which it is unnecessary to attempt to describe. Their great value is found not only in the grandeur of their colours and spikes, but the succession of flower which is maintained, and by cutting the early flowers others are produced for later displays. Pentstemons can be had in bloom in August, and will continue until frost stays their progress. Pentstemons look best planted in beds alone, either in separate colours or mixed together. In the flower garden they may very well take the place of Geraniums and Calceolarias, which need so much labour to carry them through the winter safely. In August and September beds of these would be extremely gay, and their cost not more in many instances than is paid for ordinary bedding plants in spring. W. S.

NOTES AND REPLIES.

Preserving Honesty.—Having repeatedly seen contradictory views of the value of Honesty seeds for cutting, I deem it well to give a very simple rule for rendering them useful for the above purpose. When the seeds are fully ripe pull up the plant and hang it up to dry thoroughly. On examining the seed-pods it will be found that they consist of three cuticles or skins. Remove the soiled ones on each side, and the centre one remains intact, displaying its silvery sheen in all its beauty.—A CONSTANT READER OF "GARDENING."

Decayed vegetable matter as manure.—Having seen in one of your late issues of "GARDENING" that this has been useful as manure in growing Celery and Strawberries, I have had a deep trench made, and a quantity of this sort of stuff removed from a yard pit and put into this plot, and covered over with the soil. What would you advise me to sow in this plot now, or should it be left fallow for some time?—MRS. DELANER.

[You ought to have put the material you speak of into a heap and mixed it with lime, and when decayed spread it on your vegetable quarters and dug it in. If you sow or plant anything in it the growth will be too gross.]

Late Dahlias.—It is somewhat out of the usual order of things to have Dahlias in full bloom at the end of the first week in November, as Dahlias are usually the first to tell us that frost has been in the air. Not only are the plants still alive, but growing luxuriantly, and sending up a crowd of buds to continue the flowering for some time, unless we get a decided change. I think the Cactus and single varieties have been even more richly coloured than they were in their usual season of flowering.—J. G., Gosport.

Carnations.—I have 24 Carnations planted in two rows, each plant about 12 inches from the next; one row is about 12 inches from a low brick wall, the other row is the same distance from a glass sliding; between this row and the Grass I have planted some yellow Crocuses, and between the other row and the wall some bulbs of Spanish Iris. The whole bed has a very cold and cheerless aspect at present, and I thought next May to plant some (five or six) Chrysanthemums between the rows of Carnations, removing some of these, if necessary, in order to brighten the bed in the following October and November. Will you please advise me if the Chrysanthemum will have any injurious effect upon the Carnations, and, if so, what would you advise me to plant to brighten the beds during these two months? Also, would the application of sea-sand do the Carnations good?—W. KING.

[The Chrysanthemums will be too vigorous and will injure the Carnations, more especially if you wish to increase your stock by layers next year. We would advise you to put in as a groundwork some Tufted Pansies, which will give you a display during the summer and well into the autumn. Chrysanthemums to do well must have a space of from 2½ feet to 3 feet between each plant. Muleh your Carnations well with rotten manure next spring or immediately you have put in the Pansies, if you decide to use them as we suggest.]

A beautiful balcony garden.—Those who have a taste for a garden often produce some fine pictures, and often under the most unfavourable conditions. This was brought most forcibly to my notice at the close of September, when visiting Camberley, Surrey. In the street near the railway station there are several shops, and over one of these I saw a beautifully-arranged balcony. It faces the street and is subjected to a large amount of dust. Boxes covered with cork in front were placed against the ornamental iron railing. In these boxes were good-sized plants of Ivy-leaved Pelargoniums. These were trained over the iron balustrade, and had grown freely, hanging down several feet. The kinds used were *Mme. Crousse* and *Souv. de Chas. Turner*. At equal distances were plants of scarlet

Geranium and Chrysanthemum *Halleri* alternately. Hanging below these were six wire-baskets filled with the same plants. All had been allowed to grow in a free way, showing no traces of tying. Such pictures show what can be done in seemingly unfavourable positions.—J. CROOK.

An autumn note from Cornwall.—What strikes one most in the garden this autumn is the greenness of the lawns and borders, and the lateness of autumn flowers. Pomponé Dahlias especially are indeed valuable, and have had a lengthened reign of splendour given to few flowers this season. Since they began to display their yellow, amber, orange, scarlet, and many fascinating combinations of tints, crowds of Japan Anemones have bloomed and faded, Lilies, white and rose (*L. speciosum*), have bloomed and passed away, Hollyhocks have bowed their stately heads, and Sweet Peas have gone from us. Almost the last Rose of summer has shed its scented petals, and the beautiful *Belladonna* Lilies have sprung leafless from the earth like Mushrooms and withered. The seasons seem playing at hide-and-seek this year. Here are spring flowers and summer blooms, deep blue Gentian (*G. acaulis*), and alpine Daisies looking up at glowing bushes of scarlet and yellow Cactus Dahlias, while they look down on winter Violets, double and single, and on opening Christmas Roses. Late white and pink *Cosmos*, the flowers of the latter a lovely lamp-light colour, are very useful for cutting. Tardy autumn Chrysanthemums will trespass on winter and make the flower season longer—unless the weather should suddenly change to one of our surprise frosts, then some of the later kinds will not open this year.—A. F. BROWN, Tywardreath, Cornwall, Nov. 10th.

Lilium auratum.—With reference to the recent note in "GARDENING ILLUSTRATED" respecting the decay of the bulbs of *Lilium auratum*, has picking off the flower-buds as soon as they appear the first year been tried? I have noticed this practice is recommended with other bulbs to increase their vigour. Is there any objection to applying the same system to *Lilium auratum*? It is evident with the majority of growers a sacrifice has to be made, and to lose the first lot of bloom would be the loss of two evils. *Esquimaux*.

[In the case of this species the removal of the flower-buds would avail nothing. This is usually resorted to owing to a general weakness of the bulb, and which in degree may be surmounted by the early removal of the buds. With the above *Lilium* there is no weakness whatever. On the other hand, the bulbs in the process of preparation for shipment to this country are denuded of their new crop of root fibres, and thereby bereft of the means of conveying food and sustenance to the bulb, and, in turn, of producing each year that new central core that contains the embryo flower-spike. Because these are not produced in the natural order, and because, by reason of heat, light, and moisture, the flowering spike of the previous year's growth has issued forth, nothing but a few scales or outer bulb leaves remain, and this remnant speedily collapses. The central core in this species flowers once and once only, a new flowering crown being formed each year in a natural way. By the process mentioned above the means of supply is entirely removed, hence no new flower centre is formed after the bulb reaches this country. The flower-spike we see in the year of planting is pre-existent, having been formed in the bulb and existing in embryo before the bulbs were harvested in Japan. It is this process which is ruptured by the donning of all roots, these including, unfortunately, the newly emitted crop of roots that issue with the maturing of the growth each year.—E. J.]

Helianthus Miss Mellish.—Some people object to this kind on account of its great height. It is a glorious autumn flower and has many recommendations, and no garden of any size can afford to be without it. I have it growing in the kitchen garden at the end of a border which has not been dug for four or five years. This has stood in this position all the time, and not had any attention beyond removing the dead foliage, and now the growth is from 5 feet to 6 feet high, and covered with its bright yellow flowers. It being a large mass the effect is striking at a distance. Although it thrives in such a position it enjoys a rich larder, and this I noted at the close of September, in a garden where it is used as a

background for other hardy plants. In the garden referred to the roots are lifted every spring, the four strongest being planted back and the others destroyed.—J. Crook.

CACTUS DAHLIAS—YELLOW VARIETIES.

This shade of colour is much appreciated in Cactus Dahlias, but up to the last year or two it was none too plentiful, and, maybe, there are faults in the newer ones that can only be remedied by time. Undoubtedly there has been great improvement recently. For a long time the best yellow was

LADY PENZANCE. This is clear and nice in

MRS. EDWARD MAWLEY.—Probably this is the finest yellow Cactus Dahlia we have. In the arrangement of the florets it is not so light as the last named, but in other respects it is an improvement. The colour is clear and rich. It has a splendid flower-stem, long and stout enough to hold the largest bloom. The flower itself is always double to the centre, and it can be grown to a huge size. A kind not yet in commerce is

IDA, and as exhibited is a very charming one. The colour is richer than seen in any one of those named, and it has a very long florot. It is not wise to recommend a variety unless one has grown it, but in this case we have a sort well worth noting. H. S.

submerge in a barrel of water for some days before using. The soil in which I grow them is composed of about two parts turfy loam, some well-rotted horse manure, leaf-mould, and sand. This I mix thoroughly and then roast by placing it in an old pan or server on the range until it becomes almost bone dry—this kills all worms, etc.; I then add a little wood ashes, made by burning hedge clippings, and which have small bits of charcoal in them. Having a pony I have arranged to convey its urine from the stall into a tank outside the stable, and occasionally I give all my plants a good soaking of it after fully diluting it and find they all like it. One of my Fuchsias, single, with white and purple flowers (not Rose of



A good yellow Cactus Dahlia—Mrs. J. J. Crowe.

our, but the fatal defect of this kind is that the blossoms hide themselves in the leaves. LADY TURNER, another old variety, is showy in the garden on account of its good flower-stem. The fault, however, of this is that the blossoms are heavy in appearance, yet the colour is bright and clear.

ETHEL is perfect in shape of bloom and habit of plant, being especially free flowering, but the colour is not decided or pleasing.

Mrs. J. J. CROWE (here figured) is indeed a striking yellow. The colour is good, and the shape of the flower elegant. It is comprised of long, narrow, ribbon-like florets, as seen in Japanese Chrysanthemums. It can be cultivated to produce blossoms 6 inches across, and much in depth; and when grown in the ordinary way still retains its characteristics. The flower-stem is long and wiry, thus holding the bloom erect. The variety is easy to grow.

Fuchsias falling.—I note the complaint of your correspondent, and am rather surprised, as, having a considerable number myself, my complaint is that they are doing too well. Perhaps he does not treat them properly; they do well with me (most of them at least) in the open air if well fed, but they don't do well in a draught; mine are of both the single and double sorts. Your correspondent may allow them to get too dry at the roots, in which case it is very hard to wet the ball of soil and roots. When they get too dry at the roots I place the pot in a bucket of tepid water (I never use cold water from the tap), entirely submerging the pot, and allow it to be so submerged until all the small bubbles which come up have disappeared. When they begin to grow early in the year, I feed them with diluted liquid-manure, composed of horse droppings and soot, both of which I place in the same bag and

Castile) has been in bloom almost continuously since Christmas, and has now hundreds of flowers on it.—A. MAZE.

Calceolaria amplexicaulis.—When planted out during the summer this species is, at a time that the others are nearly exhausted, just at its best, and for late flowering there are none to equal it. A quarter of a century ago this Calceolaria was far more common than it is nowadays. Being rather a tall grower led, we suppose, to its neglect, but now that the formally arranged flower beds are less popular than formerly, and in many places are to a great extent superseded by a mixed arrangement, it will be found very useful, and in late summer and early autumn the sulphur-yellow blossoms are very bright and cheerful. It is a free, vigorous grower, hardier than some of the garden varieties, and does not die off suddenly when at its best.

GARDEN PESTS AND FRIENDS.

ORCHARD PESTS AND HOW TO COMBAT THEM.

The following interesting notes, which, we hope, will be found useful to our readers, have been taken from a pamphlet on "Orchard and Bush-fruit Pests and how to Combat them," by Cecil Warburton, M.A., F.Z.S., Zoologist to the Royal Agricultural Society, and published by John Murray, Albemarle-street.

Certain Apple pests spend the winter in hiding-places in the bark of the trees. This is the case with the Codlin-moth, which hibernates as a chrysalis, and with the Apple-blossom-weevil, which passes the winter in the beetle form. A favourite shelter is a crack, roofed over by a flake of loose bark. It is advisable to destroy such shelter, and to expose these pests to the alternate frosts and thaws of winter by scraping the trunks, and removing, as far as possible, all the loose bark. The operation is still more successful if followed by a dressing of some suitable insecticide, well scrubbed into the cracks with a stiff brush during the winter. It is against the various insects which attack the leaves in spring and summer that washes and sprays are chiefly used. They cannot, of course, be applied while the trees are in blossom, for fear of destroying or keeping away the insects which are necessary to fertilise the flowers, but trees are sprayed before the blossom has opened or after the fruit has set.

There are two quite different classes of insecticides used for this purpose. One class is intended to kill the insect directly, while the other class brings about the destruction of the insect indirectly, by poisoning the leaves on which it is feeding. It is clear that this latter class is of no use against sucking insects, for the poison will not reach the sap on which they feed, but it is very effective against all the caterpillar tribe, which feed upon the substance of the leaf. It is also clear that it would be sheer waste to deluge a tree with a leaf-poisoning insecticide. It should be delivered as a fine spray, so that the poison may be sprinkled evenly over all the leaves.

It will be convenient to give at once the ingredients of a few of the most useful and readily prepared washes, so that they may be simply referred to under the various insect pests instead of being re-described in each case.

I.—LEAF-POISONING INSECTICIDES.

(a) Take half-a-pound of Paris (or emerald) green and stir well in a hundred gallons of water, adding a pound of lime. Distribute in a fine spray over the foliage, taking care to stir the mixture frequently, or the Paris-green will sink to the bottom.

N.B.—Paris-green is sold as a paste and as a powder. The paste is safer, not being so liable to blow about and be inhaled. If the powder is used, it should be pulverised before mixing, unless very fine in grain.

(b) Take six ounces of arsenate of soda and dissolve in a little water, pouring the solution into a hundred gallons of soft water. Also dissolve eighteen ounces of acetate of lead ("sugar of lead") in a little water, and pour the solution into the hundred gallons containing the arsenate of soda. Stir frequently during use, and deliver as a fine spray. A little soft-soap added to the mixture will help it to adhere to the leaves.

CAUTION.—The mixtures (a) and (b) are highly poisonous, and must not be left carelessly about, nor must the vessels in which they are mixed be used for other purposes without careful cleansing. Care must be taken not to inhale the arsenic powders. Fruit must not be sprayed within a few weeks of gathering.

II.—DIRECT INSECTICIDES.

(c) Dissolve half-a-pound of soft-soap in one gallon of soft water. Add this to two gallons of paraffin (kerosene) oil, and stir thoroughly. This gives a "kerosene emulsion," which must be diluted for use. The strength of the mixture will depend partly on the quality of the paraffin, and partly on the nature of the object sprayed—whether tender and delicate leaves, strong and vigorous foliage, or bare winter branches. An average strength for foliage will

be obtained by adding fifteen gallons of soft water to the three gallons of emulsion, but it is as well to test its effect on the leaves. For winter use a much stronger mixture is permissible, five to ten gallons of additional water being sufficient.

(d) Boil twelve pounds of Quassia-chips, and add the extract to a hundred gallons of water. Six or seven pounds of soft-soap may be advantageously added to the wash.

(e) A useful wash for winter use only, to kill hibernating insects and their eggs, or to clean tree-trunks smothered by Moss or Lichen, may be made thus: Dissolve separately in water one pound of caustic soda and one pound of crude potash. Mix the solutions, stirring up three-quarters of a pound of soft-soap in the mixture. Add sufficient water to make ten gallons. The best time for its application is the middle of February.

LEAF PESTS.

THE WINTER-MOTH.

Hosts of caterpillars may sometimes be found devouring the leaves and even the blossoms of orchard trees in the spring. Several different kinds will probably be present, but they all do harm in the same way, and as soon as they are observed in any numbers the trees should be sprayed with one of the mixtures (a) or (b). If most of the caterpillars are "loopers"—arching their backs as they crawl along—it may be concluded that the "Winter-moth" is at work. The "March-moth" and the "Mottled Umber" also have "looper" caterpillars, but as all three have practically the same life-history the particular species is of little importance. The important point in the life-history of the Winter-moth and its allies is this, that only the male moth can fly, the female having such ridiculously small and stunted wings that they are of no use to it. Indeed, the females would not be taken for moths at all by the ordinary observer, their fat, almost wingless bodies and long legs giving them quite a spider-like appearance. The caterpillars, at first so small as to be almost invisible, feed on the leaves till they are fully grown. Those of the Winter-moth are then about 1 inch in length, green, with narrow white lines along the sides, and with brown heads. They then leave the tree, usually letting themselves down by a thread, and crawl to some sheltered place, where they turn to chrysalids. From these chrysalids most of the moths come out in the following autumn, though some do not emerge till the winter is past. Now the female moths, after leaving the chrysalis, have to reach the twigs and buds of the fruit-trees in order to lay their eggs, and, as they cannot fly, they are obliged to crawl up the trunks. If by any means they can be prevented from doing this there will, of course, be no Winter-moth eggs on the trees to hatch out into caterpillars in the following spring. The plan of banding the trees with a sticky substance in the autumn does, to a large extent, prevent the ascent of the female moths, and greatly reduces the number of caterpillars in the following year. Bands of grease-proof paper or tied round the trunks some feet from the ground—high enough to be clear of any fruit-bushes below—and these are smeared with some adhesive substance which does not readily dry up, such as cart-grease or one of the numerous preparations in the market. The moths begin to come out in the middle of October, and continue to emerge all through the autumn, so that the trees should be banded by the second week in October, and the sticky material renewed as soon as it shows signs of drying up. Hundreds of wingless female moths are often caught upon a single band, together with several males, doubtless attracted by the presence of the other sex. The sticky matter should be renewed in the spring to intercept the March-moth and such of the Winter-moths as have passed the winter in the chrysalis stage.

PEAR AND CHERRY SAW-FLY (SLUG-WORMS).

The leaves of the Pear and Cherry, and sometimes of other fruit-trees, are occasionally found to be injured in a very characteristic manner by small slimy grubs, commonly called slug-worms. The upper surface of the leaves is entirely eaten away, the veins and the lower surface being left. The attack is gene-

rally noticed in September, but there is an earlier attack, usually not so serious, which takes place in June. The slug-worms are the grubs of the Pear saw-fly, a glossy black insect, not at all striking in appearance, about $\frac{1}{2}$ -inch in length. The ordinary observer would take it for a black fly, though in reality it does not belong to the Diptera or true flies, but to the Hymenoptera, the order which contains the bees and wasps. If examined carefully, it will be found to have four wings, like a bee. They are clear and transparent except for a darkish mark on the front wings. Another peculiarity, common to all the saw-flies, is the absence of a "waist," or constriction between the front and hind portions of the body. The saw-flies are so called because the females possess a remarkable saw apparatus with which they cut holes in leaves or wood for the reception of their eggs. The Pear saw-fly cuts a small hole in a Pear or Cherry-leaf, and inserts an egg, which is oval and white, and which takes about a week to hatch. The larva, which cause the early attacks are on the wing at the end of May, and in June their eggs hatch out into tiny grubs which are at first whitish, but soon become dark green and slimy, and much thicker in front than behind. They feed on the upper portion of the leaf, and, when many are present, give out a very disagreeable smell. By the beginning of July they are fully grown—about $\frac{1}{2}$ -inch in length—and now they drop to the ground, into which they burrow to a depth of about 2 inches, where they enclose themselves in small cartilaginous cocoons, from which the saw-flies come out at the end of July. It is these flies which cause the September attack on the Pear and Cherry-leaves, acting precisely like their parents. The grubs from the second brood, when fully fed (in September or October), seek the ground again, and the cocoons remain there till the flies come out in the following May.

REMEDY.—Lime is the substance which has been most successfully used against this pest when the caterpillars are feeding on the leaves. It may be used dry or as a wash. In the latter case, it is dusted over the leaves as a powder. The lime-wash is made by stirring a peck of lime and two pounds of soft-soap into three gallons of water. The dusting, or the spraying, must be repeated two or three times at short intervals, as the first application is thrown off by the grubs with the slime they exude. Early morning or evening is the best time for the operation, which should not be performed while the sun is powerful. The final dusting or spraying should be followed by a good washing-down with a garden engine.

PREVENTION.—The grubs spend the whole winter in cocoons in the ground beneath infected trees, and are thus at the mercy of the fruit-grower from October to May. The best treatment will depend on the nature of the orchard. If the ground is bare, the surface may be removed to a depth of 3 inches and burned or buried deeply. Simply digging up and exposing the cocoons to the inclemencies of the weather and to birds are of use. If Grass, a heavy dressing of kainit beneath the trees might have a good effect.

RED-SPIDER.

The leaves of Damson and Plum trees are subject to the attacks of this pest in hot, dry seasons. From their shrivelled and burnt appearance the disease is sometimes known as "fire-blast." Thousands of the microscopic creatures may be seen like a red dust under the leaves, amongst the network of fine silk threads which they spin. The "red-spider," which is in reality one of the spinning mites, spends the winter under stones or in crevices in wood—whether growing trunks or fencing timber. It comes out in the middle of May and attacks the leaves of Damson and Plum-trees and other plants (Hep, Currant, Gooseberry), sucking the sap and spinning a fine web which chokes up the leaf-pores. It lays eggs in the web, and multiplies rapidly, the young being at first six-legged, but afterwards eight-legged like their parents. It is only in especially dry weather that they are greatly destructive, their numbers being speedily reduced by rain.

TREATMENT.—Either of the washes (c) or (d) will be found useful against this pest. Sulphur, however, seems to be especially

INDOOR PLANTS.

DOUBLE BEGONIAS.

AMONG the double Begonias there is, I think, a greater variety of colour than is found in the single forms. In form, again, how varied are the double kinds, some of the flowers resembling a Roso, others a Hollyhock, while others, again, are like a Camellia. Others, again, consist of a large number of distinct florets, each in itself a perfectly double flower. Another valuable characteristic of the double Begonia is the duration of its blooms. Even under the best conditions the single flowers only last a few days, while the double flowers remain in good condition for weeks. Double Begonias have finer and more fibrous roots, and on this account the plants must be potted more firmly in a soil rather finer than the coarser-rooting single; require. The best compost is good

flower garden, as rain injures them but little. Give them a sheltered position. In using them for the open-air one great point is to have kinds in which the flowers are well thrown up above the leaves, taking also into consideration the shape, size, and absence of coarseness. T.

PLANTS FOR CONSERVATORY.

I HAVE a conservatory leading out of and attached to my drawing-room, the roof and front being glass and the two sides brick walls. There is no artificial heat but an oil-stove, lit at such times as is necessary to keep out the frost. Will you kindly advise on the following points: 1. A list of flowering plants which (like Campanula) hang and droop over the sides of the pots, to hide the pots and the edge of the shelf, and to be placed in the front row of the shelf. 2. A list of varieties of suitable plants which will afford a succession of flowers during the whole or a greater part of the year. I do not want a list of varieties, but merely a general list of species. 3. The most suitable climbing flowers to grow up the walls and over the roof. Would *Maréchal Niel* Rose, *Passion-flower*, *Clematis*, and *Lapageria rosea* do?—K.M., *Croydon*.

Fuchsias, Ivy and other Pelargoniums, Hydrangeas, Spiræas, and the like. Then in summer you may have quite a blaze of Begonias with some of the plants just named. Following these would be *Vallotas*, the early autumn *Crocuses*, *Liliums*, such as *longiflorum*, *Harrisii*, *L. speciosum* in variety, *L. croceum*, *L. umbellatum*. *Columbines* are very beautiful in early summer in pots, while the *Chimney Campanula*, *C. pyramidalis* in variety, and the fine *Canterbury Bells*, if well grown, would be very beautiful. For the autumn and early winter a selection of *Chrysanthemums* would be most suitable, and, with some well grown pot plants of *Michaelmas Daisies*, afford a gay and varied assortment. For climbing plants, *Clematis indivisa lobata*, and the forms of *C. lanuginosa*, with *Maréchal Niel* Rose, the *Passion-flower*, *Abutilon Golden Fleece*, white and red *Lapageria*, *Rose Catherine Mermel*, and *The Bride and Bridesmaid*, would provide a charming set. To work a conservatory of this kind satisfactorily, it would be needful to have a pit or frame to protect successive batches of plants and likewise another set of hardy plants in pans and pots that could be introduced at flowering time. The variety obtainable in this way is very considerable, and, in some instances, *Azalea mollis*, for example, the colours available are not obtainable in any other flowering subject. To get into proper working order is but a question of time and perseverance.]

NOTES AND REPLIES.

Agathæa cœlestis.—This is a valuable plant for late autumn decoration. When planted out it is apt to run away to leaf, the crop of flowers being correspondingly scanty, but kept in pots all through the summer the growth is sturdy, short jointed, and flowers are produced in quantity. We have such a limited choice of blue-flowered plants for conservatory decoration during the autumn and winter months that one ought not to neglect this *Agathæa*, which in a temperature of 50 degs. will keep on blooming. Like the *Paris Daisy*, there seems to be no limit to the amount of flowers it will yield, provided the culture is right. Cuttings put in in spring will make good specimens by September, keeping all the buds picked off till that month. From October onwards

the plants will make a nice show, and in spring also if encouraged with a little liquid-manure. Through the summer the plants should have a sunny position, so that the wood may be thoroughly hardened.

India-rubber plant.—I should be glad to know the proper season for transplanting an india-rubber plant which has become very pot-bound. Its height is 2 feet, and the diameter of the pot in which it is grown is 9 inches, and the height also 9 inches. I should also be glad to know what is the most suitable soil to plant it in.—Y. E. COMYAR-TYCKER.

[Shift it in the spring into a larger pot, using a compost of sandy loam, leaf-soil, and rotten manure, and be careful with the watering until the roots begin to work freely into the new soil.]

Galvanised pipes for heating.—Will you kindly say if pipes made of galvanised sheet iron will answer the same purpose as metal pipes for heating a house 6 feet square?—I intend using gas to heat water in small copper boiler.—PANDOX.

[We have no experience of galvanised iron pipes in heating with hot water, but we see not the least objection to them so far as the material itself is concerned. The pipes would of necessity be required to be of heavier metal than the ordinary galvanised sheets, otherwise the water constantly in them and the incessant wear by corrosion may speedily tell upon the lighter and thinner pipes.]

Primula obconica pisoneus.—This has led to much discussion at different times owing to its leaves, when handled, in some cases causing an irritation of the



A double-flowered Begonia.

[Trailing plants best suited to the above are: *Campanula isophylla alba* and *Mayii*, *C. fragilis*, *C. garganica* and *alba*, which include the best of trailing *Campanulas*. Other plants are: *Lysimachia nummularia*, *Saxifraga sarmentosa*, *Linnaria cymbalaria*. These are hardy. In summer you may add *Lophospermum scandens*, *Cobæa scandens*, *Tropæolum Lobbi*, and Ivy-leaved *Pelargoniums*, etc. Your list of plants for decoration will be rather sparse of flowering for some time in winter with only frost excluded. You may, however, indulge in *Christmas Roses* liberally, and certainly there is nothing finer for mid-winter bloom. The plants should be grown outside in pots, pans, or tubs in a shady place till required. Another favourite is the fragrant *Violet* in pots, and you may also in pans grow the *Tufted Pansies*, few things being more beautiful and free. In bulbous things for spring you may have *Squills*, *Chionodoxa*, *Cyclamen*, *Hoop Petticoat* and other *Narcissi*, *Hyacinths*, *Tulips*, *Muscari*, *Fritillarias*, *Spanish Irises*, etc. In shrubs you could have the berried *Aucubas*, also *Skimmias*, the golden *Euonymus* and *Retinospora*, etc. *Dielytra spectabilis*, *Doronicum*, *Iris nudicaulis* and *pumila* in variety, *I. germanica*, *Hepaticas*, *Anemones*, *Cinerarias*, herbaceous *Calceolarias*, *Clove* and other *Carnations*, *Tea* and *H.P. Roses* in pots.]

sound fibrous loam, with about half its bulk of sweet leaf-soil, some decayed hotbed manure, and rough, gritty material. When the roots have well occupied the soil an occasional dose of root-water or diluted guano will be very useful. Nothing, however, I have found is so good as diluted liquid-manure.

The plants should always be grown close to the glass, ventilating freely both day and night during favourable weather, with a slight shade from strong sun in the middle of the day. The double forms seldom attain their full development the first year, the plants being stronger, the blooms much larger, fuller, and more double the second year. Care must be taken in growing double Begonias not to overfeed, as this is liable to produce only single or partly-double blooms.

The double forms are also very useful in the

skin, while others who handle it are quite unaffected by it. In the spring I grew about 100 from seed, potted them, and they became good plants. I was not affected by poison. I repotted them. About two weeks after this I had small, irritating pustules on the wrist and face, with swelling of the eyelids, one eye being nearly closed. I consulted a physician. He pronounced it oenocela poisoning. He also said that other Primulas gave off this poison; not all, but some of them.—YAWCLIFF.

[We have handled plants of this and have felt no ill-effects. The irritation can easily be prevented by wearing gloves when working among the plants.]

CHRYSANTHEMUMS.

CHRYSANTHEMUMS AT THE AQUARIUM.

On Tuesday, Nov. 4, I visited the Aquarium to see the Chrysanthemum Show. I went with anticipations of great things; I left with a sense of disgusted repletion of big things. Anything more barbarous than the bloated blooms, which were displayed in all their round-bellied nudity, I never beheld. Chrysanthemum growers take infinite pains and display infinite skill in making God's most beautiful creations ugly. Even the single Chrysanthemums are being ruined by this insane passion for size. If you had an exhibition of the most beautiful and useful horses, would you prefer tun-bellied beasts of twenty hands? Are twenty-stone men the most beautiful of their species? But whatever the ugliness of the flowers, it was as nothing to the hideousness of their environment. Vulgarity, dirt, and painted squalor were the prevailing notes of the place. I left thanking Heaven that such an insult to the Abbey has been purchased by a religious body, and will no longer be associated with the most risky forms of acrobaticism, sensationalism, and other evils. The show was an object lesson as to the necessity for a building set apart to the service of horticulture.

HERBERT MILLINGTON.

FRUIT.

THE GREAT NORTH COUNTRY PEAR (JARGONELLE).

It is much to be desired that a race of Pears as good as this for north country climates could be raised. It is the best variety for Scotland and the north of England, and does well fifty miles north of Aberdeen as well as in many other parts of the country. For quality no Pear in its season can be compared to the Jargonelle. Certainly it is very liable to decay at the core when ripe, but August and September varieties have the same tendency. As the Jargonelle approaches ripeness great care should be taken in the gathering as soon as ready, and if "caught" in good condition the flavour is excellent. The best position for it is trained to the side of a house, or on the gable end of a building where there is room for extension, for it is impatient of the knife, and not until the tree has covered a considerable space and the spurs become old will it fruit freely. We know of a tree which, when trained to a wall and pruned in the usual way, never bore any fruit, but since the branches have been allowed to overtop the wall and grow away freely fine crops have been gathered annually.

As now is the time for planting fruit-trees, anyone having a gable end or house wall to cover cannot do better than plant a tree or two of Jargonelle, taking the precaution to well prepare the ground in the first place. T.

MAKING A PEACH-HOUSE.

(REPLY TO "H. G. W.")

The structure at your command should make an ideal cool Peach-house, and the lights being movable will all be in favour of the trees, and should be taken off as soon as the wood is thoroughly ripened and the leaves begin to fall. These should not be replaced until the buds are well advanced in spring, thus retarding the flowering period to as late a date as possible, as you have no artificial heat to keep out frost. First get the roof wired by screwing into each rafter galvanised supports for carrying the wire. These should be 15 inches long, with an eye for the wire to pass through. Three inches will be sufficient for the eye.

screw into the rafters, leaving 12 inches clear from the latter, and, surmising these are 3 inches from where the glass-lights are fixed, the trees, when trained, will be 15 inches from the glass, where the growths, as well as the fruit, will reap the benefit of the light and sun. These wires or rods should be 3/4 inch in diameter for Peach-training, and should run horizontally—that is, lengthways of the structure—and have a thread at one or both ends, so that a nut may be put on to tighten the same, or, better still, let the rods go right through both ends of the house and be tightened from the outside.

Next set about having a suitable border for the trees, after making sure efficient drainage is secured, 9 inches of broken brick-lats, rough at the bottom, the top 3 inches should be smaller, and, if considered necessary, a 3-inch drain-pipe should run along the entire length of the border a few inches below the drainage, and have a convenient fall, also outlet. Twenty inches to 24 inches of loamy soil, with a good percentage of lime and mortar-rubble, wood-ashes, and, if the loam is poor, a little Vine-

the best Strawberries for succession. In the answer to it I see no mention made of St. Joseph Strawberry. I got some small rooted runners of it last year from an advertisement in GARDENING ILLUSTRATED, and this month have gathered several dishes of ripe Strawberries from them in the open air. The last were gathered on October 22. The plants have still a good quantity of fruit on them, but probably there will not be sufficient sunshine to ripen the berries. They are of a good size and well flavoured. My garden is on a high hill, much exposed to the east, in the north of Ireland.—J. R. St. G.]

Planting fruit-trees.—I propose to plant 25 fruit-trees, composed of Apples, Pears, Plums, and Cherries, in meadow land, on light sandy soil. Should like to know what proportion of each kind, and the names of the best varieties of each.—ORCHARD.

[As you do not state in your query whether you propose planting standard, pyramid, or bush trees, I append two lists, the first consisting of varieties suitable to grow as standards, and the second of such sorts as will succeed either as bushes or pyramids. With regard to the proportion of each to plant, wo



Part of a Jargonelle Pear-tree in fruit. From a photograph sent by Mr. John Solan, Bilton House, Leasby, Northumberland.

manure added. It is unwise to make the border too rich, or the trees grow too strong. Far better feed from above as soon as a crop is secured. Make the soil quite firm and plant forthwith, and, assuming that the front wall is not more than 3 feet in height, fan-trained trees are the best to plant; if much above this, standard trees, having a clear stem of 3 feet, are better. After planting, merely make the growths secure from wind, the pruning and tying of same being deferred until early in February. You may plant three trees, the two end ones being 5 feet clear of the centre of these. Plant Hale's Early, Royal George, and either Violette Hative or Dymond Peaches, or, should Nectarines be preferred, Early Rivers', Lord Napier, Elruge, or Pitmaston Orange. A Rose may well be planted at each end. Climbing Niphotos, Pauline Labonte, Marie Van Houutte, L'Ideal, Mrs. John Laing, and Caroline Testout are all good kinds, and free, continuous bloomers.

Best Strawberries for succession.

—I read in "Notes and Replies" in GARDENING ILLUSTRATED of October 18, a query as to

think you could not do better than plant nine Apples, seeing that this fruit is generally in greatest demand, six each of Plums and Pears, and four of Cherries. List No. 1.—Apples: Beauty of Bath or Juneating, King of Pippins, Cox's Orange Pippin, Lord Suffield (if the latter cankers in your district substitute Lord Grosvenor for it), Warner's King, Cox's Pomona, Kentish Fillbasket, Land's Prince Albert, Wellington. Pears: Williams' Bon Chrétien, Beurré d'Amanlis, Pitmaston Duchess, Louise Bonne or Beurré Hardy, Emile d'Heyst, Josephino de Malines. Plums: Rivers' Early Prolific, Cox's Emperor, Jefferson, Victoria, Yellow Magnum Bonum, Pond's Seedling. If a Damson is desired, substitute Shropshire Prince Damson for Yellow Magnum Bonum. Cherries: Early Rivers', May Duke, Amorb Heart, Black Eagle. If a cooking Cherry is required substitute Morello for Black Eagle. All of the foregoing are constant and heavy croppers, and should succeed well on your light, sandy soil. List No. 2.—Apples: Lady Sudeley, King of Pippins, Ribston or Cox's Orange Pippin, Cox's Pomona, Lord Suffield or Lord Grosvenor (see remarks above), Warner's King, New Northern Greening,

Lane's Prince Albert, Beauty of Kent. *Pears*: Williams' Bon Chrétien or Souvenir du Congrès, Beurré d'Amanlis, Pitmaston, Marie Louise, Doyenné du Comice, Josephine de Malines. *Plums*: Rivers' Early Prolific, The Czar, Belle de Louvain, Denniston's Superb, Jefferson, Victoria, Monarch or Late Black Orleans. *Cherries*: Early Rivers', May Duke, Belle d'Orleans, Late Black Bigarreau. Morello may take the place of Belle d'Orleans should a cooking Cherry be required.]

GARDEN WORK.

Conservatory.—The Chrysanthemums are now at their best, and if the blooms have been fed up with stimulants to a large size, the ventilation must be carefully managed to keep them from damping, and there must be a little warmth in the pipes. The smaller, more naturally-grown blooms will stand more hardship, and last in condition longer. Those who grow large blooms will now be looking out for the strong, robust cuttings. They will strike best in small single pots in a frame where a little warmth can be had if required. I have rooted the cuttings in a frame placed in a cold-house; but if severe frost sets in before the rooting is completed the work is painfully slow, and it is better to have the command of warmth, even though it may not be necessary to use it. Some of the old varieties are lovely for cutting. We find ladies never seem tired of Lady Selborne, Wm. Holmes and Source d'Or, Rycroft Glory and Phœbus are useful for cutting. Many of the exhibition kinds are of no use for cutting, as these large-flowered varieties, when stopped several times to develop more flowers, and not disbudded much, are too weak in the neck, and will not stand erect without wire. Late varieties should be kept cool, and, of course, they will not be in the conservatory, but in the coolest house available. They will want a little warmth to develop the flowers, but whilst the buds are forming keep them cool and freely ventilated. Tree-Carnations are beautiful now for cutting, and their fragrance is delightful. Well-grown Violets in pots, with a few small pots of Grasses amongst them, are also useful. There is a graceful little *Carex* from Japan that does well in small pots, and is very pretty for mixing with such things as Violets, Cyclamens, and Roman Hyacinths. The last are now coming into bloom without much forcing. Primulas also are making pretty groups now, but such things are lost in a lofty house unless there are stands to fill in some part of the house. The watering must be in careful hands now, as damp arising from careless watering will do harm among the flowers, and too much fire-heat in such mild weather will not only be wasteful, but will exhaust the flowers, and cause them to fade before their time.

Stove.—Very often it is necessary to take some of the stove plants to the conservatory when in flower to assist in brightening it up, and if the stove is kept anything over 60 degs. at night, it is well to cool them down if possible in the intermediate-house if it can be done. We are all more or less the victims of circumstances, and have to make the best of things sometimes with limited means. To keep a large conservatory gay during winter, the stove and forcing-houses have to be drawn upon, and when it is possible to cool the plants down a little in an intermediate temperature the flowers last much longer. Some of the brightest plants in the stove now will be the Poinsettias, and these may be taken to the conservatory and formed into groups with fine-foliaged plants. A few plants of the variegated Japanese Grass (*Eulalia*) work in well with brightly coloured flowers. At present the conservatory is pretty well occupied with Chrysanthemums, but these will soon be thinned, and then the temperature can be raised a little, and stove plants of many kinds in flower will be more at home. I have moved large pots of Eucharis Lilies to the conservatory, where they have remained in condition for some time. The stove in the meantime may be filled up with Gardenias, Orchids, and other things moving on to the flowering stage. I have, sometimes, when the demand for Arm Lilies and Tea Roses has been urgent, moved a few

into the stove to push on the flowers. A gardener must be resourceful.

Pruning Peaches under glass.—Usually Peaches make abundance of wood under glass, and there is a good deal to cut away. As a rule, much of this thinning has been done during growth. A little more is generally done as soon as the fruit is gathered, and what remains to be done now is to ensure that the trellis is furnished with fruitful wood, cutting the surplus away. Every tree will, of course, be loosened from the trellis, with the exception of a few ties to the main branches to keep them in position whilst being operated upon. Under glass the Peach bears its crop on the young shoots. It will bear on spurs, but it is better to take the crop from the young wood only. Besides thinning out the young wood, a good knife-man will remove everything in the nature of spurs or excrescences that might harbour insects, and when the tree is pruned and washed with an insecticide the training may begin, and the branches should be so arranged that every part of the trellis is furnished with bearing wood. When the wood is well ripened, the only reason for shortening is to fit the shoot into its position. In the case of young trees with plenty of space to fill, the shoots may be left a good length. It is mainly a question of wood ripening. I have left the wood on young trees two or more feet long, only shortening back to where the wood is firm and ripe.

Ferns under glass.—If Maiden-hairs are getting shabby, or are losing fronds, it will be better to keep them drier at the root, and after a time cut down and let them rest in a cool house for a time. Towards the spring a new and vigorous growth will start away, and then the plants may be repotted or divided if more stock is required, though young plants raised from spores are more vigorous than old ones divided. Ferns should now have all the light possible, and enough water should be given to keep the growth active. Spores that were sown in autumn will now be ready for breaking up into small patches or colonies, which may be still further reduced when potted off. At present they will be planted in the usual small, shallow boxes, and be grown on shelves near the glass in a warm house. A suitable temperature for greenhouse Ferns now will be 50 degs. Tropical species will require 10 degs. to 15 degs. more. This refers to night temperatures only.

Window gardening.—There is a demand for dwarf Chrysanthemums in 5-inch or 6-inch pots for rooms and window-decoration. These plants are from late-struck cuttings of suitable kinds cut down early in June and stopped once after, and grown outside in an open situation, helped, when the pots are filled with roots, with liquid-manure. Such plants do well in window-boxes outside. The watering of plants in rooms must be done with judgment, giving enough to moisten all the soil when necessary, and then wait till the soil is dry before watering again. Use the sponge to keep the foliage clean.

Outdoor garden.—Remove all suckers and Brier shoots from recently-budded Roses. Cuttings of the Manetti and Brier should now be planted to raise stock for budding. Cuttings which are well rooted should be transplanted in rows 2½ feet to 3 feet apart to get established for budding next season. Standard Briers should be collected, and, after the roots are trimmed, planted in rows 3 feet apart. Plant firmly, and mulch with long manure. When planted, the tops should be cut to the right height, usually 3 feet to 4 feet. A few long, stout, straight stems may be planted for budding weeping Roses upon. Crimson Rambler makes a good weeper, and Paul's Carmine Pillar is very bright for the time it lasts. Aimée Vibert, Celine Forestier, and Cheshunt Hybrid are good on tall Briers. Lanrette Messiny, White Duchess, Cramoisi-Superieur, Fellenberg, and the old Red China make splendid groups against a background of shrubs, or, in fact, anywhere. These are a few of the plants which cannot very well be wrongly placed, because they will thrive anywhere in sheltered spots. Bamboos and Grasses may be grouped together. They appear at their best near water. Very pretty effects can be created by taking advantage of any sources of

water, such as a stream flowing near, to open it out and make positions for Water Lilies and other suitable plants. Turfing, planting, and earthwork generally are going on well now, and should be pushed forward whilst the weather is suitable.

Fruit garden.—Select cuttings of all kinds of bush fruits. Cut off close to a joint, and remove all buds but three at the upper end, and then plant firmly. The cuttings should not be less than 1 foot long. Good Gooseberries for market work are Crown Bob, Whitesmith, Keepsake, Industry, Lancashire Lad, and Whitesmith. Cuttings of most of the Codlin and a few other Apples cut off now in good-sized truncheons 3 feet or more long, and planted firmly in a shady border, will form roots during the winter. English Paradise-stocks may be planted now for working next season, either grafting or budding. If there should be any difficulty in obtaining these stocks, they can be obtained from most of the French nurseries where a speciality is made of fruit-tree stocks. Stout cuttings of Mulberries may be rooted if planted firmly in the shade and mulched to keep the soil moist and of equable temperature. The weather is very suitable for planting and pruning, and this work should proceed as fast as possible. The autumn is a good time to apply basic-slag and phosphate of lime to fruit-trees where such substances are required. More stimulating manures, should such be necessary, will be better given nearer the time when the fruits are swelling, but top-dressings of such things as old turf, wood-ashes, and a little old manure may be given at any time when available. Give surface dressings and keep the roots from running down. This is specially necessary for trees on dwarfing stocks.

Vegetable garden.—Forced Seakale is always appreciated, and though growth was continued late, the crowns are ripe enough for forcing now. There are several ways of doing this. Sometimes, where it is required in quantity, a good-sized hotbed may be made, and planted with crowns 4 inches or 5 inches apart. It may also be forced in deep boxes, covered at the top to exclude light. The boxes may stand under the stage in a warm house, and the Mushroom-house offers an easy means of keeping up a succession of good blanched Seakale, but it should be grown in a sweet, pure atmosphere, otherwise the Kale may have an earthy taste. The same remark applies to the forcing of Rhubarb, which usually comes on quickly in the Mushroom-house. Asparagus will soon start now in a genial temperature. Cauliflowers are abundant and good. There has been no frost to hurt, but all green crops are sappy, and if severe weather comes they will suffer. I should recommend that all late Broccoli be heeled over at once in the usual way, the stems being covered with earth. French Beans are not a very paying crop in winter, as things move so slowly, but a dwarf kind like Ne Plus Ultra may be planted in 6 inch pots and grown on shelves near the glass. It is not possible to do anything with Peas in heat, but dwarf early Peas sown now in pots and brought on quietly in a cool, light house, will come in early and provide a dish or two.

E. HODDY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

November 24th.—From this onwards we shall look closely after the Chrysanthemum cuttings. A strong cutting, as a rule, will make a strong plant, and though December or even January in some cases may be time enough to begin taking cuttings, it is never wise to miss a good cutting when one has the chance. Roman Hyacinths are now in bloom. They have had scarcely any forcing, but were potted early. Lily of the Valley is now coming forward in a warm-plot darkened.

November 25th.—Recently-planted trees are always staked, if they require it, as soon as planted, care being taken that the trees are not bound up too tightly. I believe the motion of the wind, if it does not disturb the roots, is beneficial. The finest Apples have been gathered from the bush trees on the English Paradise stock, but as the trees get older, the fruits are inferior. The remedy for this we

find is to feed on the surface, and encourage the roots to keep within reach of the solar heat. Beds are being filled with Tea Roses rather thickly to form masses.

November 26th.—Vaporised plant-houses to get rid of the flies. Great care is exercised that no plants infested with flies are taken into the conservatory. Special attention is being given to the planting of climbing or Rambler Roses in suitable positions, such as on arches. Framework is made of Larch-poles to represent a screen, or tall hedge. The bottom is filled in partly with China Roses and free-growing Teas. With such materials we have had no difficulty in filling in a screen 10 feet high in two years.

November 27th.—We have still a lot of Tomatoes in cool-houses. They ripen best on the plants, and we are reluctant to clear them out, but the houses are wanted for other things. Our heaviest cropping Tomato now is Laursen's No. 3, a very free setter. This, of course, accounts for its heavy crop, but it is not an early kind. Seakale and Rhubarb roots have been lifted ready for forcing. Made up another bed for Asparagus forcing. Mushroom-beds are always in course of preparation, as the house is kept filled up.

November 28th.—Made a new plantation of Gooseberries. We lately saw a large plantation of Gooseberries covered in permanently with wire netting, and for years they had been very successful. The Gooseberries were trained to wire trellises, and the fruits were fine and well flavoured. There was no trouble with birds, and no caterpillars. Started pot violets. The side pits are filled with leaves, which are fermenting a little, but there is not much heat, nor is much required at present. The pots are plunged in the leaf-beds.

November 29th.—Shifted a few of the larger Cinerarias into 6-inch pots. We are growing them very thinly on a coal-ash bed in a cool-house. Fires will be used when necessary, and the vaporiser used when the first green-fly is noticed. The pruning of fruit-trees is in progress, and we are anxious to get through this work before Christmas if possible. The bushes are pruned, and will be dressed with a mixture of soft-soap, lime, and soot before the birds usually begin their attack.

BEES.

Bee food.—Can you tell me how many seconds or minutes I ought to boil the sugar when making soft Candy for wintering Bees? I have had so many failures, and fear to try again this year, but find it is somewhat expensive to buy ready made. Should the syrup boil hard or gently? Even two minutes seem sometimes too much, and I get a hard toffee-like cake, which if my molars find tough, what must it be to the Bees' mandibles?—MYRANA.

[You will find that the Bees will easily consume your "hard toffee-like cake." Bee candy should be in this condition when properly made—when sticky and soft it has not been sufficiently boiled. After the syrup has been placed upon the fire it should be well-stirred, that all the sugar may be melted before boiling point is reached. As soon as the boiling commences the stirring should cease. The actual boiling should occupy two minutes, when the saucepan may be withdrawn from the fire and a little of the syrup dropped on to a cool surface. If it begins at once to set as that in a few seconds it will draw out as a thread, the mass is done enough. The pan should then be set in a trough of cold water. The stirring may now continue until the mass begins first to get dim in colour, and then to thicken to the consistency of thin porridge. It may then be poured into moulds, and should be sufficiently set within an hour to be ready for use. While they are still somewhat warm the cakes may be placed upon the tops of the frames, and covered with the quilts. Or frames may be filled with candy-cake and inserted in the hive at the sides of the cluster. In either position the Bees will consume the food as fast as they need it.—S. S. G.]

POULTRY.

Pullets' eggs for hatching (Longford).—You could not depend upon showy, healthy chickens from the eggs of pullets mated with a cockerel of this season, while breeding from related birds should be entirely avoided.

selecting eggs for hatching it is important that the parent birds are of mature age; if out under a year and a half old so much the better. A plan followed by some poultry breeders, and which is found to answer well, and to result in the production of strong, healthy chickens, is to run cocks in their second year with pullets, and cockerels with hens in their second and third year. It should be noted that in-breeding weakens the stamina of the birds, causes them to deteriorate in size, and the egg-producing power to become greatly reduced.—S. S. G.

BIRDS.

Java Sparrow (*F. l. l.*).—You did quite right in putting this bird to a speedy and painless death, as there was no chance of its recovery, for it was evidently suffering from paralysis, and as this progresses the patient becomes less able to use its legs or wings, and death occurs either from exhaustion or from difficulty in swallowing its food, resulting in choking. As you have found other birds showing somewhat similar symptoms, it maybe that your aviary is too exposed to the full rays of the summer sun. The direct action of the solar heat upon the birds for any length of time would be also likely to cause what is known as heat-apoplexy, or sunstroke. This, if not resulting in sudden death, would cause paralysis or serous apoplexy. Birds in an aviary under glass frequently suffer in this way, unless ample shade be provided. It would have been more satisfactory had you furnished particulars as to position of aviary, food, treatment, and so forth.—S. S. G.

The Goldfinch (*Fringilla carduelis*) (*S. F. P.*).—Orchards, shrubberies, groves, and copses are the usual summer resorts of this species. The nest is very frequently built in the branches of an old Moss-covered Apple-tree and is a masterpiece of bird architecture, being constructed of Moss, Lichens, and stalks of Grass, and lined with hair, wool, and Thistle-down, while the outside is so embellished with Lichens that it becomes difficult to distinguish it from the hrench upon which it is built. The eggs are pale greenish-blue, spotted and streaked at the larger end with purple and brown, and are usually five in number. The food of the Goldfinch consists of the seeds of the Thistle, Dandelion, Groundsel, etc.; the young being fed on seeds macerated in the crop. Three broods are reared in the breeding season, and by the beginning of October most of the young birds have attained their adult plumage and commence their migration southwards. A great many, however, remain in this country throughout the year, associating during the winter in small flocks, which perambulate the fields and hedges in search of food, visiting such plants as the Thistle, Teasel, and others which afford them subsistence. As a cage-bird the Goldfinch, from its beauty of plumage, its gracefulness, and its singular docility, is a great favourite. Very beautiful mule birds are produced by pairing a cock Goldfinch with a hen Canary. Young Goldfinches can be reared upon breadcrumbs soaked in milk, with a little scalded Rape and Poppy seed, but great care and attention are needed in order to rear them successfully. The adult birds should be fed upon Rape, Canary, and Thistle seeds, with a little Hemp, while for green food, Lettuce, Watercress, and Groundsel are all good at times, and are much relished. The difference between the sexes is very slight; in the hen, however, the crimson "blaze" does not extend above the eye, while the black feathers upon the head are edged with brown, and she is slightly smaller than the male.—S. S. G.

The Bullfinch (*Pyrrhula vulgaris*).—This handsome bird is common in the wooded districts of our island, and also frequents orchards, shrubberies, copses, and large gardens. It feeds largely upon Privet berries, Dock seeds, Plantains, etc., during the autumn and winter, but in early spring becomes very troublesome in gardens and orchards from its habit of destroying the young buds of fruit-trees. It also attacks the Syc, Whitethorn, Birch, and Larch in the same manner. The Bullfinch rears two broods in the season, and the nest, which is very closely constructed, and consists of

shallow platform of small sticks and fine roots, lined with horse-hair, is usually concealed in a dense bush, but sometimes is placed on the flat branch of a Pine or Silver Fir. There are generally five eggs, which are of a pale blue, speckled and streaked with purple at the larger end. The young do not acquire their bright plumage of the adult bird till after their first moult. The plumage of the hen is somewhat similar to that of the male, only that the bright red of the breast, and the grey of the back, are dull brown. As a cage-bird the Bullfinch is a great favourite, as it becomes not only tame and familiar, but very affectionate to those who feed it, and, although its natural song consists of but a low, plaintive undulation, it will, when brought up by hand, learn with great readiness the songs of other birds, and even distinct airs and tunes, if its instruction be persevered in. In confinement, the Bullfinch should be fed upon black Rape-seed, scalded, to which may be added Canary-seed in small quantities, with occasionally a stalk of ripe Plantain-seed, a few Privet berries, a little plain biscuit, a piece of Apple or boiled Carrot, and a small quantity of Watercress: the greatest treat, however, is a few twigs of some fruit-tree, from which the bird will pick the buds with great relish. It is not safe to supply Hemp-seed in quantity, as this has a tendency to darken the plumage; in fact, some Bullfinches have been known to become quite black from feeding too freely upon this seed. From twelve to twenty seeds a day may, however, be given with safety. These birds are very susceptible to the influence of heat, which affects them injuriously. They should, therefore, never be kept in a high artificial temperature.—S. S. G.

Feeding kittens (*H. B. D. P.*).—The feeding of your kittens is greatly at fault. Milk only, with a little bread soaked in it, is not a sufficiently nourishing diet for young, growing cats. They should have a little lean, cooked mutton or beef once a day, to which some boiled green vegetables should be added two or three times a week, the greens being chopped up with the meat. This should form the mid-day meal. For breakfast they may have porridge or brown bread and milk, while for supper, bread soaked in good gravy would prove beneficial. As a change of diet they may have boiled fish once or twice a week. A few small pieces of slightly-cooked liver may also be given now and then. Boiled rice and gravy is good for them. Grass forms a natural aperient, and should be provided where cats have not access to it out-of-doors. They prefer the larger and coarser kinds of Grass. Clean, fresh water should always be available. Young kittens just removed from their mother may have any of the manufactured infant's food mixed with warm milk. Your kittens are at an age when they require particular care and attention, and to help them through this critical stage they may require a diet of a still more nourishing character, such as shrodded, raw, lean meat or meat extract, or an egg beat up in milk and sweetened.—S. S. G.

LAW AND CUSTOM.

Income tax.—Thanks for your reply, on page 104, to my question. You were right—the demand was under schedule A. The property is not mortgaged.—NORMAN.

[My reply was slightly misleading. If an assessment to income tax is once made it may be enforced unless rectified on appeal, and so, although the refund of the wrongful assessment might be obtained on application, it will be better for you to appeal to the commissioners and have the matter put right, or payment may be enforced from the occupier of the plot, and he may have some trouble to secure repayment. At one time, the owner of premises let to a tenant, and assessed in the tenant's name, was in a doubtful position as to appeal, but that matter was put right by the Finance Act of 1896. Probably if you communicated with the surveyor of taxes, stating all the facts, he would rectify the matter without putting you to the trouble of an appeal.—K. C. T.]

The Prize Winners this week are: 1, Miss Mabel Gaisford, The Grove, Dunboyne, for Rose Mme. Alfred Carriere; 2, Rev. G. S. Whitehead, Bedala, Yorks, for Yellow Tree.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in GARDENING free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of GARDENING, 17, Pall Mall, London, E.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Dahlia from seed (S. L. S.).—Gather the seed at once, dry and clean, and put away in a drawer until next February, when sow in heat in boxes or pots. When ready, pot off the seedlings singly into small pots. Pot on as may be necessary, finally having them in 48-pots, and then plant out in good soil at the end of May.

Pelargonium cuttings (W. King).—Put these on a shelf in the greenhouse and water carefully during the winter, potting off singly into small pots early next March, or if you can command a little heat, in February. If you have no greenhouse you can stand them in a window in a room, taking care that the frost does not reach them, and in the spring pot off singly.

Lily of the Valley (G. B.).—These, if lifted in clumps, may be torn asunder by the hand, or if too dense for this a strong knife may be used. In these plants it is not the roots that form the strong connecting mass, but the stoloniferous stem or shoots just below the surface. By severing these the strongest crowns are obtainable apart, and these are the ones for flowering next year. The thinner growth crowns will succeed them in their flowering a year later.

Clematis Jackman (P. M. Dwyer).—This is a large-flowered autumn and summer bloomer, flowering on the young or summer shoots. The stem, therefore, in pruning should be developed vigorous young shoots, which is done by cutting the summer growth back each season as soon as frost has cut down the plants—say, in November—to within about 6 inches of the soil. The surface should then be mulched with some good rotten manure.

To distinguish Brier from Rose foliage (Rudolf).—The common hedge briars are quite distinct from cultivated Roses in leaf and flower. The leaves of the Brier are about one half the size of the majority of those of Roses. Each leaf is of a long lance shape, prettily serrated, wood light green and covered with numerous brown prickles. The Manetti, another foster stock for Roses, has very light green leaves and reddish prickles. If the shoots you send spring from the plant just below the graft, then undoubtedly they are those of the Manetti, on which your Roses are evidently worked.

Pruning newly planted Roses (S. W.).—Next March will be the best month in which to prune the Roses you have just planted. It is advisable to prune such Roses rather severely the first season; by this we mean cutting them well down to the ground. This induces new growth from the base. In the case of the climbing varieties, one shoot should be selected and cut hard back quite to the ground each year, thus ensuring a constant supply of new growth from the bottom. In this way the measure amount of shoots in the ground, which often spoils the appearance of an otherwise good specimen, is avoided.

Pruning H.P. Roses (Inquirer, Kent).—Two of the varieties you mention—'Irish Broom' and Mrs. J. Laing—being vigorous growers, must not be pruned too severely. The long growths made this year should be shortened back when the time arrives (month of March) to about 8 inches or 12 inches from the base. In some cases, in order to maintain an even balance, it is well to retain some growths on each plant 15 inches to 18 inches long. Lateral growths from last year's wood should be cut to two or three eyes, and all very small wood and any that appears weak should be entirely removed.

California Irises (G. J. Padbury).—The kinds referred to may possibly not be in general cultivation, and possibly I. tenuis is not in cultivation, or, if so, quite rare. The others are interesting rather. I. tenax produces solitary flowers of a lilac-purple, and is notable for the great strength of the fibre obtained from its leaves, which are rarely more than two. It is of slender growth, and should be grown in a warm position in loamy soil. The plant is about 12 inches high. I. hexagona is a strong-growing kind from the Southern United States, often reaching 3 feet or 4 feet high, flowers pale to deep lilac. The stems are much forked and furnished with long and broad leaves. It is best to grow it in a south border, where a deep sandy loam is at command.

Carnations from cuttings (H. R.).—The method recommended by me in a recent issue is quite seasonable now and to the end of the year. There is no need for a frame, and in not a few instances, and of the more hardy sorts in particular, the cuttings are best in the open, apparently delighting in the abundant heavy dew and uniform moisture at this season of the year. A great point is that of securing a good heel to each piece, and, secondly, of inserting the cutting, so-called, quite firmly and right up to the leafy portion. Such cuttings root readily, and are fit to plant in permanent places by the end of March. Indeed, a handful clipped off from a

In September, 1901, were well rooted two months later, and if amateurs would try for themselves, they would be able to put out six plants for every one at the present time. The system is so simple, yet so good and reliable, that no one need be at all short of good bushy plants for planting out, and if once tried there is every possibility of its being continued.—E. J.

Flower border (Irish).—We do not grasp your meaning. Your statement that the branches of an Apple-tree so much overhang the border that ordinary subjects are a failure would suggest general poorness of the soil. Hence we fail to see why you think of planting Laurels, the more so as the "border" commands a prominent position in front of house. You say nothing as to length of border, or whether any portion is more favourably placed. On the face of it, the Apple-tree appears the offender, and if it cannot be removed, it may certainly be both pruned and thinned of some of its branches that the plants named may do better. Unless this can be done, we fear you will not realise the brilliant effect in summer which you require. These summer hardy plants that do quite well in shady places if the soil be good, and we imagine the soil is at fault somewhat. Therefore, to attempt shrubs would only end in failure. Cannot you give us some more definite particulars, especially as regards the class of soil, its depth, and the extent of the border? If the Apple-trees are valuable, the idea of a Laurel hedge at their base would be ruinous.

TREES AND SHRUBS.

Escallonia, propagating (W. King).—This is easily increased from cuttings of the young, rather firm shoots, put into sandy soil with a little peat and road-grit, under a handlight in summer, or you can use younger shoots, putting them into pots and placing under a bell-glass in the greenhouse.

Pruning common white Jasmine (A. Water).—This is evidently a case of over-pruning, thus causing a too vigorous growth. This Jasmine does not, as a rule, require much pruning, but when it does, the summer or flowering plant, being cut quite always be done after the flowering season is over. Simply cut out the old wood and cut back the more vigorous shoots.

The Burmast Oak (Quercus sessiliflora) (E. C.).—This is often included with Q. pedunculata in the British Oak—but is distinct, from a planter's point of view, not being so long lived or quite so noble a tree. It has a straighter and more cylindrical stem and form of tree even than the common Oak, has a deeper green, denser foliage, and gives more covert. The leaves, too, are a little longer than those of our native Oak, these sometimes in mild winters remaining on the tree till the others come. It also differs from Q. pedunculata in that it will thrive on gravelly soils, while the common Oak is best on heavy soils. The wood, too, of the Burmast Oak is less tough and less resisting than that of the common Oak, it having a straighter fibre and finer grain.

Azalea mollis in pots (South Stafford).—If grown and flowered altogether in pots the plants will need careful potting in a soil principally composed of sandy peat, and when the flowering season is over they must not be at once exposed to cold, cutting winds, but gradually hardened off. If this is well done the whole of the leaves will be retained in a good condition, and when all danger from frost is over the plants may be plunged out-of-doors in an open spot. A bed of Cocoa-nut-fibre-refuse is the best plunging material, as it tends to keep the roots in a uniform state of moisture. During the summer the plants must be carefully watered, and occasionally a little weak liquid-manure given. In this way the flower-buds will set quite freely, and the blossoms on established plants remain fresh for a longer period than those that are just lifted from the open ground and taken into the greenhouse. Planting out and forcing in alternate years are also practised with advantage by many, but in either case the principal road to success is to see that the plants are properly supplied with water throughout the summer, and are not crowded up, as a free circulation of air is very necessary to the formation of flower-buds.

FRUIT.

Raspberries (Raspbery).—Cut out all of the present year's fruiting canes from your Raspberry stools, as these are now useless, leaving to each stool or clump from four to five stout young canes, and cutting out all the weak ones also. Tie these to a strong stake. See reply to "C. B." in our issue of Nov. 8, p. 478, re "Manuring Raspberries." It is a mistake to plant such things as Cabbages and Brussels Sprouts among Strawberries, as these hinder the development of the crowns and nitrate against fruit-bearing next year.

Planting bush Apple-trees (M. F.).—We could have better judged as to the merits of planting bush Apple-trees between rows of standard Apples had we been informed as to the width apart of the standard rows. To plant bush trees between, if the standard trees are large, they should be fully 30 feet apart. However, your best varieties for bush planting are the Paradise and Cox's Orange dessert quince, which will be Allington Pippin, Cox's Orange Pippin, St. Edmund's Pippin, Cockle Pippin, and Sturmer Pippin. These all keep late if well ripened and properly stored. They are ready in the order given. A very good cropping and not at all a strong-growing cooking Apple is Stirling Castle; so also is the earlier Maxx Codlin. Plant bush-trees in their rows from 10 feet to 12 feet apart.

Paraffin emulsion (E. Hendy).—This can easily be made in the following way: Mix 1 quart of soft-soap in 2 quarts of boiling water, while hot add 1 pint of paraffin oil, churn this well up with a syringe for 15 minutes then dilute ten or twelve times with water, and add a quarter of a pint of turpentine. When applying the mixture it is well to have two syringes in use, one with which one person can apply the mixture to the fruit-trees, while another person can keep the mixture well stirred up to prevent the paraffin coming to the surface.

Training espalier Apple-trees (Balmombe).—The training of espalier-trees is a slow work, but with patience is later well repaid. You do not tell us the height of the stocks you have grafted with Apples, but if they are low down, as they should be, you will have to cut back your summer graft growths to about 6 inches in length. Then, next spring, three buds should break out,

the top one to be taken upright as leader, the two others, one on each side, taken out and tied laterally to form the lower tiers of branches. These shoots should make each some 3-foot growth. The leader would in the following winter have to be cut back to 12 inches, taking three shoots and treating those as before, and so on each year until the tree was furnished with side branches. The side shoots would have to be cut back to one half their length, and a single leader from each taken on and cut back one half each year, until the side branches were of proper length. The varieties you name all make good espaliers. The clay and ties should have been removed long since.

VEGETABLES.

Raising Tomatoes (Pandon).—For the raising of Tomato seeds in January a temperature of 68 degs. or 70 degs. is required; the first will do quite well if steadily maintained. To do this there should be two pipes, each of 4-inch diameter, arranged along the front, the side, and the back, or the front and the two sides if more convenient. Possibly you could take pipes in at one corner, traversing the front, the side, the back, and along the other side, and then conduct the return pipe to the starting place. If the house can be encompassed in this way, pipes of 3-inch diameter would suffice. Beyond this it is more a question of keeping up the heat in the pipes. With respect to moisture, the seeds require very little at this stage. In fact, much moisture is the greatest enemy, so many seedlings damping off. During the two first months of the year floors should not require damping more than once daily, and at no time should it be requisite to damp down thrice in a day for this crop.

SHORT REPLIES.

A. E.—Such as Phloxes, Anemone japonica, Michauxia Daicies, Sunflowers—in fact, any hardy plants—would do well in such a position. Plant at once, if you can, leaving spaces for some of the early-flowering Chrysanthemums, Gladioli, etc.—Y. F. Z.—No, you cannot do as you suggest. Under the circumstances, the only thing which can be done is to cut down and grub up the tree.—A. H.—We have the Ampelopsis growing on a painted surface, and see no reason why you should not do the same.—M. C. Dighton.—We do not quite understand you, sir. If so, such are injurious to plants.—L. B. W.—We know of no book dealing with the subject you refer to.—Dr. Harlock.—See reply to "Black Currant," re "Black Currant-mite," in our issue of Nov. 8, p. 477. Unfortunately, your bushes have been attacked by the pest.—Tabitha.—Your plant is eaten up with thrips. To cure this you must syringe with Tobacco-water or fumigate the house, if possible, in which it is growing. Try it on a warm wall in the open.—A Subscriber to "Gardening."—Kindly send three specimens, and then we will try and help you.—Early Bird.—See reply to "R. L. Routh," re "Worms in lawn," in our issue of Nov. 15, p. 492.—Pampas.—We have never heard of the Pampas Grass being grown in tubs, and doubt if it would do thus, as it is too strong-growing. It will do well in you in the open.—Z. R.—The Fuchsia you refer to will not stand out-of-doors in the winter. They are only used for the flower garden in summer.—J. Palmer.—Try E. Veitch and Sons, Exeter, who will no doubt be able to procure what you want.—Lisa.—1, Your Apples ought to keep well in the cellar. Simply lay them on the shelves, using neither sawdust nor bran. 2, Sprinkle some lime between the lines of Strawberries, and then when the time comes you can straw down the beds. 3, Impossible to say unless you tell us something of your soil—i.e., whether heavy or light.—W. A. G., Kent.—Kindly say what Jessamine you refer to. Leave your Roses till the spring, say March.—A. M. T.—Evidently one of the Maples (Acer), but why send such dried-up leaves!

NAMES OF PLANTS AND FRUITS.

Names of plants.—Lilla Rome.—Your plant is the common Spurry (Spergularia arvensis).—M. A. Lyter.—Fruit of Pyrus (Cydonia) japonica, said to make a very fine preserve.—Adam.—1, Saxifraga Fortunei; 2, Viola heterophylla variegata, quite hardy.—Caution.—I've left that you send is the true Hedera digitata (H. E. palmata).—John Currie.—3, Epimedium, send in flower; 4, Aster cordifolius var. R. N.—1, Escallonia macrotha; 2, Salvia farinacea; 3, Helianthus autumnale crispus; 4, Rafflesia.—1, Chrysanthemum Horace Martia; 2, Marie Stasse; 3, Roi des Precoques; 4, Specimen insufficient.—M. M. Eaton.—The Bottle-brush plant (Menziesia floribunda).—E. C.—Impossible to name without account; 3 and 4, Specimens insufficient.—W. A. G., Kent.—Kindly send specimens in bloom.

Names of fruits.—Walter M. Simpson.—(1) Not identified; fruit insufficient; 2, Probably Brown Beurré.—No name or address.—Apple Yorkshire Greening.—Thompson Moore.—Apple Yorkshire Greening.—Ester, Bark.—Pears: 1 and 3, Broom Park; 2, Marechal du Centre; 4, Pitmaston Duchess; 5, Josephine de Malines.—J. B. Hayland, Hereford.—1, Cellini Pippin; 3, Burdock; 4, Seeding; 3, Lord Hindlip; 4, Blenheim Orange; 5, and the Dutch Mignonne; 7, Beauty of Hante; 8, King of the Pippins.—J. R. Hinchley.—1, Apple Fern's Pippin; 2, Not recognised.

Book received.—"The Narcissus at the Ashpodes." By A. Wilson, M.A. Dunedin: R. J. Satt and Co.

The Royal Gardeners' Orphan Fund.—The Right Honourable the Earl Carrington has kindly consented to preside at the next anniversary festival of this charity, which will take place at the Hotel Cecil on Tuesday, May 6th, 1903.

United Horticultural Benefit and Provident Society.—The usual monthly committee meeting of this society was held at the Caledonian Hotel, Adelphi Terrace, Strand, on Monday evening, 10th Nov. 1902. Mr. H. Curtis in the chair. Present: Messrs. J. B. Hayland, Seeding, 3, Lord Hindlip, 4, Blenheim Orange, 5, and the Dutch Mignonne; 7, Beauty of Hante; 8, King of the Pippins.—J. R. Hinchley.—1, Apple Fern's Pippin; 2, Not recognised.

does more harm than good. Probably it would sell for enough to pay the cost of the taking down. Too many trees harbour birds. Destroy nests in the spring, and that will help to keep them down. Their company is often very dearly purchased when they do so much harm to crops.

THREE GOOD PEARS.

For use during the latter half of October and early November, *Beurré Superfin*, *Marie Louise*, and *Pitmaston* form a trio that please most connoisseurs, the first, perhaps, best of the three. In most years all prove good with me, though it is not on every soil *Pitmaston* is found satisfactory; this is to be regretted, as it is much the noblest fruit, and makes a very telling dish for exhibition or the dessert-table, while for market it always fetches a good price.

far and near to be *par excellence*, and does equally well on a west or east aspect. This is the season for planting, procuring trees two years from the bud and worked on the Pear. They may bear earlier on the Quince, but some varieties make but little growth, and never seem able to fill their allotted space, even when annually top-dressed with a good compost.

EAST DEVON.

[With the above note we received some very handsome fruits of the varieties named. *Beurré Superfin* was excellent in every way—in fact, the finest samples we have seen of this Pear. The *Pitmaston* was very large, as also was *Marie Louise*.—Ed.]

NOTES AND REPLIES.

Protecting Vine borders.—Where the Vines carrying the latest bunches are root-

is no necessity for covering these with either manure, leaves, or other material, as they would be all the better exposed to the sweetening influences of frosts, winds, sunshine, and rain. All exposed stems, whether or not forcing is to be resorted to, should be carefully protected with hay bands, or else be enclosed in boxes large enough to hold a good packing of dry sawdust. Frosts do not injure the stems while the Vines are at rest, but would quickly rupture the sap vessels directly the sap commences to flow. If done now there will then be no risks run.

Second crops of Plums.—The season now near its close has been more than usually erratic as regards the weather, but, on the whole, it has been favourable for gardening. Fruit crops were in nearly all cases below the average, both in quantity and quality, for the very low temperature in May and June destroyed the hopes of a heavy crop, which in the early part of spring looked like a certainty. The young fruits that looked like setting freely continued to drop off, until the only trees that were really well laden were the Pears, which with me perfected a heavy crop of fine clear fruit. All kinds of stone fruits, especially Cherries and Plums, dropped off until only a sprinkling was left. Many trees bloomed a second time and set a good many fruits at midsummer, with the result that little, green, half-grown fruits were no novelty this year when the others were ripe. I gathered half a gallon from one tree in November.

Top-dressing Strawberries.—Plants of more than one or two seasons' growth greatly benefited at this season of the year by a good top-dressing. This has especial reference to light or thin soils, or where the plants are apt to suffer much from drought. It may have been noticed that the older plants are the first to collapse during a dry season. To obviate this or to lessen it considerably, a top-dressing of suitable compost will be found of great benefit, this assisting in the formation of surface roots near the collar of the plants. It will also have been observed that as Strawberries grow old, hard woolly stems are formed, and it is these which are the first to collapse under a heavy strain of bright sunshine and drought. In very many cases the plants quickly flag, and when this is the case, the hopes of securing a crop of fruit are small. Before adding the top-dressing the plants should be very lightly pricked over, but not deep enough to disturb any of the roots. The dressing of soot should be first applied. The top-dressing should consist of burned garden refuse, some well-decayed manure, and any other soil that may be at hand. Old Manure and Cucumber soil, surface soil from Vine borders, or anything similar is what is needed, the whole being mixed and spread over the surface, working it also well in about the crowns. If a depth of 2 inches or thereabouts could be given, it would be both labour and material well spent.

Apple, London or Five-crowned Pippin, is so called from the five prominent angles or ribs which originate on the sides of the fruit and terminate at the eye. Although a very old variety, it is still one of the best for late use, and I knew of no Apple to surpass it for the dessert in the months of March and April. Roundish in shape, somewhat flattened, and having the ribs or angles already mentioned, skin clear yellow when ripe, with beautiful red flush on the exposed side; eye small and closed; flesh yellowish-white, tender, juicy, and pleasantly flavoured, is a somewhat brief description of a typical specimen. As a cropper it is first-rate, and one of the few varieties that has really yielded well this season. In a cool store it will keep good until June, but is at its best when used any time between January and April. In addition to its being a good table Apple, it is excellent when either boiled or baked. It may be grown either as an orchard standard or as a bush tree with excellent results. As a standard, the habit of growth is rather pyramidal, and the branches are inclined to be pendulous, so that the lowermost ones need to be kept shortened back to keep them out of the reach of stock. Those about to plant should certainly include London Pippin in their list if they have not done so.—A. W.



Pear *Beurré Superfin*.

Unfortunately, Pears, when ripe, do not keep any length of time; if they did the fruit would be much more valuable. *Beurré Superfin* does well as a cordou trained around an iron trellis in the open in the West of England, though the finest specimens are generally had from a wall facing west. I suppose it is a matter of taste as to which form the Pear should be trained in when planted against walls, though my experience is that much finer fruit can be had from fan-trained trees than from those trained horizontally. Not only this, a wall, 12 feet or 14 feet in height, is much sooner covered than when horizontal training is the rule, and if the trees make too strong a growth, root-pruning or entire replanting will rectify this evil, if carried out every few years until good crops are secured.

ing principally in outside borders, these latter ought to be covered with either shutters, strips of galvanised iron, spare lights, or other material that will ward off heavy rains. Grapes not keeping well when the borders are badly saturated. Vines that are to be started early ought to have their roots solely or principally inside the house, but if the front walls are arched or the roots have access to an outside border, that is where they will mostly be found. Till such time, therefore, as mild hotbeds are formed on these outside borders, they ought to be rather heavily covered with fresh leaves kept in position by either a straw thatching, boards, or shutters, this being done to prevent an undue lowering of the temperature. In the case of Vines that will not be started much before the end of February, there

PLANTS AND FLOWERS.

OUTDOOR PLANTS.

LILIUM LONGIFLORUM IN SOUTH DEVON.

The small measure of success that attends the efforts to grow *Lilium longiflorum* and its

section, culminating in the Indian *Lilium giganteum*, that takes some seven years to reach flowering size.

Feeling sure that "somehow" the culture was also to blame, I tried the Lilies in the way shown in the photograph, and I think I have succeeded; at any rate, the Lilies go on year after year with a most satisfactory increase. They were planted in irregular groups of from three to six bulbs two and three years ago.

bulbs; in front of them there is a long row of some hundred *Incarvillea Delavayi*, fringed by white Japanese Pinks. The border is about 100 feet long. It has a quaint little fence of Bamboo on the path side, 30 inches high, with tall Bamboos every 1 foot for Clematis to grow on, a thing of the future, as mine is not a Clematis soil, lacking lime; it is new red sandstone, very warm and dry, yet fertile. The Lilies are planted in black peat, and every winter have about 2 inches deep of sifted leaf-mould spread over them to nourish them and protect from spring frosts. The border has been widened this autumn to allow 100 *L. Alexandria* to be planted between the *Incarvilleas* and Pinks. These Lilies flowered splendidly with me this summer in another part of the Japanese garden, but were so placed that they turned their flowers away from the path to the sun, so did not show to advantage.

Whenever a bulb was found to "break up," the young bulbs were planted in a trench filled with peat in the kitchen garden. Some put in two years ago threw up dwarf flower-stems this summer, with one bloom; very creditable, considering they were not nearly so large as a lady's thimble when put in. One interesting fact, these baby bulbs do not show above ground (I mean, do not throw up foliage) till they send up flower-stems. Just a few have one little leaf, like a small "blind" Tulip leaf, but the majority have not even this, though they steadily grow at the root.

Dartlish, S. Devon. A. BAYLTON.

HARDY SCILLAS.

In the early spring few bulbs are more valuable in the garden than the Scillas, of which several species are hardy. The earliest to bloom is

S. maritima, the flower-spike often appearing above the ground towards the end of February or opening days of March. In the type the flowers are of a deep blue, from four to eight being carried on a spike some 5 inches in height. The form known as *S. praecox* is rather earlier to bloom than the type, and has slightly larger flowers. There are many



Lilium longiflorum in a South Devon garden.

varieties in England is due, I fancy, to the general rule of treating all the Lilies classed as "Japanese" alike. I have not had a wide experience, but I have proved that *Lilium auratum*, *L. speciosum*, and *L. longiflorum* need totally different treatment. The general advice, "Plant in partial shade amongst low-growing shrubs," is quite right for *L. auratum*, a woodland Lily, but it is only partly right for *L. speciosum*, as this Lily loves sunlight, and I have found it quite wrong for *L. longiflorum*, which seems to need much sun, full exposure, and unlimited quantities of water, if free from lime. Anyone can flower imported bulbs—that is, given sound bulbs and a peaty soil, but it is the growing of this most beautiful Lily that is the difficulty. I have a theory of my own that its native habitat is in open, fertile, moist plains along watercourses, or in alluvial soil, as in the delta of streams, the natural soil being the porous, fertile, volcanic rock, covered by organic soil carried there by rain or river—well-drained, yet always moist. Again, it is quite one of the earliest Lilies to flower, and one of the most interesting writers on Japan has said that there are "Forty wet days in June in the Land of the Chrysanthemum." *L. longiflorum* is the only Lily I water in dry weather. This summer it has luxuriated in the constant rain which has ruined the *L. speciosum* and *L. auratum*. In native pictures of this Lily, grown for commercial purposes, it is always in open fields, like the Tulip farms of Holland. I first tried growing it with a carpet of Funkias amongst low shrubs, in a sunny place. I had a grand show of flowers the first year, but the bulbs mostly "broke up" after flowering. Planting in partial shade was worse, for every bulb "broke up." From one patch of twelve flowering bulbs I had about 100 small bulbs, varying in size from a big Pea to a Hazel-nut. This tendency to break up after once flowering into many small bulbs is one of the troubles of cultivating this Lily, but I find it is particularly natural to all, or nearly all, of the Trumpet

Some of the groups had twelve flowering stems this season besides a good many young growths; in one case twenty-three in all. A narrow border divided the Japanese garden from a wide path, running from N.E. to S.W. Some giant *Ilex trees*, 12 feet away, quite shielded them



Scilla hispanica in the wild garden. From a photograph by Miss Gaisford, Dunboyne.

from east wind, also from all morning sun, a very necessary precaution with a Lily that starts into growth so early in the year as this one. The full strength of the winter sun is allowed to cover or shade

varieties of *S. bifolia*—namely, the white *S. bifolia alba*, the flesh-coloured *S. b. carnea*, and *Queen of the Valley*. Lately two improved forms named Pink Beauty and White Queen have been introduced. They are not yet pro-

curable, except by special favour. *S. bifolia* should be left undisturbed, when it seeds freely like its relative the *Chionodoxa*, and in a few years is surrounded with hosts of self-sown seedlings. *S. taurica* is another form of *S. bifolia*, with more numerous and larger flowers, as many as twenty being sometimes borne on a single scape. This *Scilla* is not exacting as to position, succeeding as well in the shade as in sunshine, as is the case with other species of the genus.

THE SIBERIAN SQUILL (*S. sibirica*) is another very beautiful early-flowering species, the colour of its flowers, a bright porcelain-blue, seen in some of the best of the Delphiniums, being more telling than that of any other species. It prefers a somewhat light, porous soil. Of late years a white variety, *S. sibirica alba*, has been raised, but although this is an acquisition, it is, as is the case with many white-flowered varieties of well-known types, inferior in effect to its delightfully-coloured parent.

THE STAR HYACINTH (*S. amena*) is a strong-growing species, producing its blue flowers in April. Its foliage is nearly a foot in length, and is of a pale yellow-green colour. It is well adapted for edging shrubberies.

S. NUTANS, popularly known in England by the erroneous title of Bluebell, is, though a common wild flower, the most graceful of the whole race. Who is there that has not been fascinated at the charming picture presented by a wood carpeted as with the azure of the sky by closely-set myriads of its arching blue scapes? No more beautiful sight can be imagined than that afforded by the Wood Hyacinths in full flower in early June, beneath the trees around Queen's Cottage, Kew Gardens, where for hundreds of yards they form a sheet of shimmering blue—a sight at the door of every Londoner. Much as has been said in praise of other *Scillas* for naturalising, it is certain that none are so valuable for this purpose as our English Wood Hyacinth, for none can approach it in grace of poise. White and rose-coloured forms of *Scilla nutans* are often met with, but though pretty and interesting as curiosities, the rightful tint of the "Bluebell" is to be preferred.

S. HISPANICA, also known as *S. campanulata* (see illustration), is a profuse flowerer, and is easily naturalised in the wild garden. It is, as may be seen from the picture, very ornamental as an edging for a narrow path backed by evergreens, and is charming when associated with London Pride (*Saxifraga umbrosa*), whose delicate flesh-white flower-sprays contrast so well with the sturdy blue scapes of the *Scillas*. *S. hispanica* bears upright flower-scapes, which, though handsome in the mass, lack the grace of the bending scapes of *S. nutans*. There is a white variety of *S. hispanica* which is in much request for market work.

S. ITALICA bears pale blue flowers, with darker coloured stems, on spikes 10 inches in height, one spike sometimes holding as many as twenty or thirty flowers, which are sweetly scented. It thrives best in a light sandy loam in a sheltered position.

S. PERUVIANA is not, as might be imagined, a native of Peru, but of the Mediterranean region. Its foliage is broad and Yucca-like in shape, and it bears a dense pyramidal head of purple-blue flowers, very closely set, the flower-heads being often over 11 inches in diameter at the base. It is more curious than beautiful. It grows in quantity on the steep rocky slopes at Gibraltar, and should, in this country, be planted in shaly soil in a sunny but sheltered position. S. W. F.

THE MIXED BORDER BEAUTIFUL.

TO THE EDITOR OF "GARDENING ILLUSTRATED."

SIR,—As a great admirer of hardy flowers, I have read with interest several excellent articles on the arrangement of herbaceous mixed borders which have appeared in recent numbers of GARDENING ILLUSTRATED. As there are proverbially "two sides to every question," perhaps you will allow me to air another theory on the "Mixed Border Beautiful." I have every sympathy with those who are trying, by advocating "schemes of colour," to prevent the painful mixing of such colours as scarlet and magenta, or strong and crude blues and reds; but it seems to me that there is some danger of the

"colour scheme" theory being done to death. One point that is thoroughly insisted upon is that "plants of the same colouring are intergrouped, so that the red group, whether early or late, is always a red group, and so on throughout." Now, personally, I cannot imagine anything more depressing and monotonous than the thought, when looking at some spot in my garden in early spring, that the red group would always be red—red in the fresh days of spring, red through the hot summer months, red still in the autumn, until a kindly frost came and by force blotted out its unchanging redness. By following this plan of intergrouping colours, the broad general effect of the border would always be the same, spring, summer, and autumn. What could be more at variance with the model "colour scheme" of Nature? I take as an instance the stretch of wild moor and forest over which it is my privilege to look at all seasons of the year. There, in spring, is a "colour scheme" of gold—one sheet of yellow Gorse. This changes to the strong summer crimson of the Bell-Heather, mixed with the grey-green of the Gorse bushes; then the softer pink of the Ling, which in turn gives place to the russet and purple brown of the winter. And the wood, for its part, passes through the pink flush of the leaf buds, the vivid young green, the duller, deeper tones of summer, and the glory of autumn tints, to the bare, leafless beauty of winter. How much of the wonderful charm would be left if the forest were always green, the slope always golden, the moor always purple and pink?

At the risk of taking up too much space, I should like to give briefly my idea for following this lesson of Nature. The first broad effect in the border would be a yellow one—Daffodils of all sorts and shades, planted in groups of about a dozen, some 10 feet apart, all down the border. These would be followed by *Doronicum* and *Polyanthus* of suitable shades. Very soon a note of blue and white would be introduced by Forget-me-nots, White Arabis, *Scilla campanulata*, and *Narcissus poeticus*. As the yellow died away, pink would be mixed with the blue and white by May-flowering Tulips, London Pride, herbaceous Peonies, etc. These would go on until the dominant note is given by the Roses. This is perhaps the easiest time, for if scarlet, strong yellow, and magenta are rigidly excluded, it is difficult to go wrong. White is always permissible, and Pinks, followed by Madonna Lilies, Marguerites, and a host of others, will give point to the haze of pink and blue. Roses, Delphiniums, Columbines, Sweet Williams, Shirley Poppies, and nearly all the old-fashioned annuals will harmonise together, and be followed by pink and crimson Hollyhocks and herbaceous Phloxes. Pale yellow and sulphur shades will also mix well. Gradually the sky-blue and rose-pink summer time will change into the mauve, violet, and purple of the season of Asters. No matter if the period overlaps a little; the new tints will not quarrel with their predecessors. Then, by the time the pink is well out of the way, the perennial Sunflowers, and the orange, flame, and scarlet of the Cactus Dahlias and Tritomas may enliven the autumn days. Only, if these are desired, it may be safer to leave out the later flowering pinks, such as Hollyhocks and Phloxes, in case any should linger on and jar with the succeeding scarlets. Finally, tawny-red and bronze, sulphur, yellow, and white Chrysanthemums will carry the brightness of the border well on into winter. In this way an ever-changing general effect is produced in harmony with the moods of the different seasons. Of the difficulties of carrying out such an ideal successfully I am well aware from my own experience; but I believe they may, with care and thought, be overcome. L. D. L.

PLANTING TUFTED PANSIES.

Will you please tell me the best time of year to plant out Tufted Pansies, and also the names of some of the best blue varieties? Would Pansies bloom from seed the same year as sown?—J. R. PHILLIPS.

[Tufted Pansies may be planted out at almost any season, so long as the weather is fairly dry and frosts are not severe. Plant in the spring for early summer and autumn displays, and in the case of plants intended to flower in the hardy border as early as possible in the spring.

time, we prefer to put out the plants during the early days of October. A November and even a December planting, when the weather has been free from severe frosts, has given us splendid results, and for this reason, assuming that you can obtain plants of what you want at once, you may plant with every confidence of being successful. In the meantime get the soil in order. First deeply dig the beds and borders which it is intended to plant, and at the same time incorporate some good rotting manure. Leave the surface-soil fairly rough until you are ready to plant. If you desire a free and early display plant rather closer together than usual—6 inches apart should answer very well. Should large blooms be preferred, 9 inches or 1 foot should separate each plant. Plant firmly. Blue Tufted Pansies are not by any means plentiful, many of the varieties being tinted purple or violet, and sometimes lavender. The following, however, may suit you:—

ARCHIE GRANT.—This old variety is sometimes met with under the name of Admirable, and a slightly improved form of this popular kind is now being distributed under the name of William Haig. The colour is nearer an indigo-blue than any other shade of blue. The flowers are large and possess plenty of substance, and have what some consider a blemish—a black blotch in the centre. Habit rather coarse and not by any means creeping.

MAX KOLB.—A free-flowering plant with a fair habit and good constitution. The blossoms are borne on long and stout footstalks, well above the foliage, and when at its best the plants are much admired. Colour a deep blue.

Mrs. C. TURNER.—This variety is not very generally catalogued now, but if plants can be procured, a free display of deep blue blossoms can be had another season. It is a good self-coloured flower.

TRUE BLUE.—A very old sort, which in years past was highly regarded. Its colour, a rich blue, is effective, but the objection to the flowers is the heavy rays or pencillings which run into the eye of the bloom.

BLUE GOWN.—If this charming sort can be obtained, nothing better in the way of bright blue can well be planted. The circular flowers are rayless, and are faintly tinted mauve, and when the plants are massed the effect is very pretty. It is very free-flowering and of fine habit.

ADMIRAL OF THE BLUES.—This is a rayless variety, and the colour is a deeper shade of blue than most others. The neat yellow eye heightens the beauty of the self-coloured flowers. Its habit is not all that the grower would desire.

M. P. ROBERTSON.—A novelty sent out last spring, is not so good a self as the last-named, and the colour may be described as purplish-blue, paling towards the centre of the flower. As a free-flowering rayless kind it is good.

AUGUSTINE.—An 1897 seedling, very similar to Blue Gown, but with a better bloom, and also more robust constitution.

BLUE DIAMOND.—Something like True Blue in colour, but the flowers are larger and more circular.

BRITANNIA.—This is another seedling from Blue Gown, having flowers of good substance, and a wonderfully compact habit of growth. The colour of the flowers is darker than that of the parent.

JOHN SMITH.—Another pretty blue flower, tinted mauve, and a seedling from Blue Gown. Habit equal to that of the parent plant, and constitution more robust. Neat rayless eye.

PICMY.—A pretty miniature-flowered kind, and specially adapted for edgings to large borders. The plant flowers freely, and the colour of the blossoms is a deep heliotrope-blue, with a neat yellow eye.

KING OF THE BLUES.—This may be regarded as the best of all the blue-coloured kinds. Unfortunately, it is but little known, and the stock is in the hands of a few persons. The late Dr. Stuart was the raiser of this. The colour is a true blue, with a neat yellow eye, and the blossoms are rayless. The plant comes into flower rather later than most other sorts, but keeps up a display well into the autumn.

Pansies raised in the early spring and subsequently, say in April or May, planted outdoors should bloom freely in July or even earlier. (S. E. CHURCH, *Hypocistis*, N.)

THE MORE VIGOROUS WATER LILIES.

The *Marliacea* forms mark the introduction of hybrid Water Lilies and include the very best kinds. Although other varieties have been raised, these hybrids hold their own for general utility, being vigorous and strong in growth, flowers large and very effective when the plants are massed or planted as single specimens.

N. MARLIACEA first flowered at Kew in July, 1887, the bloom being of a rich canary-yellow. The leaves are marbled with reddish-brown on the surface, and blotched with purple on the lower side. In

N. MARLIACEA ALBIDA the flowers are very large, milk-white, the outside petals flaked with pink at the base, stamens sulphur-yellow.

in general appearance and size, but the flowers are of a brighter pink. The inside of the sepals is tinted with pink, stamens sulphur-yellow.

N. M. RUBRA PUNCTATA.—The flowers of this are deep rose-purple and delicately marbled, the sepals dark olive green behind and pale rosy-lilac in front. In

N. M. SANGUINEA the flowers are deep carmine with conspicuous orange-red stamens.

NOTES AND REPLIES.

Renovating cottage garden (*Notice*).—Whatever may be the condition of the soil in your new garden, it is best to assume that it is poor and not deeply worked, as that is the average state of gardens when fresh taken over, as a rule. If you can do so, have all the

soil, and the remark as to manuring, etc., is the outcome of this. In respect to plants, there are many things you may add. Where Michaelmas Daisies fail to bloom there is not much hope of other things in similar circumstances—that is to say, it would be useless on our part recommending a good assortment of plants unless the border is in condition to grow them. The plants mentioned below will be best planted in the early part of March ensuing. In the meantime we suggest you thoroughly trench the soil, giving a heavy dressing of manure as the work proceeds. If you treat the border thus you will find there is no need to discard the Michaelmas Daisies. It may be, however, the kinds are not the best, and the soil being exhausted would soon account for their poor flowering. For the time

stated you will find the following suitable: *Gaillardia grandiflora*, *Aquilegia chrysantha*, *Helenium Bolanderi*, *H. Hoopesii*, *Stenactis speciosa*, *Senecio Doronicum*, *Hemerocallis* in variety, *Coreopsis lanceolata*, *C. grandiflora*, *Centaurea montana* vars., *Delphinium Belladonna* and six other *Delphiniums* in variety, single and double *Pyrethrums*. Other good plants should include *Alstromeria aurea*, *Rudbeckia Newmani*, *Aster Amellus*, *A. Novi-Belgii deusis*, *A. lavigatus*, *A. cordifolius elegans*, *Campanula Van Houttei*, *C. grandis*, *C. g. alba*, *Lathyrus latifolius albus*, *Kniphofia aloides*, *Chrysanthemum maximum*, and German *Irises*. To these may be added *Carnations* in half-a-dozen good kinds, a few clusters of *Sweet Peas*, and a similar supply of *Gladiolus*. Such *Lilies* as *tigrinum*, *t. splendens*, *Martagon*, *umbellatum*, *spaciosum*, etc., will afford much variety and beauty. Tubers of *Anemone coronaria* may also be planted at the same time. There is no limit to the material that could be employed at such a time.

Wallflowers.—These seem as popular as ever. At this time of year, when beds, borders, and window-boxes are being cleared of their summer occupants, it is the Wallflower that quite naturally suggests itself as one of the first things to start upon. Even a small garden needs a good many to fill all the bare spaces. Now that there are so many shades of colour one may have a pretty display of Wallflowers alone. Amongst all the new comers the old, well-tried *Blood Red* and clear yellow *Golden King* hold their own. The great point to aim at in the cultivation of Wallflowers is to have the plants dwarf and bushy, with many side branches, close to the soil, and to get this the seed should be sown thinly in April or May on poor, light soil, in quite an open spot, where they are not drawn up by any overhanging trees. As soon as they are large enough to handle they should be dibbled into rows 1 foot apart each way, and the central shoot pinched out, to cause side shoots to develop more freely. Beyond keeping clean, they will require no further attention until the time comes to put them into their flowering quarters, when, if they have done well, they will be perfectly round specimens, with buds almost ready to burst. They should be very carefully lifted with a fork, so as to get the roots intact, for although they are such strong-rooting plants that they generally survive the rough order of digging up and sticking in again, they will repay a little more care.—J. G.



Nymphaea Marliacea carnea in Mr. Gumbleton's garden at Belgrove, Queenstown, Co. Cork.

This is one of the most vigorous Water Lilies we have.

N. M. CARNEA.—In this, a flower of which is here shown, the blooms are very large, the colour, as implied by the name, flesh-pink, stamens sulphur-yellow.

N. M. CHROMATELLA is one of the finest hybrids we have, the flowers soft yellow in colour, with a deeper centre, stamens sulphur-yellow.

N. M. FLAMMEA varies in colour, which consists of innumerable red dots on a white ground, the outer petals appearing pink and deepening to a wine-red in the centre. The stamens are bright red, leaves marked with chestnut-brown on the surface.

N. M. LIGNEA.—In this the flowers are of a rosy-crimson colour, stamens bright orange. This is a splendid variety for producing an effect in the distance, the colour being so intense.

N. M. ROSEA.—This resembles *N. M. carnea*

kitchen garden ground trenched from 20 inches to 24 inches deep, breaking up the bottom-spit of soil, and leaving it there, but adding some manure before you put the next top-spit of soil on to it. Then, if you could take advantage of frost later, would wheel on a further dressing of manure, and so soon as the ground was thawed would well fork that in, the garden would be in fine condition for cropping in the spring. If the soil be stiff, exposure to frost does it good. The flower borders should have all plants taken out, be manured and deeply dug, then be replanted. Probably many of the herbaceous plants, if large, would require dividing before being replanted. Privets should be lifted and replanted now; then at the end of March cut them hard back, and they will break afresh low down.

Border plants for June and July, etc. (*Perennial Border*).—From your letter we conclude the border needs deep digging and manuring. We well know the district and

King hold their own. The great point to aim at in the cultivation of Wallflowers is to have the plants dwarf and bushy, with many side branches, close to the soil, and to get this the seed should be sown thinly in April or May on poor, light soil, in quite an open spot, where they are not drawn up by any overhanging trees. As soon as they are large enough to handle they should be dibbled into rows 1 foot apart each way, and the central shoot pinched out, to cause side shoots to develop more freely. Beyond keeping clean, they will require no further attention until the time comes to put them into their flowering quarters, when, if they have done well, they will be perfectly round specimens, with buds almost ready to burst. They should be very carefully lifted with a fork, so as to get the roots intact, for although they are such strong-rooting plants that they generally survive the rough order of digging up and sticking in again, they will repay a little more care.—J. G.

INDOOR PLANTS.

POTTED BULBS.

It is not too easy to make those who have had little experience in bulb culture, and wish to grow some successfully in pots, to understand the rationale of putting the pots when filled with bulbs in a dark place, or covering up with ashes or Cocoa-nut-fibre refuse outdoors for a few weeks before exposing the pots to light and air. If those who do not understand the reason for doing this, but lift from the borders a few bulbs of any description just as the points of the leaves are coming through the ground, they would then observe that these bulbs have all made strong roots, showing that root action has some time preceded leaf or crown growth. Outdoor bulbs are invariably planted deeper than in pots, also the atmosphere is, as a rule, cooler than is the soil. Bulbs in pots stood indoors usually find things reversed, and if the top or leaf growth precede root action, then the flowers and leaves produced will be relatively weak. When bulbs are in pots they should be at once stood outdoors on a hard, dry floor of ashes, gravel, asphalt, or slates, or otherwise worms will get into the pots from the ground. Sifted coal-ashes is capital and cheap material to cover them up with, filling in between the pots, and over all some 3 inches thick. Where a number of pots is so treated, and the earlier for some the better, then after six weeks of such treatment a few can be got under glass each week or fortnight, as outdoor growth, especially in cold weather, will be very slow. When taken under glass the pots should be first put into a very moderate warmth, then into greater heat after a few days' exposure. Market growers who grow thousands of bulbs in boxes for forcing under glass treat all in this way. Even Hyacinths in glasses should be placed in a dark cupboard in a cool room for a few weeks to cause roots to be formed ere exposing them to the light.

LEAN-TO GREENHOUSE.

(REPLY TO "MARY.")

You could arrange it in this way. Carry a bed 3 feet 6 inches wide along the entire front part, devote a similar width to the path, which will admit of a 3 feet door, and you have 7 feet or nearly this for the main stage at back. Dividing this into three equal-sized step stages will render it more convenient. For the front the best stage is composed of 1-inch barrel iron pipe and wood bearers 4 inches by 2½ inches or thereabouts let into the front wall, say 3 inches, to form a stay, the iron barrel sunk 6 inches in ground, set on brick, and fixed on concrete, and countersunk in wood, say 1½ inches deep, the hole set back 6 inches from face. This iron upright and wooden bearer are best covered with corrugated iron sheets, nailed on, and constituting a practically indestructible stage. It should be 3 feet high when finished. By using iron sheets of 22 gauge, the bearers could be placed 5 feet apart. Sifted coal-ashes on these sheets make one of the finest stages for plant growing we know of. The back stage may be of the same iron uprights and wood bearers, but the stage will of necessity have to be made of wood laths. Sliding lights for front would do quite well if you can make sure of perfectly seasoned wood in the manufacture, otherwise the ordinary deals will so swell up with moisture as to give much trouble in opening, etc. In other ways they are as useful as any. If you wish for Ferns, the better plan would be to construct a glass partition at the end opposite from door, and by darkening the glass outside a more humid condition could be maintained. A partition, say 5 feet wide, having a 3 feet stage and a 2 feet pathway would grow many good Ferns quite well. The best position for a Peach-tree would then be in the centre at the front, bringing the stem and head up through an aperture in front stage, and accommodating the roots in a prepared bed of soil below the stage. By training the branches near the roof you may grow as fine fruit as is possible. Indeed, one plant we can call to mind in just such a position and in a house not much larger than yours as a whole, has for years produced an average of some 400 dozen fine fruits. The house is heated, however, and the gardener highly experienced. Still, had

is ample room for success in your case by getting a good tree and planting it well. A good and always dry pathway can be made with a bed of concrete, say 6 inches in thickness, to be covered with sharp sand, granite chips, and cement gauged up to two and one.

NOTES AND REPLIES.

Acacias.—The grower of Acacias who has had his plants standing out-of-doors should now see that they are taken inside without further delay, as one night's frost will ruin the chances of bloom. The house where Primulas and Pelargoniums, etc., are wintered will suffice for Acacias, and early in the year one may get any amount of yellow bloom. *A. pulchella* and *A. Drummondii* are two of the most useful sorts.—W. F. D.

Passiflora bleeding.—I have a *Passiflora carulea* planted in the back border of conservatory, which, on account of growing so fast, had completely covered roof and side glass, therefore was advised last week to cut it back to the hard wood, which I did to within 4 feet from the ground. Consequence is, ever since, it has bled profusely. I should be much obliged for advice as to its treatment, as I am afraid it will die. If not, is it likely to break out again in the spring?—R. W. M.

[It was a mistake to cut your plant down as you have done. You could have thinned it out in such a way that light could reach the plants underneath. If you were compelled to cut it down, then you should have left it till the growth was beginning to move in the spring. In the meantime, keep it fairly dry at the roots until you find that the bleeding has ceased.]

Begonia fuchsoides.—While some classes of Begonias have at the present day attained a high degree of popularity, others are allowed to a great extent to pass unnoticed, and among these last must be mentioned *B. fuchsoides*, which is a really handsome species, though the individual blossoms are but small. It is one of the fibrous-rooted section, and in a warm greenhouse will, under favourable conditions, reach a height of 6 feet. This *Begonia* is, for such a structure, one of the best pillar plants that we possess. The leaves are ovate, about 1½ inches long, of a deep shining green when mature, though in a young state they are tinged with red. The bright scarlet flowers are borne in large drooping panicles, and where favourably situated will keep up more or less of a succession for a considerable period.

Lantanas are useful either for greenhouse or conservatory decoration, their brightly-coloured blossoms being attractive, and quite distinct from those of their associates. Somehow or other, however, *Lantanas* have, in most places, nearly dropped out of cultivation; yet, apart from their value as flowering plants at this time of the year, they form pretty little bushes when planted out-of-doors during the summer, where they continue to flower for months together. Their culture is not different from that usually given to *Fuchsias*. The one enemy to guard against is red-spider, which is likely to attack them during hot, dry weather in summer. If cuttings are struck in spring, and stopped once or twice during the season, they form bushy little plants in 5-inch and 6-inch pots, full of bloom buds, by the autumn. Seedlings raised early in the year and grown on freely will also bloom well in the late summer months.

Nasturtiums in pots.—Until last year I had never seen *Nasturtiums* grown in pots, but wishing a change of plant and of flower for house decoration I resolved to try the *Nasturtium*. The seeds were sown in 5-inch pots in June, and stood outdoors until the end of September, or rather until frost deemed it advisable to remove them to a place of safety. This date for sowing proved too early for the purpose I had in view, though it may not be so in every instance. They came into bloom under the coolest conditions I could afford them in October. This year, instead of June, the latter part of July was chosen to put in the seeds—four in each pot. Outdoors the plants advanced more slowly, due to the cooler weather, and at the end of September they are beginning to open a few flowers, a crimson and a yellow kind being grown. I maintain that, though they may be common, they are useful in winter when all is dull and flowerless out-of-doors and their natural season is gone. A

supply of flowers for cutting will be maintained until Christmas, and they have a pretty effect arranged in small vases, accompanied by their own foliage. It would presumably be too late now to sow seeds even for an early spring display—there is not sufficient sunshine to give strength to the plant in its early stages—but this note may remind readers of the possibilities of a pleasing display at a trifling cost.—W. S.

Fumigating plant houses and pits.

—At this season of the year there is frequently an increase of aphides and thrips, but more particularly the former. This will occur in nearly all houses, be they warm, temperate, or cold. This should be nipped in the bud, for it never pays to defer fumigation when even only a few insects have to be destroyed. When a case becomes a bad one, a strong dose is often given and a repetition within twenty-four hours; the repulsion may be all very well, but the strong dose is no more needed than in the case of a few insects only. It takes no more actual strength to kill 1,000 than it does to kill 100. Frequent fumigations so as to make them as distasteful as possible for the insects are by far the better plan. Everything in the house or pit should be as dry as it is practicable to make them. By this it is not, of course, inferred that dryness at the roots is intended; it is rather that of the foliage and among the plants. Moisture acts as a deterrent to the free circulation of the smoke, and when it exists upon the plants the result will not be so effectual. It is not so much that the smoke will act injuriously where there is moisture as that it should reach all parts of the plants.

CHRYSANTHEMUMS.

AMATEURS' CHRYSANTHEMUMS.

No doubt many readers of this paper are in the same position as I am, and that is, I am a considerable grower of *Chrysanthemums*, not for exhibition, and I am too far away from nurseries and other places where they are grown in quantity to avail myself of a visit to select varieties for my purpose. A visit to a show enables me to see a few huge blooms, and that is all. Some of your contributors would do a real service if they would give a list of fifty to a hundred Japanese varieties, which would give blooms, under an ordinary amateur's mode of growth, of a fair size, three to four to a plant, and not difficult to grow this last being a *sine qua non*. As an example, I may mention *Soleil d'Octobre*, to my mind the *beau idéal* of what an amateur's plant should be, in growth, habit, and bloom. On the other hand I should exclude *Emily Silsbury*, which has a bad habit of growth, and is too weak in the neck to be satisfactory, and *Mme. Carnot* and its varieties, all of which are too uncertain—in fact, I find really good whites scarce. *Western King* and *Niveum* are, of course, good, but they are late, and cuttings are scarcely, if at all, produced. Mere decorative varieties are not what my query aims at obtaining a good list of.

NORTH COTSWOLD.

NOTES AND REPLIES.

Chrysanthemums damping off.—Can you suggest a reason for the failure of my *Chrysanthemums*? I p to the time of the opening of the flowers the wood and foliage never looked better, as is the case still. As soon as the flowers began to open the outside petals dropped off, and of eighty odd plants, in hardly one instance did the flowers live to expand. Partial damping off of outside petals has happened to me before, but never such an early complete failure, or such a rotting away of the centres of the blooms.—AMATEUR.

[Complaints of *Chrysanthemum* flowers damping are common this season, brought on, no doubt, by the growth being badly ripened owing to the unfavourable and sunless season we have had. Faulty ventilation will also often cause damping. Enough ventilation can be afforded by opening the top lights only. Sufficient fire-heat should be employed to keep the glass dry inside and render the atmosphere pleasant but not too hot and dry. Overfeeding, again, may be the cause, as the roots are killed and unable to do their work. It is always advisable to do the watering early in the morning, so that all moisture may be dried up before the

evening. If any floret exhibits signs of decay at once pull the same out, as damping is catching, and the whole flower will speedily be ruined.]

Chrysanthemum, incurved, Mrs. George Rundle and its sports.—At the recent Sheffield Chrysanthemum Society's show incurved Chrysanthemum blooms were well represented, and to growers in the south would be a great surprise. The most interesting class, however, is that devoted to six blooms of Mrs. George Rundle and its sports. In the competition referred to, there have to be shown two blooms each of Mrs. George Rundle, white; Mr. George Glenny, pale yellow; and Mrs. Dixon, rich yellow; and the board on which they are displayed has to be covered with Moss. The blooms have to be cut with stems not less than 7 inches or more than 9 inches in length, and also have to be shown with their own foliage. Each season the competition is good. There were nine exhibits on the 14th instant, and the majority of the blooms were excellent. They were a

properly representing this and other small flowered types of the Chrysanthemum that makes our exhibitions so monotonous and uninteresting. The large flowers are encouraged to such an extent that little or no notice is taken of the quaint Anemone-flowered Pompons. There is no more opportune occasion than the present for pressing the claims of these flowers. If the Chrysanthemum shows are to remain popular with the general public, novelty in this way must be provided. These flowers, if properly represented at shows, should be an object lesson to growers who desire to make the most of the different types of these flowers for decoration.—C. A. H.

ROOM AND WINDOW.

A GOOD ROOM PLANT (ANTHERICUM VARIEGATUM.)

This handsome half-hardy plant (here figured) is well worth attention for furnishing small vases, pots, etc., for conservatory and room

rooms all through the year. I know of no way of doing this better than growing many kinds of plants in small pots, and many of the most common are highly ornamental. At this season few things are more attractive than small plants of Zonal Geraniums, in 3-inch and 4-inch pots. I have some now of West Brighton Gem, etc. These can be turned out of the pots and dropped into the vase as they are. I put them into some small vases used for cut flowers in summer, and if changed occasionally they last a long time. Coronillas, small Genistas, Cyclamens, Violets taken up in clumps, Solanums, and Ophiopogons I have found useful. Then we have Primula obconica and P. sineasis. Nothing is more useful and ornamental, and when sown late and grown on without a check they throw up a strong spike in a 3-inch pot. P. stellata throws up the spikes high out of the leafage. Many other flowering plants may be named, but I must mention a few fine foliaged plants. Abutilon Thomsoni, when rooted late and grown in an open position is beautiful. Coleuses are also serviceable. Panicum variegatum, when several cuttings are rooted round the pot and pinched, make fine subjects. Lately I took a good plant in a 4-inch pot, placed it in a vase in the drawing-room on a raised position, where it hung all round the vase with good effect. Grevillea robusta, Aralias, Eucalyptuses, Coprosma Banori, and many of the scented Pelargoniums are especially suited for this work. Scarlet Salvias, if good cuttings are put in three round a 4-inch or 5-inch pot early in July, come in well to give colour. Nor must I omit the numerous Ferns that are so useful for this work, and many well nigh hardy plants may be used in this way. In proof of this I may name plants of the smaller growing Funkias, especially the variegated forms, Lily of the Valley, bulbs of all kinds, although I prefer to grow these in boxes, etc., taking them out when in bloom and putting Moss in vases to keep them in position. I must not omit to name Cinerarias, which are beautiful. The most important part in the culture of plants in this way is that they should not be starved in any way. Everyone can use some of the fertilisers now advertised, and by changing the food of a plant once or twice weakly it is astonishing what fine plants can be grown in small pots.

J. CROOK.

FERNS FOR ROOMS.

SOME of these are very useful for vases to stand on brackets or drawing and sitting-room tables, if we consider their graceful effect and the length of time (with a little care) that they will remain in good condition. A judicious selection of Ferns is, however, necessary to ensure success, as they do not all do equally well under such conditions, nor are they all adapted by their habit of growth for this kind of work. Given the right kinds, the plants must receive careful preparation, for if they are taken straight from a moist, warm glass-house, their period of service will be a very brief one. If, on the other hand, grown to the required size in a genial temperatura, and then gradually inured to full exposure in a cool greenhouse, the fronds will get hardened and they will last many weeks, or even months, with care in watering and occasional syringing with clean, warm, soft water overhead to wash off the dust that is sure to settle on them. In transferring the plants to the vases shake away the soil, so as to get all the roots entire, then put a layer of crocks, broken up fine, at the bottom, over a hole drilled previously in the vase, then work the roots carefully into the vase with very finely-sifted soil, pressing down firmly and finishing off with a layer of fresh, green Moss. Give a good watering after setting the vase in its saucer. By this means really effective plants may be got to live for a long time, and even make good growth in dwelling-rooms. The small vases, that are made in various coloured earthenware, can hardly be expected to do more than sustain the plant of the size it is when transferred from the pot in which it was growing, but if larger ones, in proportion to the size of the plants required, are used, there is no reason why greenhouses should not only live, but make fine specimens in dwelling-rooms.



A good room plant (Anthericum variegatum).

splendid testimony to the value of these three beautiful sorts for decoration, and as their culture is distinctly easy, readers of GARDENING ILLUSTRATED should include them in their future selections.—W. V. T.

Single Chrysanthemum Miss Rose.—This comes of a much deeper colour, I find, when given outdoor culture than when grown in pots, it then being quite a rose pink, whereas under glass it is but pale pink. It is of hushy habit, and does not exceed 18 inches in height, the plants being quite covered with medium-sized blossom. For the front row of Chrysanthemum borders Miss Rose and King of Siam are both useful on account of their dwarf habit and freedom of flowering.—A. W.

The Anemone flowered Pompons.—I fail to see why the beautiful little Anemone-flowered Pompons are, so to speak, ousted from the exhibitions of Chrysanthemum societies in all parts of the country. Only one class is provided in the schedule of the N.C.S. at their November show, and this of such a character that little can be done to display their charming qualities. It is the lack of

decoration. It was introduced from the Cape in 1875. In variegation and habit of growth it resembles the well-known Pandanus Veitchi. It is, however, far more easily grown, and its foliage never fails, if given fair treatment, to assume a bright grass-green colour, beautifully striped and margined with creamy-white. It does well in good loamy soil, to which have been added some sand and leaf-mould. Care should be taken that the pots are well drained, as abundance of water is necessary when the plant is growing freely.

SMALL POT PLANTS FOR HOUSE FURNISHING.

EVERYONE should endeavour to keep his rooms gay with flowers, especially through the winter months, when things are not so attractive outside. I am convinced that nothing makes rooms look more cheerful than plants and cut flowers. Some may say it is an expensive matter, but it is astonishing what may be done at a little cost. It is not the most expensive material that is the most enduring or ornamental, and there are few who make a garden of any size but may have gay

Asplenium bulbiferum is a good Fern for hanging-baskets or vases set on brackets, as its long, arching fronds, with tiny little embryo plants set thickly along them, have a very striking effect. Perhaps the best of all for small vases are the numerous varieties of *Pteris* or Ribbon Fern, such as *P. longifolia*, *P. serrulata*, and all the crested varieties allied to it. Then there is the variegated *Pteris cretica*. *P. tremula* in its young state is very good, and when too large for a room, if shifted on it makes a fine specimen. Some of the hardiest *Adiantums*, such as *A. formosum* and *A. capillus-Veneris*, answer well, and *Blechnum braziliense* and the smallest *Lomaria gibba* look very pretty, as their Tree-Fern-like habit, although in miniature, makes a nice contrast to the more gracefully drooping kinds.

ROSES.

ROSES IN COLD GREENHOUSES.

(REPLY TO "STAFFORD.")

You are very wise to locate a cold greenhouse to Rose growing in a district that is unsuited to successful Rose culture outdoors. *Gloire de Dijon*, one of the best old Roses for the purpose, should not receive much pruning. The long growths made this summer should be laid in almost their entire length, if there is space; otherwise, it would be better to discard some of the older growths in order to provide space for the new. The short lateral growths proceeding from the main stem may be cut back to four or five eyes, or even less. We should not recommend you to commence pruning too early. February is a very good time for Roses in a cold house. Plants purchased in pots, if of the dwarf growing kinds, should be pruned back to about half their length, the weaker ones being pruned the most severely. Climbing kinds may have their long growths twined around three sticks. They will then blossom freely from almost every eye; if not during the spring and early summer, they will do so in autumn.

The H.P.'s you mention need not be repotted each year. If you see that the drainage is not choked and top dress them at once, the plants should be all right until next summer. We usually like to repot such Roses in July. They then have several weeks in which to make new roots and become established. In pruning the Hybrid Perpetuals retain about 4 inches or 5 inches on each shoot produced this season, unless it is soft and pithy.

ROSES IN NOVEMBER.

From the beginning of July right up till now, November 17th, my Roses have made a splendid show, the last to bloom being the Hybrid Teas and Teas, which never seem to rest if the weather is at all mild, but keep pushing up their buds as fast as the old blooms are removed, the most notable ones being *K. A. Victoria*, *C. Testout*, *Mme. A. Chateau*, *Maman Cochet* and its white form, and *Enchantress*. If the beginning of the Rose season was late it has now amply made up for the deficiency.

Rose *Mme. Pierre Cochet* has given me much enjoyment grown on a south wall, not nailed to the wall, but trained on a wide-meshed lattice placed a few inches away. This admits air to both sides, and is infinitely better than having the wood and leaves touching the bricks. The Rose mentioned is a splendid orange-yellow, grand for button-holes, and when in the bud, or half open, does not lose its colour or come white, as *W. A. Richardson* does. It is superior to the latter Rose in every way—a little larger, well-formed pointed buds, a vigorous grower, shoots 10 feet to 12 feet in a season, almost free from mildew—in fact, a Rose that can be confidently recommended. As other instances of the lateness of the season may be mentioned the fact that two boxes of Rose-blossoms (not for competition), and very pretty they looked, were shown by Messrs. Harkness and Co. at the Hitchin Chrysanthemum Show on November 14th, and attracted considerable attention. No frosts of any severity have yet occurred, and the borders are still gay with many flowers, such as *Dahlias*, *Verbenas*, *Scabious*, *Calliopsis*, *Tobacco*, and, of course, outdoor Chrysanthemums,

which have done splendidly, although most varieties appear a month or more late: *Harriet Hume*, an early one, is in bloom now, also *Queen of the Earlies*. Sweet Peas, too, are also in bloom, and only a few days ago the last dish of Green Peas was picked from a row of Autocrat sown in May. Although everyone was grumbling at the cold spring and east winds we had in April, May, and part of June, the few foregoing remarks will prove we have been fully compensated on that score.

Stonewall, Herts.

H. F. M.

AUTUMN-FLOWERING PILLAR ROSES.

The pillar form seems the more natural style of growth for many of our vigorous-growing Roses. Perhaps the finest effect is produced by the early-flowering kinds, such as *Crimson Rambler*, *Félicité-Perpetue*, etc., but if we lose this effect somewhat in the autumns, there is the additional value of blossom at a season of the year when the summer Roses are flowerless. Now that Rose gardens mainly consist of the free-growing kinds, anything that lends additional charm to the rosary should be welcome. This, I believe, can be secured by the planting of some of the varieties enumerated below, either on pillars or grouped in beds to remove any flat appearance which all dwarf plants would produce. Many or all of them would also be splendid as standards if procurable, otherwise planters would do well to provide themselves with such kinds by budding some standard Briers in the reserve garden. What could be more beautiful than a fine pillar of *Gloire de Dijon*? I have one now in view as I write, and it has been more or less covered with bloom all the summer. Bending a few of its strong growths will cause a more abundant blossoming on the same lines that pegging down the shoots will do with bush plants. A worthy companion to this lovely Rose is *Kaiserin Friedrich*, which in autumn puts on that pretty pink flush that is so much admired. Then, too, there are *Mme. Bernard*, *Bouquet d'Or*, *Belle Lyonnaise*, and *Mme. Moreau* also of this race that vie with each other in beauty of blossom. The last is, in my opinion, a far more beautiful Rose for outdoor growth than the much-praised *Sunrise*. However beautiful *Sunrise* may be under glass, I have heard no one commend it for outside culture. Of course, its habit is quite different, but if we can obtain blossom as beautiful on a strong-growing standard or pillar Rose, such as *Mme. Moreau*, so much the better. *Mme. Alfred Carrière* and *Reine Marie Henriette* would make a fine pair, they both being extra vigorous and about equal in habit, the one a showy creamy-white, well set off by its Grass-green foliage, and the other, when allowed freedom, a magnificent pillar Rose with light crimson, egg-shaped flowers. This Rose is often condemned, but I think unjustifiably. It is true mildew often sadly mars the foliage, but this can be remedied by timely application of a curative, as advised in a recent issue by your able correspondent, J. Crook. Some other good bright-coloured pillar Roses for autumn are *Francois Crousse*, *Noella Nabonnand*, *Longworth Rambler*, *Sonn. de Mme. J. Metral*, *Waltham Climbers No. 1 and 3*, and of less vigour, although quite strong enough for pillars, *Ella Gordon*, *Ulrich Brunner*, *Gross* and *Teplitz*, and *Corallina*.

Pink Roses of all shades are always welcome as pillars. The old *Blush China* is not planted nearly so frequently as it might be for this purpose. How it would live up the base even of a pergola, where, perhaps, a summer bloomer has nothing to give at this season of the year. Why is not the beautiful *Mme. Marie Lavallo* more often planted? I consider it one of the loveliest of semi-double Roses, and *Pink Rover*, too, is one of the sweetest, with a charming bud, if, perhaps, rather uninteresting open blossoms. The rich colour and stately blossom of *Climbing Mrs. W. J. Grant* provide the grower with a splendid pillar of rich pink flowers, not so numerous as in summer, but yet very valuable. Golden-yellow is obtainable in *Billiard* and *Barre*, and, to my mind, it is one of our best novelties. *Gustavo Regis* is also good, and one must not omit *Wm. Allen Richardson*. White Roses, always useful, have a pleasing effect in our somewhat grey autumn, and especially interesting are they as evening

approaches. *Aimée Vibert* is still one of the best, and a very pretty kind, with yellow buds and white open flowers, is *Alister Stella Gray*. This Rose seems to possess a deal of the true *Noisette* character. Another little-known Rose that has scarcely ceased flowering all summer and autumn is *R. Pissardi*, evidently allied to *R. moschata*. Its semi-double flowers are very pretty, and they possess a strong Musk-like fragrance. It makes a very interesting low pillar Rose. Hybrid Musk Roses, such as *Rivers'* and *Eliza Werry*, are good autumnals, which are seen best as pillars. I had almost overlooked two beautiful kinds—*Bardou Job* and *Gloire des Rosomanes*. Both make fine pillars of moderate height. The *Rugosa* Roses, especially the newer kinds, such as *Conrad F Meyer*, the *Noisette Perpetuals*, as *Mme. Alfred do Rougemont*, and the *Bourbons*, such as *Mme. Pierre Oger*, are all worth attention, making pretty centre objects for beds or autumnals, or isolated about the grounds.

Rosa.

POTTING ROSES.

The present is a suitable time to pot some of the free-blooming Roses for forcing twelve months hence. Dwarf or bush plants from the open ground are by far the best for the purpose. If plants are purchased from a reliable source, taking care to order "selected for potting," this plan of obtaining a supply of pot plants will be found both economical and satisfactory. Some of the very freest bloomers, such as the *Monthlies*, in all their wealth of novel colouring, especially among recent novelties; the pretty little Dwarf *Polyanthas*, and some of the true decorative Teas and Hybrid Teas, such as *Papa Gontier*, *Caroline Testout*, *Liberty*, *Corallina*, *Augustine Guinoisseau*, *La France*, *Mrs. W. J. Grant*, etc., can be used to much advantage in the flower-garden in the summer, and especially are they useful to fill up beds in which late hollis have flowered.

This summer we so used plants of the *Crimson Chinas*, *Fabvier* and *Cranoisie Superieure*, plunging the pots quite below the surface of the soil. The plants blossomed gloriously. If given a good soaking before plunging, the plants apparently obtain sufficient water afterwards from the soil or rains. Another plan we have adopted with much success is that of removing the first crop of buds as soon as they are visible, at the same time cutting back the shoots an inch or two. This arrests the growth for a time, but very soon new growths start, these blossoming just as the first crop of outdoor Roses is waning.

Of course all these Roses are grown entirely out-of-doors the first year after potting. Our plan is to select good bushy plants of such sorts as we have found useful, trim back their growths to about half their length, and slightly trim the roots, then pot up into 8-inch pots, or at least 7-inch. A compost of loam and well-rotted manure is used, two parts of the former to one of the latter, and we also add crushed bones and wood-ashes in small quantities. Clean pots, plenty of crocks, and firm potting ensure success. We never attempt to force such plants the first year. Such as we do not set out as mentioned above are plunged in beds in a sunny position in June (having previously kept the plants sheltered by hedges), and they are then carefully looked over every day, to see no injury is done by too rapid evaporation. Weak liquid-manure is applied once or twice a week, when buds are of the size of marbles. On the H.P., H.T., and Tea varieties bloom of quite exhibition size are possible.

The amateur whose soil is quite unfitted for Roses may find in the plan advocated a means of growing a few beautiful Roses inexpensively, even if he does not require them for his greenhouse. Especially would I commend this practice to dwellers near large cities. Any handy man could construct a temporary glass-roof with which to merely shield the plants, and there is nothing to prevent him cleansing the foliage every other day from harmful deposits.

Rosa.

NOTES AND REPLIES.

Roses *Merveille de Lyon* and *Crimson Rambler*.—I do not think we fully realise the value of the Hybrid Perpetuals for not claim for them the

VEGETABLES.

SPANISH ONIONS.

Under this heading may safely be included a large number of forms differing very little, if at all, from each other, but all of good shape

continuous blossoming of the Teas and Hybrid Teas, but many, for the short time they are in flower, are unequalled for effective display. I have in mind some glorious bells of Merveille de Lyon, that stately sport from Baroness Rothschild. What a splendid contrast this Rose would be planted among pillars of Crim-



Onion Frown Spanish.

tively cold, wet autumn as well, half-hardy subjects, such as the one under notice, should severe frost occur, may suffer severely if left too long in the ground. Carrots are much harder, but it is advisable to lift maincrop varieties now growth is finished. Sowings made in July are best left in the ground, affording a light protection of half-decayed leaf-soil or Bracken should hard frost threaten. I have stored both Beet and Carrots under a north wall, stacking the roots close up, sprinkling a little dry sand or ashes over each layer, keeping the crowns outward, and nailing overhead a flat board to carry off the rain, and in the severest winter placing a thick layer of straw in front of the stack. Here the roots kept very plump and no growth set in until quite on in the spring. The roots remaining so dormant must of necessity be of much better flavour than those that require to be rubbed over two or three times during the winter. The cooler these eatable roots can be kept after housing the better, care being taken that mice do not work them, which they often will during hard weather. Veitch's Model Carrot is hard to beat for a gentleman's table, having such a small amount of core, while for the July sowing I rely upon this variety and Sutton's Early Gem. EAST DEVON.

SEED POTATOES IN WINTER.

When Potatoes are being grown or harvested much anxiety is shown in regard to their welfare. But when under cover it is thought they are right for months, and little or no concern is felt for their safety or attention devoted to the care of the seed so long as it does not actually decay. In my opinion, however, great benefit results from attending well to seed Potatoes in winter, no matter how sound they appeared to be when stored. In looking them over once a month or so until planting time, it will be found that some of them are decaying. When stored in heaps, as they have to be in many instances, one or two decaying in the centre, and allowed to remain there, will soon cause others to perish. This must be guarded against where sound seed is valued, and a general turning over and picking out of bad tubers at frequent intervals are the only way to keep the seed in good condition. Small and medium-sized tubers generally keep better than very large ones, and those who selected their tubers at digging-up time will have fewer decaying ones amongst them than if the whole—large and small—had been stored up together. Seed Potatoes may be kept very well in the

and very serviceable. Well grown, early matured bulbs of the Spanish types of Onions present a very clean appearance, the necks being small, but, as a rule they are somewhat flat, and often rather hollow underneath; consequently they do not weigh particularly well, and lose ground in competition with the newer forms of a different type with well rounded bases. They also do not keep over well. If well harvested, bunched, or roped up, and kept cool and dry, they may last till March, but seldom beyond that date.

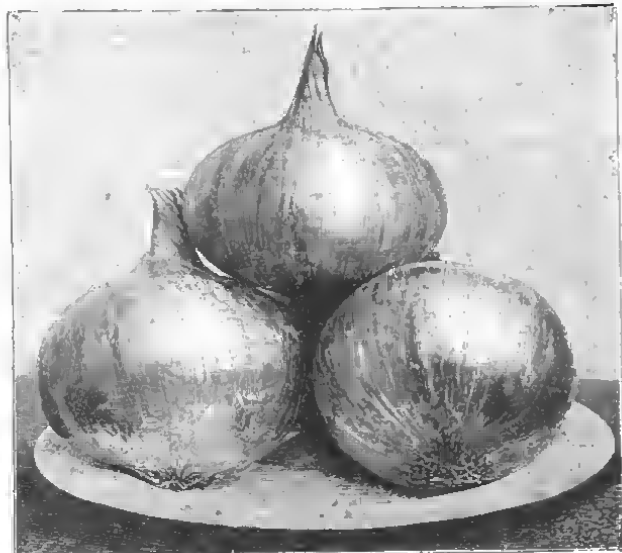
BETROOT AND CARROTS.

These two roots should be lifted and stored early in November, especially Beet, though this will withstand more frost than a great many

son Rambler! If the latter were disposed thinly, so that each pillar developed in its own glorious fashion, a number of Merveille de Lyon could be planted quite thickly to give the best contrast, for this Rose may be hard-pruned to much advantage. If two or three yearling growths are retained, and these cut back to five or six eyes, a truly glorious blossoming is secured. I think some of our public park managers should grow Roses more than they do. The expense and trouble would doubtless be greater, but our national flower seems to be almost ignored in such places.

Roses for cold greenhouse.—1. Kindly give me the names and colours of the most satisfactory Roses for pots in a small cool-house? I only want blooms for use in the house without any, or with very little, expenditure of fuel. 2. Names and colours of climbing Roses for the iron pillars of a large cool-house, where I propose growing Figs, Cherries, etc., in pots, utilising the roof supports and end wall for Roses? The house being very sunny the Roses would be early in bloom, I hope. 3. Advice respecting a long, single trellis, iron, small beds at foot of trellis; intervening arches have flower-baskets; lawn in front; bed between back of trellis, and a Box hedge about 3 feet behind; the whole rather shaded by trees behind hedge, and having an east aspect. The house shades from the south, but it is open towards the north. A Crimson Rambler Rose is doing well over one arch, but everything else is stunted, and there is really nothing to clothe the arches or trellis, which I wish to transform into green arches with always blossom somewhere for many months. I will be grateful for suggestions.—A. H. F. M.

[The Hybrid Perpetuals and Hybrid Teas furnish us with the best Roses for this purpose. Of the former the six best are Mrs. John Laing, pink; Ulrich Brunner, red; Captain Hayward, crimson; Senateur Vaisse, crimson; Merveille de Lyon, white; and Suzanne M. Rodocanachi, salmon-rose; and of the latter, Caroline Testout, pink; Belle Siebrecht, deep pink; Aurora, rose; La France, pink; Augustine Guinoisseau, blush white; Marquise Litto, vermilion-red; Viscountess Folkestone, cream; Grace Darling, pink and yellow; Mme. Ravary, yellow; Liberty, crimson; White Lady, creamy white; Mme. Cadeau Ramey, yellowish-white; Mme. Jules Grolez, silvery-pink; and Lady Battersen, red. For the fruit-house pillars you could grow Climbing Belle Siebrecht, pink; Billiard and Barré, rich yellow; Cheshunt Hybrid, red; Gloire de Dijon, buff; W. A. Richardson, orange; L'Idéal, coppery-red; Dr. Rouges, red-yellow; Purity, white; Mme. Moreau, orange; and Mme. Abel Chatenay, vermilion-rose and salmon. For climbing on trellis with east aspect you require good, sturdy subjects. The yellow Rambler Aglaia and the white Rambler Thalia would flourish, but I would Felicité-Perpetue and Flora.]



Onion White Spanish.

imagine. The foliage is a great protection to the roots, but it is unwise to leave them in the ground long after November comes in, as they will get sharp touches of frost, and this season, owing to so little sun and a compar-

dark, but they will do equally well, and often better, in the light. The objection to a dark, close place is its tendency to force the tubers into growth. The shoots of many are rather liable to start prematurely under all conditions,

but they are less so when kept cool and in the light. Robust green shoots will never push out so rapidly as drawn-out white ones. The latter are absolutely worthless, and should never be encouraged. When they grow to any great length the seed cannot be planted with them attached to it, and in breaking them off a good deal of harm is done. The best of all seed Potatoes are those which never require to be disbudded. The first shoots or main eyes are the strongest as a rule, and when these have to be broken off owing to coming too soon, those which follow are always weaker; and if the seed can be stored so as to retard growth until as late as possible, and then produce it of a robust character, strong stems and a good crop are sure to be the result. Some of the best Potato growers never put one of their seed Potatoes on the top of each other, or more than two layers deep at most, and this is a good way of storing seed in winter. As the shelves in fruit rooms are emptied they might be profitably refilled with layers of the best seed Potatoes, and any spare rooms or lofts may be used in the same way—cool places, well lighted, but free from frost. In mild weather a good deal of air should be admitted, and in times of severe frost they should be covered up in some way. T.

CAULIFLOWER.

THE last week in August, or even the first week in September, will be found a suitable date to sow seeds to supply heads for next June, early or late, according to the season. Drills, 1 foot apart and shallow, should be drawn, choosing a sheltered corner for the purpose, moistening the same before sowing the seed, if at all dry, and covering with the dry soil got out. Keep a sharp look out for slugs as soon as the seedlings appear, dusting with freshly slaked lime occasionally will usually ward off slugs. When large enough to handle the little plants should be dibbled out into nursery lines, 6 inches apart, in cold pits or where two or three light shallow frames can be placed over them when much frost threatens, or plant in batches of five, where they can be covered with handlights or cliches later on. The one aim the gardener has is to keep them as hardy as possible, and even when the lights have to be put on in severe weather it is wise to leave a little ventilation on, or the plants are inclined to get spindly and weak, consequently they soon succumb when much frost lays hold of them. In this favoured part of the country, seed sown on the 9th of September, and duly pricked out 6 inches apart each way on a very warm sheltered border, withstood the winter safely without any protection whatever; these planted out in the open garden towards the middle of March gave us remarkably good heads about the middle of June, the variety being Early London, followed by the same variety and Autumn Giant, sown in a little heat at the beginning of February.

EAST DEVON.

Weeds in kitchen garden.—Weeds have been allowed to get the upper hand in my kitchen garden, and my gardener has merely dug them in whilst digging—that is, he has bodily turned the clod of ground over so that the weeds are inverted and underground, but still rooted and undisturbed. Will they grow through surface again? They are not more than 5 inches or 6 inches below surface. Would it have been better to grab them out, burn them, and use the ashes for manure?—R. L. Y.

[You ought to have trenched the ground deeply, burying when doing this the weeds; or you could have hoed up the weeds, gathered them together, and burned them with any other rubbish you collect in the garden, such as pruning of trees, vegetable refuse, etc., and then spread the ashes on the ground.]

Peas falling.—I cannot grow Peas in my garden. Can you help me by telling me whether I could find out the cause by getting the soil analysed, and whether in that case it would be likely that I could alter it effectually? I have tried lime and plenty of good manure without success. Then, last summer, I had some soil carted from a distance where the soil was different, and filled a trench some 2 feet wide and 2 feet deep with it. There I had a good crop, but the other rows were failures as usual.—E. W. L.

[From your letter we should say that the ground wants trenching to a depth of 18 inches or 2 feet, incorporating as the work goes on plenty of manure. If your soil is light, use cow manure, as this helps to retain the moisture, but, if heavy, then stable manure will answer. What you want is depth of soil, as is apparent from the crops you had when you added the fresh soil by the depth of 18

inches. Have the ground trenched and manured at once, allowing it to lie rough until you wish to sow your Peas.]

GARDEN WORK.

Conservatory.—Damp is the great enemy now, and the chief thing to aim at is to keep the atmosphere sufficiently dry without using too much fire-heat. Careful watering and efficient ventilation will do much to preserve the flowers—especially Chrysanthemums—in condition as long as possible. Except in wet, windy, or frosty weather, the ridge ventilators should never be altogether closed. This will prevent the moisture condensing on the glass and dripping about among the flowers. There will be more or less warmth in the pipes, according to the atmospheric conditions outside, so that the air may always be kept in circulation. Small or moderate-sized blooms keep much longer than large ones which have had a period of high feeding. If one intends to exhibit Chrysanthemums, the cuttings must be struck early—i.e., from the end of November to the middle of January. A strong, healthy cutting rooted in January and grown on steadily will make a better plant and produce larger blooms than a weakly cutting struck in November. But if we do not intend to exhibit, then take strong cuttings whenever and wherever they are to be found, between December and April, or even later, if plants are wanted for grouping in 6-inch pots, carrying one good bloom. I have had very good blooms on seedlings, of which the seeds were sown in February and grown on in heat till April, and then hardened off and placed outside. Seedlings from a good strain make useful decorative plants, though one might never raise a plant good enough to obtain a certificate. Camellias, if the growth was made early, will soon be showing colour; but Camellias are not wanted till the Chrysanthemums are nearly over, and by that time one begins to long for Camellias, Azaleas, Genistas, and the usual winter-flowering greenhouse plants; and later on will come the forced things—bulbs, Lilacs, Spireas, etc. Lilacs force very well in the dark till the flowers are ready to expand, and if the blooms are wanted for cutting only, they must be pushed on rapidly in the dark. I have had them in the Mushroom-house till the flowers opened, and then placed them under glass, shaded for a time.

Forcing-house.—There is always work to be done in a forcing-house at this season. Things move slowly now, and a start should be made with flowering plants, such as Azaleas, Spireas, Lilacs, Tea and other Roses, etc. Double Daffodils that were potted in August are moving. Arum Lilies may have liquid manure as soon as the pots are full of roots. Lillium Harris is growing freely and must have all the light possible to keep the plants dwarf and robust. Do not use too much fire-heat; 60 degs. at night should not be exceeded at present. They will respond more freely to a little more warmth when some progress has been made. It may be mentioned that it is of no use to force anything that has not had at least twelve months' preparation.

Forcing pot-Vines.—Strong well-ripened canes of Black Hamburg or Foster's Seedling Grapes may be started any time now in a temperature of 50 degs. If there is a bed of leaves in the house the pots may be plunged in the bed to encourage the roots. The rods should be trenched down to induce back eyes to break regularly. As a rule, when the wood is well ripened and the atmosphere is kept moist by using the syringe, there will be no difficulty in inducing the buds to burst strongly and produce fruit. Very little ventilation is required until the leaves are expanding so far as the Vines are concerned, but, as a rule, when the pot-Vine-house is started there are other things in the house besides the Vines, and the matter becomes a compromise between the Vines and other things, and the best should be done to meet the wants of all things. A good deal of work may be done in a small forcing-house besides forcing a few Grapes in it. If the garden is in the hands of a good man 50 degs. at night will do till the leaves are bursting forth, then raise to 55 degs. and

as the development goes on and the bunches become visible, increase to 60 degs. and advance to 65 degs. when the Vines are in bloom. The last figure should not be exceeded, and this means that the thermometer will fall to 60 degs. about sunrise in the morning. As soon as the Vines are showing colour in the foliage, ventilation will be carefully attended to, beginning in a small way early in the morning and closing early in the afternoon.

Forcing Asparagus.—With plenty of strong four-year-old roots which have been permitted to grow freely, and next to nothing cut therefrom, there will be no difficulty in cutting Asparagus in three weeks. The simplest way of forcing is to make up a bed of leaves and manure in sufficient bulk to produce a warmth of 75 deg. to 80 deg., or even a little more, but a very strong heat is not desirable, as hard forcing weakens the growth. When the bed is in a suitable condition, the roots are taken up and placed in the frames, close together, on a layer of leaf-mould 2 inches thick, and a covering of 6 inches of light sandy soil is placed over the roots, and a good soaking of warm water given to settle it down. A watch-stick is then placed in the frame to tell the temperature from time to time. The frame is matted up till the heads of Asparagus are coming through the soil, when light and air may be gradually admitted. Asparagus may be forced in boxes or flat baskets in a dry, warm house. It may be started in the Mushroom-house; and we have often forced it in shallow boxes in a Cucumber-house.

Early Potatoes in pots.—Good sets of Duke of York or any other early kind may be started in pots—three sets in a 10-inch pot in a dry, light house. Place some drainage in the pots, and use sandy loam and leaf-mould or very old manure, such as is usually found in old hotbeds. Only one crown eye should be left to each set, as one-stemmed plants are earlier than when more stems are left, and the tubers are more even in size.

Window gardening.—Cactuses will require no water now till the days begin to lengthen again. Geraniums and other plants in a cool room will require very little water now. Palms and other fine foliaged plants may be frequently sponged, and, when dry, sufficient water must be given to moisten all the roots. Hyacinths coming on in glasses must have the water renewed as required.

Outdoor garden.—This is the season for tree-planting, and a little more variety may be desirable in many places where there is space to plant. The Scarlet Oak is a grand tree when it has attained size. The White-leaved Poplar (*P. Bolleana*), is a very handsome and distinct tree. The Birch is a very charming tree, either isolated or in groups. Planted thinly among Rhododendrons with clumps of Lilies of various kinds it has a pretty and interesting effect. There is more variety in Beeches than is generally supposed. Several years ago I obtained a collection from a continental nursery, and though there was a good deal of sameness among them the collection was interesting. Everybody should plant at least four varieties—the common Silver, Young's Weeping, *laciniata*, and the Purple-leaved variety. The Purple Beech, of course, everybody plants, and the Fern-leaved Beech is an interesting tree. For exposed positions the Austrian Pine is excellent, but buy the trees from a nursery where things are regularly transplanted, and do not have them too large. For wind-swept places our native shrubs and trees are indispensable. Hollies, Yews, and Boxes are thoroughly reliable, and there is a good deal of variety, especially among Hollies. Winter residences should have abundance of Hollies about the grounds. Among Conifers the Cedar of Lebanon and the Atlantic Cedar are exceedingly hardy and useful trees, either for avenues or grouping, or as isolated specimens on the lawn.

Fruit garden.—The weather has been very suitable for pruning and planting, and every effort should be made to get this work forward before Christmas. There is not a shadow of a doubt if we want handsome Apples quickly after planting, we must plant dwarf trees on the English Paradise stock. The finest Apples at the shows are of the

bush trees. Plant from 10 feet to 12 feet apart, and if there is any idea of marketing any of the fruit, do not plant many kinds. Probably six kinds would pay better than more, and at any rate I should not plant more than a dozen. Do not forget Newton Wonder. Bleheim Orange is a good Apple for those who can wait, and Cox's Orange Pippin for a warm, deep loam. One of the things which many people forget is to feed the trees when they are bearing freely, and a top-dressing of really good soil with a little bone-meal added will encourage the roots to remain near the surface, and that is the chief advantage of the surface-rooting stock. Do not plant anything within 4 feet of a fruit-tree. Even more space should be given, if possible, to wall trees. When the wall borders are cropped close up, the trees must suffer. In planting, be careful not to bury the collars of the trees. We may plant a Rose on the Manetti deep enough to cover the stock, but fruit-trees must not be buried.

Vegetable garden.—When taking up Sea-kale for forcing, trim off the rootlets or thongs and cut them into sets, 4 inches or so long, and lay them in damp sand or earth till February or March. By that time they will have formed small crowns at the thick end of the thong or cutting, and when planted, green leaves will soon appear. A little later the crowns can be thinned to one on each root. If planted in good, well-worked land early in March, in rows 15 inches apart and 12 inches apart in the rows, good crowns suitable for forcing will be obtained by the autumn. Up to the present there has been no frost. In many gardens Cauliflowers are abundant and fine, and French Beans, in some warm situations, are still untouched by frost. Of course this cannot continue, and in the event of a sharp snap coming suddenly the tender things must be sheltered. Lettuces in the open will land a very poor chance, and Cauliflowers unprotected will soon become a brown slimy mass. All root crops in the ground which are likely to be injured by frost should be lifted at once. Parsnips and Jerusalem Artichokes will do no harm. I have heard several people praise the Chinese Artichoke, but though it is a right the roots are too small to be enthusiastic about. E. HOBDAV.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

December 1st.—We have still some pruning to do, and many wall trees to train. For this latter work we find the Golden Osier or Willow very useful for securing the large branches, and as the Willows are plentiful on the place, there is economy in using them, and many of the ties will last two years, which is quite long enough. Took up Rhubarb for forcing in the Mushroom-house. Started a few sets of early potatoes for frame planting. We find beds of ashes and stable-mannure very suitable.

December 2nd.—We have just finished planting Roses, except a few Teas which are in pots and will be kept over till the spring. We have planted Roses much later than this, but there is an advantage in getting the planting done as near November as possible. The early-planted Roses have begun to make roots, and will soon be well established. We have potted a good many of our old scarlet and other Geraniums. Most of the largest leaves were cut off, and the plants when potted were placed in a temperature of 50 degs. Every plant is now making growth, and there will be good stock of cuttings.

December 3rd.—Some common things, such as Laurels and Oval-leaved Privets, have been removed from a recently planted shrubbery for the future we shall discontinue the planting of nurses, but fill in between the permanent features with herbaceous plants, such as Michaelmas Daisies, toll Phloxes, etc., in groups of one colour, and by the sides of the walks, or within sight of them, do more with bulbs and Primroses. Planted a group of Silver Birch at one corner of a lawn. A group of three trees of the Scarlet Oak has also been planted.

December 4th.—Started a fresh lot of Sea-kale roots in the Mushroom-house. Everything is sweet in the Mushroom-house, where Rhubarb

and Sea-kale are being forced, or the flavour may be injured. Rhubarb especially will take on an earthy flavour if grown in a tainted atmosphere. Tree Carnation Alma Franco is a vigorous, healthy winter bloomer, and is easily propagated from cuttings in heat in February. Looked over fruit stores. The finest and best Apples have come from the bush-trees on the Paradise-stock. These are freely top-dressed with rich compost.

December 5th.—All our hulk-beds and borders have been top-dressed with a mixture of old potting soil and Moss-litter-manure. This will remain till the bulbs are coming through, and will then be lightly buried. Last year we noticed some of the large patches of Narcissus in the wilderness failed to bloom well. These, when the growth ripened, were lifted, and were found much too thick to flower well. The bulbs have now again been planted thinner in fresh soil, and we hope to see them flower abundantly again.

December 6th.—Rearranged conservatory, and removed all plants no longer effective. We have still plenty of Chrysanthemums; some of the late sorts are only just showing buds. Besides these, Scarlet Salvias and Scarboro' Lilies in quantity are very bright. Then, in addition, there are numerous odds and ends of things which come and go constantly, and help to give variety, and we know how charming variety is in a conservatory. The watering is always done in the morning now, and a little ventilation given at the same time to get out the damp.

BEEES

Foreign Bees.—C. J. Padbury, in writing to you about foreign Bees, November 14, p. 492, says, "I did not get Carniolans, as they have a bad name for swarming." I have had several stocks of Carniolans for some years, and find that they only swarm in alternate years. The year that they swarm I get no super honey. They are in Neighbour's Cottage Hives, with glass windows to the side, and I put bell glasses and box supers on the top, which are well filled every other year. One hive is octagon-shaped, and has a large octagon wood and glass super to fit it, which holds 35 lb. I have twice had this quite full. They are extremely hardy Bees, and I never feed them. They are also excellent workers, and I am never without super honey from one or other of the stocks that have not swarmed during the summer. I had English Bees at one time, but I find the Carniolans more hardy, strong, and healthy, and certainly better workers.—E. GODOLPHIN OSBORNE, Cotswold District, Gloucestershire.

BIRDS.

Bullfinch (E. S. W.).—Yes; it is bad for any bird to be kept in a room where gas is burned, and Bullfinches being very susceptible to the influence of heat, which affects them injuriously, require to be kept in a cool atmosphere to preserve them in health. Your bird could not have had better treatment in the matter of diet, and there can be little doubt that the gas was the cause of its death. You, of course, supplied it with grit, sand, and plenty of water. Besides causing the loss of feathers through skin irritation, the heat from gas brings about what is commonly called by bird-keepers asthma, but which is really an irritation of the bronchial tubes from the influence of the hot, dry air. A good diet for Bullfinches is black Rape-seed, scalded, to which should be added a little Canary-seed, and just a few grains of Hemp occasionally. These birds in their wild state are very partial to buds of fruit-trees, and in a state of captivity should be supplied from time to time with a small bunch of twigs of any kind of fruit-tree, which will tend to keep them in health. A piece of Apple to peck at is greatly appreciated by these birds, especially if it contains pipe, of which they are exceedingly fond. They may also have occasionally a stalk of Platinaid-seed, a few Privet berries, a piece of boiled Carrot, and a little Watercress to pick at.—S. S. G.

Death of Hartz Mountain Canary (Nite).—This bird was excessively fat, and its sudden death appears to have been due to an apoplectic seizure, which is often the fate of a bird in this condition. This over-fatness may have arisen from its having partaken freely of food too rich in nitrogenous compounds, and the Maw-seed was probably the cause of the trouble. A constant supply of this seed should not be allowed, but only a small quantity occasionally. When constantly given, although it be mixed with the other seeds, Canaries are apt to consume an undue proportion, and suffer accordingly. On the shortness of breath being observed it would have been well to have put the bird upon short commons, and to have discontinued the Hartz Mountain bread and Maw-seed for a time, while encouraging the sufferer to take as much exercise as possible. There is always a disinclination on the part of a bird suffering from obesity to move about or take sufficient exercise, which, of course, increases the trouble. Where plenty of exercise can be obtained, as in a garden aviary, birds remain in perfect health, and may be allowed to indulge freely in various seeds that would prove injurious to caged birds. The plumage of this Canary was in very fine condition.—S. S. G.

AQUARIA.

Wintering Goldfish ("Yewcliff.")—These fish will survive the winter in ponds if the precaution be taken, in the event of frosts, to keep the ice broken in places to admit air. It would, no doubt, save much trouble and anxiety to winter your Goldfish under cover. A greenhouse with a temperature of from 50 degs. to 60 degs. would suit them well, but care must be taken to shade the water from the direct rays of the sun, for, although light is necessary to the production of oxygen and to the growth of aquatic plants, an excess of light encourages the development of conferva, which not only appears on the sides of the aquarium, but will grow also upon the stems of aquatic plants, besides making the water thick and unpleasant to the eye. For food give your fish a little vermicelli now and then, broken rather small, and a tiny worm or two occasionally. Dried leaf beef, shredded very fine, is an excellent food for Goldfish; they devour it greedily, and thrive upon it exceedingly well.—S. S. G.

LAW AND CUSTOM.

Quitting tenants and fruit-trees.—I am changing my residence. Have I the right to take away with me the fruit-trees, Strawberry plants, Raspberry canes, Rose-trees, and the flowers which I have planted?—Z. Z.

[No; you cannot remove any of these things. When once planted, such are annexed to the freehold and belong to the landlord. But a landlord will usually allow a tenant to remove flowers, if permission be asked. He may refuse if he thinks proper so to do.—K. C. T.]

Ruinous property left to tenants for life.—Some time ago some property was left to my sisters for their lives only. It was then in such bad repair that a half-year's rent only did a small part of what was necessary. It is in a very bad state, and the heir refuses to assist. If my sisters have to put it into anything like decent repair, it will absorb the whole income they derive from it. Could they borrow on mortgage for the purpose of repairs without the consent of the heir? The property was left to my sisters to maintain them.—GLINDALE.

[This question should be asked of a solicitor who can inspect the will under which the property passed. Without knowing the terms of the devise it is impossible to say what powers the sisters possess to charge the property. They may certainly mortgage their own interests, but as the security would be questionable, this course might not help them much. You should consult a solicitor.—K. C. T.]

Position of an outgoing tenant.—On April 8th last, I took a house, with a small garden, comprising some 200 square yards, in the front. On half of this garden there then stood 100 Rose-trees; the other half was Grass. I paid my landlord on my entry £4 for the Rose-trees in question, and I sent the note he gave me to Somerset House, and had it stamped there. I have received notice to give up the garden on Feb. 2, 1903. Can I sell the Rose-trees to the value of £4 and remove the remainder?—BEGONIA.

[Your statement is incomplete; you should have sent a copy of the note the landlord gave you, and you should have said whether there was any understanding that you were to be at

Lants are divided by the inexperienced. Treated as above, however, the operation may be performed expeditiously and well. Hardly any other hardy plant possesses so much a trunk root as the Peony, and especially so if the plants are of long standing. A good deal of the hard trunk portion is quite useless, as no fresh root-fibre is emitted therefrom. After division of this kind the plant recomposes its rooting from the base of the crown-luds.

Standard Heliotropes (Norwich).—The tall heliotropes seen in many public parks and gardens are grown on from strong cuttings, rooted early in the spring, these make quick growth, and in heat throw up one ending shoot. As side shoots break these are pinched off, and when bloom shows in the leader, that too is shed and a fresh leader formed. This process being repeated until the plants are 4 feet in height. They are readily induced to grow up to this height if they are kept in pots in a greenhouse, where they get abundance of light and air, also plenty of water, with occasional doses of liquid manure. Once the plants have attained the desired height, they are in the spring following started to grow up under glass, then hardened off, and early in the year are put out into the beds or plunged in the lawn. It must be taken that the plants do not suffer from frost during the summer, an occasional dose of liquid manure being also very beneficial.

VEGETABLES.
Wireworm in garden (Despair).—You should try at once a dressing of gas-lime at the rate of one cwt. to three rods of ground. When the ground is dry, spread the lime about as evenly as you can, and expose to the air for four or five weeks it will kill down and may be spread more evenly. Then dig it in. Simply allow it to be washed in until the worms come off the ground, then dig it in. Ground dressed must not be cropped until the spring.

Overcing Rhubarb in the open air (F. R.).—Use some pots or boxes with morable tops, and place the crowns to be forced. Then cover them all with fresh stable litter, or a coating of leaves and mixed together. If you want Rhubarb by Christmas you must cover up some crowns at once, and as soon

as the first batch has started into growth cover a few more crowns to keep up a succession until Rhubarb comes naturally in March, when a little litter spread over the crowns will forward the growth at least a fortnight before those that are left uncovered.

SHORT REPLIES.

Wm. Pinford.—The remoral has checked the flower. See notes on Calliolas in our issue of Nov. 23, p. 496.—**S. H.**—The dates are wrong. The "Week's Work" is concluded from one year's end to the other. We always go to press a week in advance—that is to say, the issue for the 22nd went to press on the 15th.—**O. Durrell & Co.**—1. Yes, you can keep the Maiden-hair in your conservatory during the winter, but you must not give it much water from now until the end of March. 2. Leave the Rose as it is. It will stand in the cold-frame all the winter. 3. Pot Palms in the spring, using good yellow loam with plenty of sand mixed with it.—**Madame Ligonier.**—Do you mean early-flowering Chrysanthemums? If so, lists and full descriptions have been given in recent numbers.—**J. Atkins.**—"Chrysanthemums and Their Culture," by E. Motteux. Fourth edition.—**Books.**—Any nurseryman will be pleased to send you his catalogue.—**Herb r.**—Water the plants with weak lime water, when the worms will come to the surface and can be destroyed.—**R. B. Johnson.**—Yes, any of the plants mentioned in the list on p. 413 will answer your purpose. Any tree and shrub nurseryman will supply you.—**Case.**—We do not undertake your query.—**H. G., N. Devon.**—See letter in this week's issue on the subject, p. 510.—**Carl Hill.**—3. The way is to plant groups of six or more, according to space, and not to have single specimens all over the border. See article in this week's issue, p. 510.—**A. R. C.**—If shoots are very thick, thin them out in order to strengthen them.—**W. J.**—You will make good cuttings. 2. Do you mean Viola (Tufted Pansy) seed?

NAMES OF PLANTS AND FRUITS.

Names of plants.—**F. L. S.**—1. Pentstemon var.; 2. Specimen insufficient; 3. Phlox Drummondii.—**E. S. Rogers.**—1. Nephrolepis exaltata; 2. Asplenium bulbiferum. We cannot undertake to name Rosea.—**K.**

Tracks.—**Cereus** sp., but cannot say which without seeing flowers.—**W. H. B.**—1. Eucynina japonicus latifolius albus; 2. Begonia, belonging to the Rex family; 3. Asparagus Sprengeri; 4. Adiantum contentum latum.—**F. J. R.**—Kindly send in flower.—**Tate.**—1. Chrysanthemum Pygmalion; 2. C. Prince of Orange; 3. Aster cordifolius.—**G. Jones.**—1. Hypericum calycinum; 2. Marvel of Peru (Mirabilis Jalapa); 3. Anemone; 4. Ground Ivy probably.—**W. J.**—Difficult to say from leaves only, which resemble those of Cassia floridana.—**Kerr.**—The Tamarisk (Tamarix gallica).—**R. H. D.**—1. Sedium rupestre; 2. Sempervivum montanum; 3. Saxifraga hypnoides; 4. Veronica repens.—**R. T. S.**—1. Begonia metallica; 2. Linaria reticulata alba; 3. Diplacus glutinosus.

Names of fruits.—**C. A. S. M.**—Pear Doynend du Comice.—**Kelax.**—Your Apple is, we think, the French Crab, but it is difficult to say when only one specimen is sent. Try root pruning the tree to bring it into bearing.—**M. E. R.**—Pear Cassane.—**Lillo Book.**—Specimens insufficient.—**Atwell.**—Apple Yorkshire Beauty. Pear, specimen insufficient.—**Hoare's Plum.**—Pear Louise Bonne of Jersey.—**Springfield.**—Pear Hurst's Prince Consort.—**C. J. R. Plus Beau.**—1. Reinette de Canada; 2. Hambleton deux Ans; 3. Alfriston.

Catalogues received.—John Farley, Hawick, N.D.—List of Trees, Shrubs, Fruit-trees, etc.—Hogg and Wood, Coldstream and Duns, N.B.—List of Nursery Stock.

National Dahlia Society.—The annual meeting of the Society will be held at the Hotel Windsor on Dec. 10. The first exhibition will take place on Sept. 1 and 2, at the Hotel Hall, Westminster. There will be a conference on the judging of Cactus Dahlias on the afternoon of the first day. Lord Helchester has kindly consented to become a patron of the society.—**J. F. H. Ross, Hon. Secretary.**

Photographic Competition.—We beg to remind our readers that the Photographic Competition closes to-day, and all intending competitors should send in at once.

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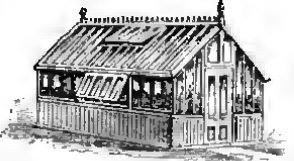
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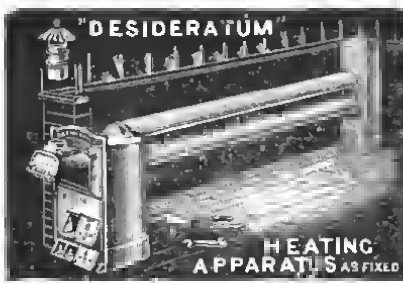
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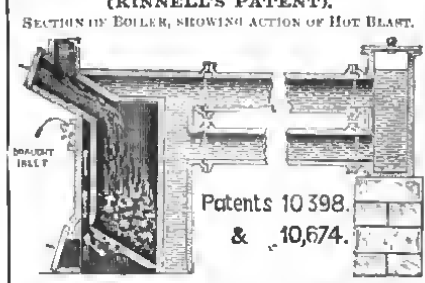


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VEGETABLES.

LUXURIANT WINTER GREENS.

There seems to be in every direction robust, indeed luxuriant, growth on the part of all winter green stuff. Very much of it, especially Brussels Sprouts, Savoy Cabbages, and Cole-cabts, are too gross and early, and are hearting otherwise turning in much before wanted. The season was so favourable to growth that plants put out as usual in the summer met with no check, and now that the autumn is proving to be open and mild, growth is really luxuriant. Did we have no severe weather other than no harm would result; but we cannot expect to get through the winter without experiencing some severe frosts, and a few of these would do these coarse, sappy greens great harm. Those who planted later, say in August and September, preferring to have plants less gross, therefore much hardier, and coming in later when most needed, will get one of much the best. The chief danger now is with white Broccolis, which are always the more susceptible to injury the grosser in growth they are. All these will be benefited had hardened if they be laid over on to their sides in their rows, beginning at one end of each row and tilting the plants over on to their sides all one way with the aid of a fork, then dropping a spit of soil on to the stem to keep each one prostrate. Any others, whether Cabbage, Kale, Sprouts, or what not, can be checked by partially lifting them with a fork from out of the ground, so as to materially disturb the roots, then dropping them into their places again. Generally, in putting out winter green stuffs sowings are made too early. It is all very well to get Giant Cauliflower and some Brussels Sprouts seed sown in March, but for Kales, Savoys, late white and Sprouting Broccolis, and late Brussels Sprouts it is better to make sowings in May and June, as it should be the aim of the grower to cater more for the second half of the winter than the first half. Some things, especially white Broccolis and Brussels Sprouts, put out on to hard ground after Strawberries or Onions, often become all the hardier. A. D.

VEGETABLE REFUSE.

The value of a plentiful supply of manure is known to all gardeners, and as stable-manure is not always available for dressing the land, recourse must be had to other ways of obtaining the requisite amount of fertilising material. Vegetable refuse, of which a great deal is formed throughout the year, but especially in the autumn and early months, may either be allowed to go to waste or it can be converted into valuable manure. Of the materials which come under this heading, tree-leaves are amongst the most valuable. Now is a good time to collect them for the purpose in view. In doing this in parks and pleasure grounds they are sometimes thrown here and there, or

where, so long as they are out of sight, and when deposited in this way they ultimately form small heaps of decayed matter which may be removed and used for some purposes in the garden in spring, but this kind of material alone is never good manure, and cannot compete with specially prepared refuse. As the leaves are gathered they should all be taken to that part of the garden set apart for manure heaps, and this spot should be a general receptacle for them throughout the collecting period. At the same time all old Pea-straw, decayed leaves, and all kinds of Cabbage and Cauliflower-stumps from which the heads have been cut, should be brought from the kitchen garden and thrown into a heap close to the leaves. Light stable manure should also be brought here, and, indeed, everything else in the way of refuse. The whole should then be mixed up in one large heap to decay. As there may be a good deal of matter which would not readily decay, it is a good plan as soon as the heap has been made up to make the top of it a receptacle for all kinds of slops and soap-suds from the dwelling-house. This will enrich the leaves and induce decomposition. In about a month the whole should be turned over, keeping the freshest of the material at the bottom and the most decayed on the top. By January or throughout the spring this will make one of the finest heaps of manure anyone could desire for digging or trenching into vegetable quarters or dressing flower-beds.

All the year round it is a good plan to make a point of gathering every kind of vegetable refuse in a heap by itself, and it is surprising how valuable it will be found in the course of time. Weeds or any other refuse containing a quantity of seed which would germinate in the ground where not wanted should never be mixed up with anything useful.

TRENCHING AND DIGGING.

TRENCHING is a matter of much importance in the treatment of garden ground, particularly that part devoted to vegetables, and it ought to be done well and wisely. It requires both judgment and experience to decide how much, if any, of the subsoil should be piced upon the top. Subsoils vary so much that no certain rule or correct guide can be laid down upon this point. There is one operation that is applicable to every variety of subsoil (which neglected no trenching can be said to be efficiently carried out), that is, loosening and breaking up the bottom of the trench. The more thoroughly that is done the greater will be the ultimate benefit resulting therefrom. Another very important point to be considered is the proper season in which to trench. No doubt autumn is the best time for such work, and the earlier it is done the better, before the surface soil parts with the heat obtained from the summer sun. The next consideration of importance is the

APPLICATION OF MANURE during the operation of trenching. Many people never trench in manure, whilst on the other hand, some think it best to do so. If manure be buried deeply

in the trench it is well to use it in the green state, thus giving the ground the full benefit. If trenching be done in the autumn the manure will by the following summer be decomposed, and should the weather then be dry, deep-rooting plants will very soon go in search of it and be greatly benefited thereby. There are, however, people who prefer putting the manure near the surface, with a view to benefit the soil underneath by the washing in of the manure by rain. This question, however, must be settled according to opinion or circumstances. The

PROPER DEPTH TO TRENCH must depend upon the natural depth and character of the soil, and also the depth that has been gone to in previous trenchings. If the subsoil be bad, no portion of it should be brought to the surface, but a few inches of it may with advantage be stirred and left there for a time, and the essence of the manure washed down by rains becomes mixed with, and gradually improves, it by the time the land again requires trenching. In two or three years these few inches of bottom-soil can be brought to the top, and a little more of the bottom loosened up and left as before. Where the subsoil is ordinary clay, a couple of inches, at this and every subsequent time the land is trenched, may with advantage be brought to the top; but where this is done the work should be carried out in the autumn or early winter, so as to allow of the clay getting mellow and in a fit state to be forked in previous to the time of cropping. In digging or trenching in autumn and winter the ground can scarcely be thrown up too roughly. As large a surface as possible should be exposed to the action of the atmosphere. No time should be wasted in attempting to break it down; rain and frost will do this.

Tomatoes not setting.—I notice in your issue of 15th ult. remarks by J. Crook as to Tomatoes setting badly in the West of England. I agree with him to a certain extent that they have not done well this year, but am happy to say that in my garden I was able to gather ripe "open air grown" fruit for more than five weeks, but had nothing in way of crop to compare with the last three years, and am sorry to say that, as my Potatoes had disease, a number of the Tomatoes had also suffered. My Tomatoes are grown quite in the open, tied to iron stakes, and I find that plants quite in the open do better than those planted against a south wall, and such has been my experience, not only this year, but in previous seasons. They set a heavier crop and ripen earlier, and are less liable to attacks from the birds, which have developed an unhealthy taste for Tomatoes. At present I have a fair amount of fruit of good size ripening indoors. By these remarks I do not wish to imply that I have had a really good crop; in fact, it has only been about a seventh or eighth of what I have had in previous years, and I know in some gardens in this neighbourhood out of doors Tomatoes have been practically an utter failure, due no doubt to the very unfavorable weather we have had.

PLANTS AND FLOWERS.

OUTDOOR PLANTS.

CACTUS DAHLIAS.

Numerous new Cactus Dahlias are being sent out every year, and at the autumn shows their cut blooms are an important feature. The present fashion in Cactus Dahlias, which is much to be regretted on the score of garden effect, has led to the ousting of the broader-petalled varieties by forms possessing narrow, tubular petals. Although it must be fully recognised that many of these flowers are individually very beautiful, the beauty of a single flower on a show-board is no proof that the plant which bore it has any value for garden decoration. Even if the present day Cactus Dahlias produced their flowers freely and carried well above the foliage on long stems, which a large proportion of them do not, the narrow-petalled blossoms cannot collectively create the same striking effect as those with wider petals. What the owner of a garden requires is not plants that will bear a few blooms to win prizes at shows, but that will afford an ornamental feature when growing in the garden, and nothing is to be learnt on this point from visits to the largest and best shows. Even at nurseries it is often impossible to ascertain the natural habit of varieties, as these are frequently grown for the production of exhibition blooms and treated with that object solely in view, being thinned in order that they may bear a few perfect flowers. A sparse scattering of the best of blooms is useless for purposes of display, what is wanted being plants that will give grand breadths of bright colour in the early autumn. The type of Dahlia that is required to produce a brilliant show in the borders is well represented by *Glare of the Garden*, a comparatively old variety, classed among the decorative section in the few lists still retaining its name. This amply justified its title, being, when in full bloom, a blaze of vivid scarlet, but its flowers undoubtedly lacked much of the refinement of the premier show blossoms of to-day. These latter are unsurpassed for indoor arrangement, but this and garden effect are two very different things, and the plant that is excellent for providing flowers for the house may be useless for furnishing the borders. If some hybridiser, taking *Glare of the Garden* as his pattern, were to raise a race of Dahlias as free-flowering and having the same excellent habit in many bright colours, the autumn garden would gain largely in attractiveness.

Cactus Dahlias should not be planted in heavily-manured soil, as this encourages growth at the expense of flowers, a fatal fault, as profuseness of bloom is the chief desideratum. Plants to be of use in the garden should carry their flowers on tall stems well above the foliage, but in many varieties that bear exhibition blooms these are half-hidden by the leaves. These two features—namely, the abundance and good carriage of the flowers—are the chief requisites of the Cactus Dahlia from a decorative point of view. The same varieties do not invariably behave identically in different soils, so that what is recommended by one grower may not realise expectations in another locality, but judging one district with another, the following kinds appear fairly reliable: *Ajax*, orange, suffused with salmon-luff; *Bessie Mitchell*, bright orange-yellow, blended with red, pink, and salmon; *Britannia*, apricot-salmon; *Columbia*, crimson, with petals tipped white; *Florodora*, deep crimson; *Florence*, yellowish-orange, very good; *Gabriel*, red, with white tips, petals much incurved, free flowerer; *Gloriosa*, bright crimson, old, but one of the most showy; *Goldfinch*, yellow; *J. Weir Fifo*, blackish-purple, striped magenta; *J. W. Wilkinson*, rosy-crimson; *Lord Roberts*, the best white; *Lottie Dean*, yellow, shading to buff; *Lucius*, deep orange; *Lyric*, yellow, with scarlet tips to the petals; *Magnificent*, rosy-orange, shaded salmon; *Mary Service*, heliotrope-pink, shaded yellow; *Mayor Tup-penny*, deep yellow, outer petals orange-fawn edged with crimson; *Mrs. Carter Page*, velvety crimson, not a very free bloomer; *Mrs. Edward Mawley*, yellow, very good; *Mrs. J. J. Crowe*, yellow; *Mrs. Winstanley*, bright

orange-scarlet, good in every way; *P. W. Tulloch*, salmon-red, shaded maroon; *Richard Dean*, dark red, with petals tipped white; *Starfish*, brilliant orange-scarlet; *The Clown*, brick-red, upper half of petals white; *Uncle Tom*, crimson-black, good; *Vesta*, rosy-pink. S. W. F.

FLAG IRISES AND LUPINES.

THESE are common flowers, but it is to common flowers that gardens owe their chief charm, and in the early summer thousands upon thousands of Flag Irises and Lupines dower with their beauty all manner of gardens throughout the length and breadth of the British Isles, from the tiny cottage plot to the noble pleasure of the stately manor. Happily these plants, unlike such things as *Ostrya magnifica*, *Gerbera Jamesoni*, *Colechicum speciosum album*, and some of the newer sculling *Daffodils*, are within reach of the poorest pocket, and, also happily, they are of the easiest possible culture. Herbaceous Lupines when once planted spring up year after year, perfecting their long spikes of white or blue blossoms, and succeed in any soil, though attaining their noblest proportions in that which is deep and rich. The Tree-Lupine (see our illustration, p. 523) often reaches a height of 8 feet, with a like diameter, and being smothered with pale yellow flower-spikes; there are also white and pale blue forms of this plant. When they



Irises and Lupines. From a photograph sent by Miss Harrison, The Old House, Whitburn, Sunderland-on-Weir.

reach a large size they often die, but plants are easily raised from seed, and if a few seedlings are kept in the reserve garden, the dead plant is easily replaced. Flag or, as they are more commonly called, German Irises appear indifferent to soil and site, and may be seen blooming equally well on a steep railway embankment, baked by the sun to an almost brick-like hardness, and in the deep, moist soil beneath a standard Apple-tree in a cottage garden. The commonest form is the purple-blue, but there are numbers of charming named varieties, many of which are as beautiful as the Orchids of the hothouse. Of these the following is a good selection: *Princess of Wales*, the best white; *flavescens*, pale yellow; *aura*, deep yellow, this variety must not be confounded with the tall-growing species of the same name; *atro-purpurea*, deepest violet; *florentina*, pearl-grey; *pallida* and *pallida dalmatica*, different shades of lavender, sweetly scented; *Mme. Chereau*, white, fringed with blue; *Bridesmaid*, white and lavender; *Victorine*, white and violet; *Apollo*, yellow and crimson; *Queen of the May*, rosy-lilac; *Arnold*, purple and fawn; *Darius*, yellow and chocolate; and *Celeste*, pale blue. Flag Irises occasionally suffer from rotting of the tubers. When this occurs the rotten part should be scraped away and the part dusted with powdered charcoal, after which granite sand should be placed over the cul tuber.

S. W. F.

FLOWERS ALL THE YEAR.

"In the Royal ordering of gardens there ought to be gardens for all the months of the year," so says Lord Bacon, yet it is but seldom done, though where "grounds" are fairly extensive it is comparatively easy. For gardening purposes winter begins in November. For many reasons the

WINTER GARDEN is better away from the "dressed" grounds, and in my garden at Oaklands it is in the open kitchen garden. Near the bottom of my garden is a row of pyramidal Pear-trees, making a good screen to the Violet-bed beyond them. A fair large lawn slopes gently to a row of old Nut trees, under whose wide-spreading branches are planted several thousand *Galanthus Elwesii*. The lower branches of the Nut-trees touch the ground in the summer, so as to completely shade the Snowdrops, yet when the leaves are shed the branches rise up several feet and thus protect the dainty flowers from most of the rain, frost, and snow, yet permitting them to enjoy all the winter sunshine, for they face south. A thick hedge of Mahonia forms the fourth side of this winter garden. There is a border at its feet for autumn Cyclamen; these continue flowering till after Christmas. At the foot of a Yew hedge the winter-flowering Jasmine is planted, with double Primrose, red, lavender, yellow, and white, between them and the path. Several Witch Hazels are on the

lawn, with *Chionodoxa* planted about them, and quantities of Autumn and Winter Crocuses, Snowflakes, and winter Aconites in the grass. For the three winter months there will be no lack of flowers, for the autumn Violets will be in bloom in November. A large "patch" of Christmas Roses should be at one end of the Violet bed. The catkins of the Hazels, the bronze leaves of the Mahonias, and the long sprays of the Jasmine and the Witch Hazel, with Violets and Christmas Roses, will make a lovely winter bouquet. In my

SPRING GARDEN, warm, dry, and sheltered by a Laurel hedge, all the half-hardy trees and shrubs are planted in groups or as specimens on the Grass. A border, 120 feet by 8 feet, follows the line of the hedge, with a path between. Such shrubs as *Carpenteria*, *Abelias*, *Buddleias*, are planted in the border, every spare inch being filled with bulbs, Yuccas, and *Kniphofias* (Torch Lilies). The newer *Daffodils*, particularly the white trumpet ones, *Tulipa retroflexa*, *perica*, *Ostrowskyana*, *Kolpaknyskyana*, *vindifera*, *Greigi*, and many others, all kinds of "Vernal" Crocus, spring-blooming *Sternbergias*, *Fritillarias*, all the early-flowering bulbous Irises, also *I. stylosa*, *I. pumila*, and *I. p. hybrida*, *Hya-cinthus*, not only the better-known Dutch, but the beautiful species, *Muscarias*, dwarf *Scillas*, and *Scilla nutans*, are only a few of the bulb-growth. Sheets of *Anemone hepatica* and *A. blanda*, with *Forget-me-nots*, *Alyssum*, and

great beds of Wallflowers in every colour, keep this garden beautiful for the three spring months. Amongst the young trees and shrubs planted here are Paulownia, Judas-trees, Melia Adirach, double-flowering Peaches, Cherries, Almonds, Apples, Heath, Lilacs, Tree-Paeonies, and a large group of Clematis fragrans, all early spring bloomers. When May comes, this garden is not so desolate, for the bulbs go quietly to rest, Mexican and Californian bulbs taking their place, the shrubs giving a well-furnished look. No summer flowers are planted, it being too hot for them, except in one large bed (where Wallflowers grew during the winter). This has standard Plumbagos, with a carpet of pink Ivy-leaved Geraniums.

The woods come down to the house on the south side, and here, in the cool, is the glory of these old gardens, the Rhododendrons—hundreds of them, from the young bushes planted last autumn to the 20 feet high trees of R. arboreum. In the most sheltered spot are the Sikkim Rhododendrons, and near in an open space is the little rock garden. All kinds of Primroses, Primulas of many kinds, Auriculas, the tiny Daffodils, Fritillarias, late Snowdrops, Snowflakes, Hepaticas, also H. angulosa, many varieties of Anemones, Trilliums, Blood Root, spring Cyclamens, Dog's-tooth Violets, Aubrietias, double Arabis, double Meadow Saxifraga, need a cooler soil and more shade than the "spring" garden can give. The glorious Poppy Anemones want a different soil and site, so they find a home in the "Iris garden." A wide path leads to it, bordered by groups of spring-flowering shrubs. Peaches, Almonds, Plums, double Sloes, Apples, Cherries, Magnolias, flowering Currants, Forsythias, and Berberis are a few of them, with Rose-bushes between. On either side lie orchards of Almonds, Apples, Plums, and Cherries, with double Gorse and yellow Broom between, with single Roses, like the hybrid Sweet Briars, climbing amongst their branches. The fruit-trees are standards.

Sauntering back, one sees for the first time the seas of Daffodils in the woods. Each family is planted separately in drifts—here Star Daffodils, there bicolor and white "Trumpets." A fairly large planting of N. cernuus, albicans, W. Goldring, moschatas, and other white ones is doing well. May brings almost too much. All the later Daffodils and the later Rhododendrons are in their splendour, but the special gardens of the month are the Tulip field and Iris garden. Past the rock garden, where the Auriculas are at their best, through the Daffodils, Azaleas, and Rhododendrons, a wood path leads up to the Tulips. Thousands of May Tulips, 2 feet to 3 feet high—Darwin, Cottage, Roses, Violet, Byblomeas, Bizarres, Rembrondt, and Parrot, with wide stretches of yellows. A border, 150 feet long, of single Paeonies, with German Irises behind them, fronts the Tulips. The woods creep close on three sides, the south-east face being Grass. It is a positive relief to the eyes to go to the soft blues, yellows, and whites of the Spanish Irises.

June is the month of Roses, which hold full sway in the Rose garden, the exception being Pinks, and May is their month. The pinks are planted on the edges of the beds. Towards the end of May is the carnival of Paeonies and different Flag Irises. These are in the Iris garden, and the late spring (or early summer) shrubs are coming out—Deutzias, Weigelas, Mock Oranges, etc. A bed of some 500 Paeonies, double and single, is beautiful. In the middle are the Spanish Irises, the many leaf wide belt of German Iris swaying down one side—pink, yellow, blue, purple, white, hundreds of different shades and tones. The English Irises are pushing up their flat buds, and in the lateral bottom of a pond the Japanese ones are appearing. Close to the house is a wide path covered by a pergola of Roses, Clematises, Honeysuckles, and Vines. This forms the face and entrance to the Lily garden, the N.W. side being one of the walls of the garden, the end of the house being S.W., a shrubbery and paling keeping out the N.E. wind. Two-thirds of this garden is turf, with a narrow border under the walls and along the pergola. "Lilies everywhere," and nothing else but a few shrubs and trees, chosen for their beautiful autumn tints, prevail, for this is more an autumn than a summer garden. Apple-p-

sis on the walls, Azalea mollis, Berberis Thunbergi, Rosa rugosa (white type), and Japanese Maples for shrubs, with Sugar Maples, Medlars, and scarlet Oaks for trees. A long, wide belt of L. canaliculatum, with L. longiflorum in front, fits the bowler by the pergola. Tiger Lilies, L. croceum and L. pomponium, with L. elegans, L. Batemanii, and L. Wallacei in front, fill the border under the wall between the Maples planted here. In the groups of shrubs are Liliun speciosum, L. Browni, L. japonicum, L. Krameri, L. testaceum, L. sulphureum, L. auratum micro-vittatum, and L. n. Wittei. The cultivated part of this garden is planted with Bamboos and Chrysanthemums, with quantities of L. auratum in groups. On the edge facing south are the various Turk's Cap Lilies in groups, with L. Alexandria in front, L. rubellum being in the shady border under the house wall. The Lily garden will be in perfection during the latter part of July till

by forming special gardens for each season. This "royal ordering of gardens" in no way interferes with the formal bedding out or the herbaceous borders, though, space and position permitting, there should be two long, wide borders leading from one part of the grounds to another, backed by shrubs, in a sheltered, shady spot. One is for Delphiniums, the other Phloxes, with Gladioli (but not G. Brecheyleucis, the scarlet of whose flowers runs the tints of the Phlox) and Hyacinthus candicans.

Oaklands, Davlish.

A. BAVLSON.

GROWING AURICULAS IN POTS.

I wish, be much obliged if you will kindly give me some hints on growing Auriculas. I have some good varieties, and succeed in growing healthy plants, but do not get the trusses of bloom I ought. The individual blooms are fine, but there are never more than three or four at most on one stem. I feel convinced I make some mistake, but cannot determine what it is. At first I thought I over-potted them, so this June I put them into decidedly smaller pots, and they are in a good compost of loam and old stable-manure, and for the time of year look wonderfully healthy. Perhaps I ought only to allow one stem on each plant, pinching off the others as they grow? So far I have always allowed two or three. I understood that alpinas should be able to carry two good trusses on each plant, but the same latitude applies to both kinds, and I grow both. I have seen the plants nearly hidden by the fine trusses of bloom, and I wish to produce the same, and as I succeed in having very healthy plants, I think I must make some cultural mistake, and will be most grateful for any advice on the subject. Auriculas are my special hobby, and I am most anxious to produce some fine trusses of bloom this coming spring.—SKEWTON'S KNIGHT.

[High class named show Auriculas, such as self and edged flowers, to which we infer from your note you refer, grow rather slowly and do not always bloom, even where they have good leafage—indeed, it is possible by too high culture and feeling to create leafage of too coarse a kind, and not flower—producing crowns. These plants need as compost two thirds of good well-decayed old pasture or turfy loam, the other portion being composed of well-fermented cow-manure, or old hotbed-manure, though roughly rotted leaf-soil and sharp white sand. These ingredients should be well mixed and even a little scot may be added. The best time for potting is in the spring, just



Yellow Tree-Lupine in the herbaceous border. From a photograph sent by Rev. G. S. Whitehead, Bedale, Yorks. (See page 522.)

the end of September, but only L. speciosum will be still in bloom then. Before this, however, the Asters will be in full flower. All the Asters are late-flowering ones and mostly tall; they are carefully trained like specimen Chrysanthemums, all surplus shoots being thinned out. A belt of Heleniums, flowering at the same time, gives the high note of colour. By the middle of October the Chrysanthemums are in bloom, and very pleasant it is to saunter in this warm, sheltered spot during the mild October days, admiring the richly coloured flowers, set off by the Bamboos and the glowing colours of the Ampelopsis, for here, on the sun-warmed "cob," the leaves hang long. The Chrysanthemums are trained fan-shaped, like the Fuchsias in cottage windows, and being set at every angle, the flowers are well shown.

I have tried to show how flowers may be had in perfection all the year, not by attempting to grow every kind in one aspect and soil, but

after the bloom is over, as it is then new roots are made. In doing that it may be needless sometimes to shake out all the old soil, to cut away a portion of the root-stem that may have become useless, and thus to encourage the production of new roots, which are thrown out just beneath the leaves. When the plants are so treated it is well to get them first into rather small pots—such as are known as large 60's, or about 3 1/2 inches across the top. If the plants be very strong, it may be needful to put them into 8-inch pots. In all cases never overpot, rather underpot, as Auriculas are not strong rooters. Perhaps your plants have been in rather too large pots, they may not be in good firm soil, or they may be at times over-watered.

During the winter, when they rest, the soil in the pots needs to be but just kept moist. Original sources say that now in rather smaller pots the plants look wonderfully well,

we see no reason why, if you give them a shift into others a size larger in March, they should not flower well in April. None of the fine show or alpine varieties bloom too freely. As exhibited, the former seldom carry but one stem and truss of flowers—perhaps from five to seven pips. Alpines commonly carry two or even three trusses of from five to nine pips. None of the finest show varieties are strong growers in the sense that border Auriculas are. We

nailed in as far as it has become well ripened, beyond which it may be cut away, filling in all the vacant spaces with that which is left. *Villo de Lyon* and *Viticella rubra* belong to the *Viticella* section, and flower on the young or summer shoots. The aim, therefore, should be to encourage young, vigorous shoots by cutting down the summer growth each season, as soon as the frosts have disfigured the plants, to within 6 inches of the soil. You should then

and passed through a 1-inch sieve to relieve it of sticks and stones, etc. A 2-inch layer of this should be spread evenly over the surface as soon as the beds have been cleaned.—A. W.

Senecio pulcher.—No herbaceous border is complete without this handsome and rather late-flowering Groundsel. Its large, rich, purplish-crimson flowers, with golden-coloured discs, are most attractive. It is quite hardy, and will succeed in any ordinary garden soil, but on account of its late flowering it should be accorded a sunny, open position, as shade renders the flowering period unduly late. It attains a height of 2 feet, and is, therefore, useful for planting near the front of the border.

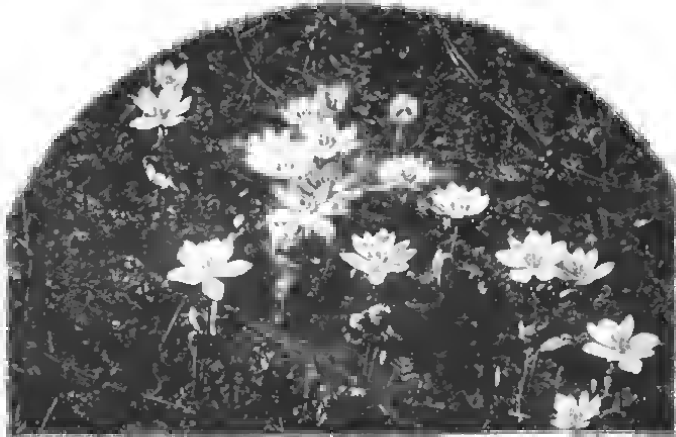
Aster acris.—This is one of the most useful of the Starworts, and several clumps should be grown in borders where early flowers are in request for cutting in early autumn. It blooms very early in September, and its colour, a purple-lilac, is not found very much in gardens at that time of the year. The hardiness of Starworts is well known, therefore there need be no diffidence on the part of anyone wishing to procure plants and shifting them now, provided, of course, that the ground is not absolutely frost bound. A little rotted manure dug in when planted will ensure good strong specimens by next flowering season.—LEAHURST.

Planting Spanish Irises with other bulbs.—Many people are now beginning to wake up to the fact that a few shillings expended in the purchase of Spanish Irises is a good investment if one desires to have beautiful blossoms for cutting in June, and as now is the time to plant, may I point out that other bulbs planted with them will not hinder them. One may for example, plant alternately in the bed *Narcissi* or *Scillas*, which bloom and finish long before the Irises are ready. Some may argue that Irises are soon over—that may be so, but they are extremely beautiful whilst they last; but if planted with other bulbs as suggested, the arrangement will be found to answer. For the rest of the summer *Mignonette* may be sown in April.—LEAHURST.

INULAS.

If you can refer me to an article published in *GARDENING ILLUSTRATED* on *Inulas* I shall be much obliged, as I have looked through this year's and the two previous years of your paper, and fail to find any mention, except in a casual way if not dealt with by you for some time I should be glad to do so through the medium of *GARDENING ILLUSTRATED*, you could give an article on the plant in question.—INUL.

[Perennial Composites, few of which are important for the garden. 1. *Helenium* (*Elecampane*), a vigorous British plant, 3 feet or 4 feet high, with a stout stem, large leaves



The Blood-Root (*Sanguinaria canadensis*).

have seen myriads of Auriculas of the show forms in pots, but have never seen the plants nearly hidden by flower. Commoner varieties of three or four-year-old plants in 6-inch or 7-inch pots may produce six or seven trusses, but not the best show or alpine varieties. The plants should be wintered in a cold-frame, over which a mat or two should be thrown in hard weather. Keep the plants on stages and rather near the glass. Frost does the plants no harm, but does disturb the roots, sometimes breaking the pots. Failing a cold-frame, then winter on the top-shelf of a cool greenhouse. At all times give plenty of air.]

SANGUINARIA CANADENSIS (BLOOD ROOT).

A DISTINCT N. American plant with thick underground stems from which spring large greyish leaves, cut into wavy or toothed lobes, and full of an orange-red and acrid juice. The stems, from 4 inches to 8 inches high, each bear a solitary and handsome white flower in March. It grows best in moist places and in rich soil, but, like many other plants, it has a dislike to certain soils, and is not always easy to establish, the most likely places being peaty or leafy hollows.

NOTES AND REPLIES.

Weeds in lawn.—How can I rid a croquet lawn of Plantains? Two winters ago I had all the roots taken up by a boy with a knife, and last summer they came up as plentifully as ever. The lawn has been dressed with salt, but with no good effect. Does anyone recommend a weed-killer, and, if so, which is the best way to use it so as not to kill or injure the lawn?—DAVIDES.

[The boy when he cut out the Plantains did not go deep enough. The plants should always be cut off quite below the collar, taking the lawn in 6-foot widths, marked out by a line on either side, so as to be quite sure that all the ground is carefully dealt with. After the lawn has been carefully gone over, it should be top-dressed with some good loamy soil, rotten manure, and wood-ashes, to encourage the Grass to spread and fill up the holes left by the clearing out of the Plantains.]

Pruning Clematises.—Would you kindly tell me when and how the following Clematises should be pruned? *Duchess of Edinburgh*, *Fa ry Queen*, *Mme. Baronne Vielard*, *La France*, *Beauty of Worcester*, *Ville de Lyon*, *Viticella rubra*, *lanuginosa candida*. All are growing outdoors.—J. L. M., *Rhyl*.

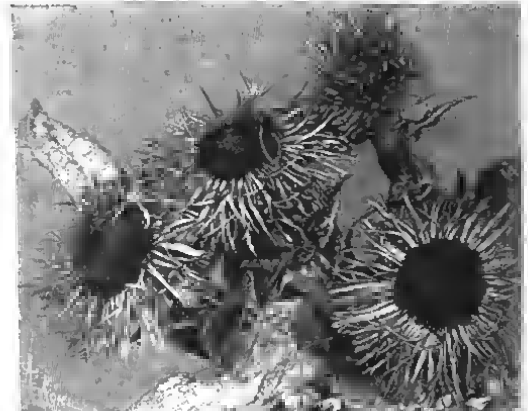
[The varieties *Fairy Queen*, *La France*, *Beauty of Worcester*, and *lanuginosa candida* belong to the *lanuginosa* section, and should be pruned in February or March, removing only the weak, straggling, and overgrown branches. The strong one-year-old wood should be

mulch the surface with some good rotten manure, watering freely, when dry in the spring, with an occasional dose of liquid-manure. *Duchess of Edinburgh* belongs to the *florida* section, and must be treated in the same way as the *lanuginosa* forms.]

Clearing beds and borders.—When we get into November it is found that in every garden there is a deal of clearing up to be done; especially in this so where summer subjects have been mainly planted. The sooner the beds and borders are cleared and the soil turned over to sweeten the better. In herbaceous borders, also, cutting away of dead stalks to let the light in about the surface, and forking over, and perhaps mulching with manure, will assist the plants. Owing to so much moisture this season grubs are very prevalent, and one way of dislodging them is by removing some of this now unnecessary growth.—WOODHASTWICK.

Top-dressing Lily of the Valley.—Now that a general clearing up of herbaceous

borders is taking place, a little attention should be given to beds of *Lily of the Valley*. As a rule, *Lily of the Valley* receives but scant attention, and beyond relieving the plants of dead foliage and the soil of weeds—and this in many instances is deferred till spring—they are left year after year until the crowns and part of the root-stock become elevated above ground level. This is quite wrong, for if a bed of these Lilies which has been naturalised in a wood for some years is examined, it will be found that the crowns are nearly, if not quite, covered by the accumulation of leaf-mould resulting from the decaying of the leaves which fall from the trees. These form a winter covering in the first instance, and when they decay the soil becomes enriched, to the benefit of the roots, which form a network in all directions just under the surface. In a garden, more often than not, the surface soil becomes gradually lessened by the weeding and cleaning, and nothing is returned to make good the loss, hence the necessity and wisdom of making this top-dressing an annual affair. There is nothing better for the purpose than decayed old holed material, well chopped up,



Ieula glandulosa.

and yellow flowers, is well suited for planting with other large-leaved plants, or as an isolated specimen on rough slopes or wild places, in good soil. 1. *Oculus Christi* grows 1½ feet to 2 feet high, and bears orange flowers in summer. 1. *salicina*, *montana*, and *glandulosa* are similar, the last being the finest. Easily propagated by division or seed.]

INDOOR PLANTS.

PELARGONIUM GUSTAVE GIRARDIN.

This is the best of a set sent to me by Francois Gerbeaux, of Nancy, and is a fine distinct bicolor with large, well-filled trusses and very brightly coloured flowers.

W. E. GUMBLETON.

PLANT FORCING BY ETHER.

We have on several occasions drawn attention to the remarkable discovery of forcing plants by ether, made by M. Johannsen, and to the interesting experiments which have been made by various persons in the same direction. It is now no longer a question of experiment, but one of application rather. The experiments made by M. Frederic Harms, one of the best known forcers in Hamburg, who owns several acres of ground under glass, are of the highest practical importance, as they were undertaken with the object of testing the results of the first experiments. For the purpose of observation, the bushes are enclosed in a hermetically closed box. Pure sulphuric ether is used, not alcoholised ether, which is more expensive, or ether of petrol. The ether is injected into a wide receptacle, which is open to allow of evaporation, and hangs inside the box by means of a funnel inserted in an opening in the top of the apparatus. The ether fumes being heavier than the air find their way downwards, and would penetrate even the soil surrounding the roots of the plants if not prevented by the soil being kept very dry and covered with sand. The amount of ether administered varies with the season and the kind of plant. By inserting small plants between the larger ones, M. Harms was able to find room for seventy plant at a time. The bushes remained generally forty-eight hours in ether vapour, but in the case of plants less susceptible to the action of ether a longer time was allowed. The temperature within the receptacle had also to be considered, seeing that at 23 degs. Fahr. for the first twenty-four hours the ether has no effect and at 85 degs. Fahr. the plants are overwhelmed. The ether needs for its effective action a temperature of 60 degs. to 65 degs. Fahr., allowing a fall of temperature to 50 degs. in the night time.

As ether vapour is very inflammable, care should be taken not to approach it with any flame that is not hermetically enclosed. After being etherised, the plants are transferred from the receptacle to a greenhouse warmed to a temperature of 62 degs. to 68 degs. Fahr., as for ordinary forcing. In three or four days the flower buds open, eight days later the clusters are fully developed, and six days afterwards the flowers are fully open. Plants so etherised present a handsome appearance, and the sickly look which is sometimes seen on forced plants is absent. On the contrary, the flower-heads are abundant and strong, and the foliage of a healthy green, which is not the case with non-etherised plants. The use of an apparatus of small size is applicable to small Lilacs forced in pots, as is the custom in Germany. For the tall plants a special receptacle has to be built in brick and cement. It is found that the adoption of this process means a great saving of labour, material, and time. The French florists have had reason this year to regret their neglect of the discovery, when, owing to the abnormal summer, the Lilacs destined for forcing, although grown in the open air in order to prolong their rest, have continued more or less in growth owing to the continuous rains.

In most cases the buds are badly formed and incompletely developed, the flower thyrses make a poor show, and the clusters will be short. The ether-forcing system being independent of had seasons makes such results impossible, and Lilacs which are unfit for forcing can be got to flower well.

ALBERT MAUDSLAY

NOTES AND REPLIES.

Heating a greenhouse.—I am thinking of utilising some hot water from the works for heating a greenhouse. My idea was to conduct the water backwards and forwards under the floor in pretty deep brick channels, so that a large quantity of water would always be under it, which would retain a heat from the time the works close on Saturday till Monday morning. The question is, would a temperature of 100 degs. to 110 degs. in the water be sufficient to give satisfactory results? Could any of your readers give me any information on this subject?—H. BROWN.

[We fear such a plan would be of little use, as we fail to see how the circulation could be carried on. Besides, if the weather should happen to be very severe the water would get too cold. It would be far better to heat your house in the ordinary way with a boiler and hot-water pipes.]

Boronia megastigma.—I have had some seeds of the following sent me from Australia: *Boronia megastigma*, *Clanthus Dampieri*, *Telopea speciosissima*. Would be much obliged for any instructions you may give me in your valuable paper, which I take in regularly. Their present and after treatment I would like to know at your leisure?—W. C. T. STOKLEN.

[In the case of seeds just received from Australia, your better way will be to keep them until next March before sowing, as the tiny seedlings would in the depth of winter have a hard struggle to survive. *Boronia megastigma* grows best in sandy pent, which, owing to the

delicate roots, otherwise they will perish. A space of about three-quarters of an inch should be allowed between the little plants, which, as soon as they have taken hold of the new soil, should have their tops pinched out, in order to encourage a bushy habit of growth. The next shift will be singly into small pots, and after they are established therein the young plants may be given ordinary greenhouse treatment. The flowers of this *Boronia* are small, dull-coloured, but deliciously fragrant, which latter feature causes it to be an universal favourite. It blooms during the spring months. You will find directions as to raising the other two under the headings "*Clanthus Dampieri*," and "*Telopea*," p. 533.]

Bulbs in pots.—Many amateurs fail to get their bulbs to start freely into growth. In the majority of cases of failure that I have investigated, the cause has been too much kindness. The too careful cultivator pots or boxes his bulbs in rather dry soil and stores them under cover where the heavy autumnal rains cannot get at them, and, in many cases, puts them at once into the glass-houses or frames where the temperature is too high for them before they are well rooted, with the



New French bicolor Pelargonium Gustave Girardin.

minute character of the seed, should be passed through a sieve with 1/4-inch mesh. A 5-inch pot is very suitable for sowing the seed in, and it should be quite clean and half filled with broken crocks, over which place a layer of the rougher portions of the peat, and, finally, the prepared part, which must be pressed down firmly and made quite smooth. Then water through a fine rose, and while the surface is still wet sprinkle the seed thinly thereon. Slightly cover with a little fine, very sandy peat, and place a square of glass over the pot. This glass must be allowed for in filling the pot with soil, which should be kept about 1/2 inch below the rim. A shady part of an intermediate-house, or the warmest portion of the greenhouse, is the best place for the seed, which, carefully attended to in the matter of watering, should germinate in a month or six weeks, according to its age. Directly the tiny seedlings make their appearance the glass must be removed, and the young plants inured to the ordinary atmosphere of the structure in which they are growing. When about 1/2 inch high they will need pricking off into other pots, which should be prepared exactly as for sowing. The soil must be made firm, and great care should be taken that it is thoroughly closed around

result that they start weakly into growth, or fail to start at all. If they were set out-of-doors and covered with ashes, Cocoa-fibro, or dry leaves until they fairly started into actual leaf growth, and when the roots could be seen pushing through the pots, there would be very few failures. I find at the present time in the open air without any protection at all, the Roman Hyacinths, Narcissi, Tulips, etc., are pushing up as if spring had already arrived, and where some of them had an excessive lot of rain water, they were the healthiest and most advanced of all.—J. G., Gosport.

Isolepis gracilis.—This is one of the most valuable of green edging plants for conservatory or greenhouse stages in the winter, as it delights in cool, moist places, and must not on any account be allowed to get dry for any length of time, or its graceful dark-green pendulous leaves assume a yellow tint. For decoration it is most useful in rather small pots of from 3 inches to 5 inches in diameter, and a good stock may soon be obtained either from seed, or by dividing old plants. A cool, shaded place, with light, rich soil, and an abundance of water at the root, are all that is needed to grow perfect masses of this pretty plant.—G., Gosport.

CHRYSANTHEMUMS.

PREPARING FOR NEXT SEASON.

No sooner are the flowers faded than a start has to be made to prepare the plants for next year's supply of bloom. To grow Chrysanthemums really well a long season of growth is absolutely necessary. By obtaining satisfactory cuttings a good foundation is laid. Some varieties are shy in producing any cuttings; some discretion then is necessary in such cases in cutting down the old flower-stems. In the case of shy producers of cuttings do not cut the stem down lower than to within 2 feet of the soil. Although the most desirable cuttings are those that push through the soil some distance from the stem, stem cuttings are better than none at all. In some cases where these stubborn varieties fail to throw up cuttings direct from the base, they often give cuttings from the stems after the plant is cut down to the height named. The objection to stem cuttings is that they are liable to form flower-buds instead of growth after they are rooted. Many varieties give cuttings in abundance direct from the base without the slightest trace of premature budding. Such as these then should be cut down to within an inch or so of the soil. It very often happens that these free-growing kinds have far too many growths springing up from the base to afford a sufficiency of space for each to develop properly. Where such is the case it is much the best plan to thin out these weakly growths and give more room to others, so that when the time arrives for taking the cuttings they will be sturdy and strong instead of being weak and attenuated in growth. Directly the plants are cut down the old stools should have a position assigned them where they will be close to the glass in a cool-house or frame, simply protected from frost and lamp. No place answers better than a vinery or Peach-house at rest, as here the Chrysanthemums obtain abundance of light and air, which induces a stocky growth.

Care is necessary in supplying the old stools with water; too much is injurious, creating a paleness in the young leaves, which is objectionable. When the leaves are rendered so pale in colour, a long period often elapses before they regain their wonted vigour and colour. It is surprising how little water is needed to induce growth to be made from the base after the plants are cut down. Where the roots are washed bare on the surface they should be covered with a portion of sandy compost, adding to it decayed leaf-mould, this having a decided tendency to encourage from the base growth that is firm and in every way desirable. In stubborn cases, where growth positively refuses to move at the base, it is necessary sometimes to rectify the drainage if this has got out of order, and even to plunge the pots in a gentle bottom heat and syringe the stems several times daily before a start into growth will be perceptible. The slightest sign of greenness should be dealt with at once by fumigating the house with Tobacco smoke or by dusting the plants individually with Tobacco-powder and syringing them afterwards to cleanse the leaves of both powder and fly. Air upon all favourable occasions will induce a stocky growth.

It is desirable to take a cutting at any time, provided it is a good one, and from a shy grower. Personally, I am not in favour of early propagation, as it is neither desirable nor necessary. There are many varieties (exhibition) that require early propagation to ensure bud formation at the proper time, but when the object is the decoration of the home or conservatory, the beginning of the year is soon enough. Then good, strong cuttings which will root readily and make sturdy, strong plants in a short time are abundant, and if an experiment has been tried with a few put in in November or December, the January struck cuttings will be as far advanced, and in many instances ahead of the others put in early. I would warn amateurs not to let their enthusiasm carry them too far while at the November exhibitions. They perhaps see a grand bloom, and conclude that they must have the variety in their collection, but after they do get a plant, and grow it on, they are disappointed. I think this large bloom system of growing Chrysanthemums is a pity, not

ing the future of this glorious flower. The system of inserting three cuttings round the sides of a 2½-inch or 3-inch pot is a splendid one for those who grow mainly for cut-bloom and decoration. These can be grown on as one plant. The labour is almost nil, and damage to the tiny roots is reduced to a minimum. A nice fibrous compost, with a good dash of river sand, forms admirable rooting material. When the cuttings are inserted, stand the pots on a stage near the glass, preferably on a bed of ashes. Use no close frame, which encourages damping, but shade with newspapers from sun until rooted. A slight sprinkling is all the cuttings will require until growing nicely, when they may be shifted on in the usual way. D. G. McL.

Bridge-of-Weir, N.B.

CHRYSANTHEMUMS AT THE AQUARIUM.

I WAS delighted to find Herbert Millington (p. 503) entering a protest against what I always consider the insane craze for monster blooms, and delighted to find you publish such a protest. To me as a keen lover of flowers it is saddening to see a collection of mops on so many poles.—F. ALEXANDER.

I quite agree with the remarks of Herbert Millington (p. 503) in reference to the exhibition of Chrysanthemums at the Aquarium. It seems a great pity that mere size should seem to be the predominating feature of show blooms. Is there no beauty in any of our varieties—some of which are old—and which were once seen at exhibitions, but now, owing to their being ousted by larger, and, in some instances, coarser-built blooms, are classed as "decorative" sorts? Surely there is room for classes of this latter group, many of them being yet grown by persons who prefer moderate-sized flowers in quantity rather than a few huge heads, which are really of little service apart from the exhibition-table. I am quite certain that this fever for new sorts every year, possessing greater size than others, is doing much to make people belittle the good qualities of other worthy varieties that cannot possibly come up to the mop-like heads. No wonder that some who once grew for show have given up doing so, because of the rage for new sorts of this character. "Let those grow for size who like, give me a score of decent blossoms to a plant," said a late exhibitor; "you get more satisfaction out of them." And I agree with him.—TOWNSMAN.

Under the heading of "Chrysanthemums," in the issue of Nov. 22 (p. 503) is a bitter onslaught upon the recent great show held at the Aquarium. This exhibition was voted by leading authorities as reflecting not a little credit on the skill of the various exhibitors. Mr. Herbert Millington, however, would have us believe it was quite otherwise—"bloated blooms . . . in round-bellied nudity" is his own description. But when he further says, "even the single Chrysanthemums are being ruined by this insane passion for size," he displays ignorance of the now recognised section of large-flowered singles. His remark as "to the hideousness of their environment" is mere platitude.—H. J. GILLINGHAM.

CHANGES IN THE METHODS OF EXHIBITING LARGE BLOOMS.

THE methods of exhibiting large blooms in vases initiated a few years ago by the N.C.S. is now adopted largely throughout the country. Scarcely an exhibition could be named where a class for large blooms staged in vases is not now found. Both the incurved and the Japanese types of the flower are now exhibited in this way. The great vase classes at the Aquarium for both incurved and Japanese flowers stipulate that five blooms are to be shown in each vase, and the blooms are to be so arranged that they face all round, in this way illustrating the decorative value of large blooms. At some of the provincial shows this season three large Japanese blooms have been staged in each vase, and appear to be quite enough in a vase of medium size. On the other hand, the smaller globular flowers of the incurved Chrysanthemum have been shown four in a vase. Arranged in this way, without any of the pomp and

always observed with blooms shown on boards, they look more interesting and less formal than usual. There is still room for improvement, however; each type of the flower may, with advantage, be treated similarly. The National Society has set an example in this direction, but even their methods might be improved upon. In the case of severely-disbudded Pompons, why could not these be shown at least a dozen in a vase? Six vases with a dozen blooms in each, and in distinct shades of colour, would make a most interesting exhibit. The large-flowered Anemones might also be exhibited in this way; half-a-dozen blooms in each vase, and three or six vases in each class, would represent these quaint flowers much better than by the system which now obtains. The singles, both large-flowered and small-flowered, might be treated in the same way as that suggested for the Pompons, and provided liberal prizes were forthcoming, competitors would be found, and the sameness which characterises the shows at the present time would not be seen. W. V. T.

NOTES AND REPLIES.

Single Chrysanthemum King of Siam.—This is a very fine dark crimson variety that I had seen last year, and it has proved quite a gem and a great acquisition in this particular colour. It is of dwarf, bushy habit, and succeeds well outdoors in an ordinary border, there growing to about the same height as *Mme. Marie Masse*.—A. W.

Chrysanthemum Crimson Source d'Or.—This is a terra-cotta crimson sport, but superior to the parent variety. At the time of writing I have in bloom in a cool greenhouse the parent plant, *Source d'Or* (old gold), *Lizzie Ailcock* (rich yellow sport), and the variety under notice, but none will compare for effect with *Crimson Source d'Or*. The vigour of this plant appears to be more pronounced than is the case with the other members of this family, and when the buds have been thinned they are very handsome.—E. G.

Freely-flowered Pompons.—A fine illustration of the value of the pretty little Pompons, when naturally grown and without disbudding, was recently seen at one of the leading northern Chrysanthemum shows. The stiff and formal disbudded Pompons will not compare with these freely-flowered plants when used for decoration. On the occasion referred to, six bunches of Pompons were asked for, and the grace and elegance of the numerous sprays contained in each exhibit showed how much is lost through not growing more of these plants. Many of the Pompons have been in commerce a long time, but as they are not often asked for at exhibitions, they have undoubtedly declined in favour. If the committees of the numerous societies throughout the country, instead of encouraging the large mops, as represented by the Japanese section, were to provide more classes in which the beauty and elegance of Chrysanthemums could be illustrated, exhibitions would prove more interesting than they are at present. Their decorative qualities are unequalled for the numerous small vases used throughout the house. For the larger vases they may be cut in long sprays, and in this way nothing formal or stiff can possibly be produced.—C. A. H.

Late Chrysanthemums.—Chrysanthemums are this season later than usual in forming their flower-buds, which for the late kinds is a distinct gain. This season, owing principally to lack of sunshine and the cool, showery weather, the plants kept growing, and now in November we have Dahlias in full bloom, and late Chrysanthemums only beginning to show their flower-buds, even in the south of England. After this date a sharp look-out must be kept. If it keeps mild, the longer the plants are in the open air the better, but with a decided change to frosty nights, they must at once be removed under cover. If grown in pots the work is soon done, but the majority that are grown for cut flowers are in the open ground, and must be lifted with good balls of soil and replanted in cold-house borders, where they will be kept as freely ventilated as possible, except when sharp frost is imminent. Happily the Chrysanthemum is amongst the best of all plants for transplanting when nearly in full bloom. If the roots are not broken much in lifting, and a good soaking of water

given to settle the soil around the roots again, the plants will not suffer if syringed for two or three days. Then they may be freely ventilated, and the atmosphere kept cool and dry.—JAMES GROOM, Gosport.

ROSES.

ROSE FRAU KARL DRUSCHKI.

HERR LAMBERT, of Trier, Germany, is to be congratulated on the production of this splendid Rose, a bud and fully-opened flower of

NOTES AND REPLIES.

One of the best Hybrid Teas.—Caroline Testout is one of the best of our Hybrid Teas, bright satiny rose in colour. It is nearly always in bloom from June to October, and this year far into November, for on November 24th I cut a superb bloom in the open, and what is of equal importance, it is a vigorous grower.—LEAMING.

Manuring Roses (A. J. W.).—If you do not object to the labour, the very best method of feeding Roses is to remove an inch or two of soil all around each plant, and spread out one ½ peck to 1 peck of solid manure, covering this over with part of the soil removed, using the surplus soil to mould up the base of

to Vines and fruit-trees. Bone-meal or fish guano is a good artificial manure to use in the spring, washing it well in if the weather is at all dry.

Roses on south wall.—I have just planted a new Rose bed with a south wall behind it about 5 feet high. I fancy I have made two mistakes, on which I should like your opinion. 1st, I have planted a Crimson Rambler and a Longworth Rambler against the wall, and I am now told they do not do at all against a south wall. 2nd, I have planted some Gloire Lyonnaise plants amongst the ordinary H.T. and H.P. dwarfs, and I am now told that the Gloire Lyonnaise should not be pruned at all, or very lightly, and I am afraid they will look very straggly amongst the other dwarfs. Would you move the



Bud and fully developed bloom of Rose Frau Karl Druschki. From a photograph by G. A. Champlin.

which we figure to-day. It is said to be a cross between Merveille de Lyon and Caroline Testout, and it is remarkable that the lower should be so pure white, as one would expect blooms from such a cross to have a shading of pink or blush. The only colour noticeable is in the outer petals of the buds, which are tinted rosy-pink, but the high-centred fully opened flower is pure white. The only fault it has is that it has no fragrance. Up to the present we have had no Hybrid Perpetual so pure in colour. It is free in growth and also blooms very freely.

the plants, if Tea Roses, to keep them protected from severe frosts. This method of applying the manure would prevent injury to the surface-roots in spring, which is always a danger to guard against when burying the surface dressing of manure. If you were to examine some plants so treated, say in May, you would find this manure all alive with tiny little rootlets, a proof that the plants appreciate the treatment, then when the time comes to give liquid manure the rootlets are present to to utilise it. It is the surface-feeding roots that do so much use to the Rose as they are

Ramblers at once and grow them up poles and wires, or would you leave them? In this smoky place we do not run much risk of smutstroke. If I move the Ramblers, could I take the Gloire Lyonnaise from their present places and put them up against the wall in the place of the Ramblers? I should prefer to leave them as they are if in the least advisable. I have seen Ramblers in this part of the world doing well against walls, but I am a perfect novice at anything connected with gardening, and if you could give me your advice I shall be obliged.—T. P. B.

[It is quite true that Crimson Rambler does not flourish against a south wall, unless the wall be low and a lattice work placed above upon which the growths of the Rose can ramble. It would be advisable to replant at

once, placing the plants either near an arch or against a pole to form a floral pillar. The latter is a capital way of displaying its beauty. Do not move the Longworth Rambler, as it is a fine Rose for south, east, or west wall. You have been somewhat misinformed about the Gloire Lyonnaise Rose. It will blossom even though pruned back to seven or eight eyes each season, but where wall space of moderate height is available this lovely variety is a most suitable one to plant thereon. As you will be removing the Crimson Rambler from the south wall, the Gloire Lyonnaise would take its place very well, and have a very suitable companion in Longworth Rambler. Many more grand varieties could be planted against low walls than is commonly done. Anna Ollivier, Marie Van Houtte, Mme. Lamhair, etc., we have had of considerable height, the growths, of course, being more thinned and the sturdy shoots suffered to remain as long as possible. You will probably need another Rose in the place of Gloire Lyonnaise. Try Mme. Pernet Ducher. We believe you will be charmed with it, for, although not a very double flower, it is lovely in bud and also when fully expanded.

Protecting half-standard Rose-trees.—I have just planted some half-standard Roses, a list of which I append. Will you kindly let me know whether it is necessary to protect the heads of all or some of them during the cold weather? I may add that, pending your reply, I have stuffed the Marie Van Houtte with straw and bound it inside with the same, tying the whole with wool. I have also a Reine Marie Henriette and W. A. Richardson, half-standard, planted in the spring. L'Idéal, Marie Van Houtte, La France, Gloire de Dijon, and Prince Camille de Rohan are what I have planted.—NEW SOUTH BRITAIN.

Of the seven kinds named only three need winter protection, viz., L'Idéal, Marie Van Houtte, and W. A. Richardson. Stiffening the heads with straw, or other non-conducting material, is a very good one, but we should advise you to remove it during mild intervals. A damp, stuffy condition causes more injury to the growths than a few degrees of frost. It is the zero frosts one should be prepared to combat as regards the Tea-scented and kindred tribes, and a stock of material should be kept near at hand to insert in the heads when such severe weather threatens. As we have repeatedly pointed out, lush-plants of these tribes may be effectually protected by a covering of earth some 6 inches deep around the base of the plants, and dry Fern or Bracken, straw, or evergreen hough-stuck in among the branches. Hardy Roses, such as Gloire de Dijon, Prince Camille de Rohan, and La France, require no protection.]

FERNS.

HARDY FERNS IN WINTER.

MANY of our most beautiful hardy Ferns suffer if exposed during the winter. When under cultivation it often occurs that they do not get the protection they find in their natural habitats. The leaves from deciduous trees provide both protection in winter and suitable material for the new roots to start into in spring. Grasses and other herbage also assist in protecting the crowns during the winter. Many who try to cultivate hardy Ferns forget that they are depriving them of the protection they find under natural conditions, and, consequently, do not succeed. Of course, it is not necessary to allow Grass and all kinds of weeds to grow up among the Ferns, yet something should be done in the autumn to make up for this deficiency. A good mulching of leaves may be recommended; either new leaves or those half-decayed may be used. The latter are best, as they provide more nourishment for the young roots in spring. If the plants are much exposed they should have a covering of dried Bracken or other light material. Bracken is about the best thing that can be used, as it will gradually decay, and by the time the Ferns start into growth the young fronds will be able to push through. Spring frosts are often destructive to hardy Ferns. Many of our British Ferns are worthy of cultivation under glass, more especially the beautiful varieties of the Lady Fern. The exquisite beauty of *Atyrium* (*Asplenium*) *Filix-foemina* plurimosum is not excelled, if equalled, in any of the exotic Ferns. When grown under glass care should be taken not to excite them into premature growth. Although a little heat will do no harm in the spring while they are making their

growth, giving them warmth during the autumn and early part of the winter will excite them and materially weaken them.

TREES AND SHRUBS.

PLANTS UNDER TREES.

IN THE lot of spare ground under Oaks and Scotch Firs, and sheltered from the north by a thick Laurel hedge, 15 feet high. Will you kindly tell me what flowering shrubs, flowers, and bulbs I can put in now to get a succession of bloom all the year round, as it faces the house and I want it to look bright? The space to be planted is 35 yards long and 8 feet wide.—LIONS.

[We take it the piece of ground is within the shade of the Oaks and Scotch Firs, and not that the trees are directly overhead. If so, there are many things suitable. If, on the other hand, the Oaks and Firs constitute in sort of plantation, the case is different. We assume the former, however, by reason of the hedge of Laurels. In such case, you may select of flowering shrubs any of the Weigelas, Lilacs, Forsythia suspensa, Rosa rugosa, and its varieties, *Pyrus japonica*, *Magnolia conspicua*, *M. Soulangeana*, *Ribes* in variety, *Genista prostrata*, *Spartium junceum*, and *Pyrus Malus floribunda*, of which several examples may be planted by reason of their great beauty in the early spring. A plant or two of the Scarlet Thorn, and the pretty, though short-lived, flowering Bird Cherry (*Prunus Pains*), together with *Berberis*, *Althaea*, *Acer Negundo variegatum*, *Douglas Cherry*, *Andromeda*, and *Azalea mollis*, would give you a great variety as well as a long season of flower in these things alone. Of flowering plants and herbaceous things in particular, you may employ any of the Sunflowers. The Pampas Grass and *Arundo conspicua*, with one or two groups of Bamboos, would also be effective. Other useful tall plants are the *Miramelius* Dahies, the *Novi Belgii* and *Novae Angliæ fornis* particularly, with *Polygonum molle*, *Geconia conchata*, *Eremurus robustus*, *E. himalaicus*, *Delphiniums*, *Tritoma Uyaria*, *Rudbeckia Golden Glow*, and *Helianthus*. These are mostly tall things of from 3½ feet to 5 feet in height, and in large groups produce a telling effect. Dwarfier subjects of 2 feet to 3 feet would include *Aster Amellus* in variety, *A. acris*, *A. N. B. densus*, *Alstromeria aurea*, *Stenactis speciosa*, Day Lilies generally, *Paeonies*, *Lenten Roses*, *Flug Irises*, *Japan Anemones*, the white and red *Perennial Pea*, *Helianthemum pumilum*, *H. autumnale*, *Columbines*, *Pentstemons*, *Lilium caeruleum*, *L. candidum*, *L. tigrinum*, *Baltonia canticans*, and the like. Of still dwarfier growth are *Heucheras*, *Iris pumila*, *I. indicaulis*, *Aubrietias*, *Double Arabis*, *Campanula carpatica*, *Perennial Canterbury*, *Saxifraga Wallacei*, *S. granulata plena*, *S. ceratophylla*, *Megasea cordifolia purpurea*, *M. crassifolia*, etc. Of bulbous plants you may now plant *Wood Anemones*, *Cyclamen*, any of the host of *Daffodils*, which in your case may be planted freely. In much the same way a free soil could be made of *Muscari*, *Leucojums*, *Anemones* of the hortensis group, also *A. coronaria*, *Tulips*, particularly those of the Gesner and Parrot kinds, and other things. For the first year *Foxgloves* and *Evening Primroses* would be very pretty if rather thinly interspersed throughout the borders, and would come at a time when their presence would be of service. In short, there is no lack of material for such a place, and with good culture the borders may be made quite a success. If sufficiently sunny you may find room for a few good Pillar Roses, or such a Rose as *Crimson Rambler* on strong poles would be very striking amid the abundant greenery present at its time of flowering. The whole of the things could be planted forthwith.]

NOTES AND REPLIES.

Pollarding an Oak.—As a reader of *GARDENING*, will you kindly reply to the following: Will an oak stand topping? Will it shoot out, like an Elm and other trees, from a head, and hide the places where the limbs were cut? I have two old trees which have grown to a good height, and, being near a wall (about 7 feet high), I should like to lower them, and so reduce the strain; but before doing so I want to be quite sure that they will shoot out, etc. The trees form a ledge, and also a shade for a small dairy.—ALPINA.

[Yes, you can with perfect safety cut down the Oaks. Do this in January or February, but it is to be regretted that such an operation is needless.]

Solanum jasminoides in autumn.—I planted a number of this in the spring of this year to quickly cover some trellis work which I had just formed. I knew it was a beautiful climber, but the way the young plants flower late in the year charms me. Of all the plants in the garden it is the freshest and most beautiful on the first day of November. Even the late Roses, which are so nice, have not the freshness and grace of this lovely plant. It is fully exposed.—V. II.

Wistaria and Jasmine not blooming.—I have a Wistaria and a white Jasmine on a wall facing north-west, in a wide, sloping bed. They do not flower, and the Wistaria looks unhealthy. Can you kindly give me any advice as to treatment?—CARA.

[The position has a good deal to do with the non-flowering of your Wistaria and Jasmine, both of which flower freely enough when grown in a sunny spot, as the wood is then thoroughly ripened, which cannot be the case with yours, for as you say they face the north-west they will get very little direct sunshine. Pruning is also greatly against the flowering of Jasmine, which never blooms so well as when allowed to ramble at will over an arch, verandah, outhouse, or in some similar position. With regard to the unhealthy state of the Wistaria the roots must be at fault. Possibly, owing to the sloping nature of the bed, they do not get sufficient nourishment, and often when walls are built all kinds of old brick rubble are buried at the base, and this is by no means a desirable rooting medium for such a growing subject as the Wistaria. If your plant is small the better way will be to lift it and replant, after taking out three or four barrow-loads of the soil and replacing it by some good compost, such as clopped turves from a meadow, a little thoroughly decayed leaf-mould, and some manure. When planting, tread the soil firmly and arrange it so that there is a basin around the stem to allow of watering, if necessary. If this is done the plant will probably be rather late in starting into growth next spring, but as soon as it does start the young shoots will make rapid progress. Should the plant be too large to lift you might try making a basin around the stem to allow for artificial watering, and if this is done when necessary during the growing season, we think the unhealthy state of the plant will disappear.]

Shrubs from cuttings.—Cuttings of a great many shrubs will root well if placed in the open ground. A fairly sheltered position, in an open, somewhat sandy soil that does not suffer from drought during the summer, is best for the purpose. A heel of old wood is not necessary to their well-doing, yet, at the same time, fairly stout shoots must be chosen; otherwise, many will perish.

THE NEW HORTICULTURAL HALL.

WITH eager anticipation we opened the book of plans of the Royal Horticultural Society's proposed buildings in Vincent-square. We deeply regret that we can only view them with a sense of disappointment. The result is a building entirely commonplace, absolutely wanting in all architectural feeling. The only ingenuity it displays is in giving a maximum of space to the Exhibition Hall, but it is entirely without charm, such charm as is only given by the clever planning, careful detail, and fine sense of proportion that the architect who is master of his craft gives to a building; thus endowing it with the qualities of beauty and gracious beneficence, while not in the slightest degree depriving it of utility. In the proposed plans what have we? The glass barrel of a railway station, masked by a second-rate railway hotel on the road front! In the Exhibition Hall we regret the iron roof and the ugliness of it all, all the more because it is so absolutely needless. Outside we regret the want of simple dignity and proportion, the curiously unhappy fenestration, the lack of every quality a building should possess to be called good. We hoped to see such a building as would do credit to the Society, and can only express regret when we see plans that we can only think unworthy of the Royal Horticultural Society's position and purpose; wasteful of good money, whose same amount might easily have brought both additional convenience and infinitely greater honour.—*The Gardener*.

ROOM AND WINDOW.

PANICUM VARIEGATUM

WHERE indoor decoration is carried out on a large scale, plants of a trailing or pendulous habit of growth are necessary for furnishing vases and stands, and this Grass is invaluable for the purpose, its habit of growth and distinct variegation being perfect. To get a good specimen, insert three cuttings in a small pot—say, a 60—and, as soon as they get a few inches long, peg them down close on to the soil, when they throw up a number of side shoots and form excellent plants without any further training. If larger plants are desired, these can be potted on from the small pots as may be

ance. Plants, in order to be the best suited for table uses, should be grown on from the seedling state or from quite small divisions, so that the growth is concentrated in the one crown. Plants intended for this purpose should be set aside so as to preserve them intact. They should not be overpotted in any case; this is a mistake. Where it is possible a marginal line of *Selaginella denticulata* may with advantage be pricked in around the rim of the pot, but its growth should not be allowed to exceed reasonable limits.

Pampas Grass.—The plumes of the Pampas Grass are known to many, and at Christmas time are frequently used in the



Panicum variegatum as a vase plant.

necessary. For the fronts of stages in warm-houses plants in 48 pots are very effective.

FERNS AS TABLE PLANTS.

MANY Ferns, some of which are quite unique in their way, are very suitable as table plants. Take, for instance, a well-grown Silver or Golden *Gymnogramma*, or the same of *Adiantum Farleyense*; these are each quite distinct from anything else that is usually grown or accepted as table plants. In many ways Ferns are exceedingly useful when in pots from 3 inches to 6 inches in diameter. In order, however, to have such plants in the best condition they should not be crowded together or be in any way overshadowed by other and larger plants. What is wanted is a symmetrical well-balanced plant not in any case drawn on one side. Again, plants of dense growth are not so desirable on the whole; for instance, a plant of *Adiantum Farleyense* or of *A. cuneatum* when in this condition (the whole of the surface of the soil probably covered with rhizomes) would present too heavy an appear-

ance in many a scheme for decoration. How few grow it when one comes to look round amongst our acquaintances. It is, however, easy of culture, often thriving on poor, sandy soils, where other subjects planted out fail. On carriage drives and in shrubberies amongst shrubs, etc., its feathery plumes show up to advantage. Let it once become established, it needs little trouble beyond an occasional top-dressing of manure in winter.—TOWNSEND.

Primula obconica.—For a light, sunny window or cool greenhouse, *Primula obconica* still maintains its popularity, notwithstanding the objections of a few as to its liability to impart a rash to the skin by contact with the foliage at certain times of the year. It blooms for months together, and its blossoms are useful for making up into coat and dress sprays. Seed should be sown in February in the same manner as one would *Primula sinensis*, growing in cold frames until autumn. So treated plants will give plenty of bloom during the winter. (S. F. D.)

FRUIT.

GRAZING IN ORCHARDS SPRAYED WITH POISONOUS WASHES.

POISONOUS solutions are used on the farm for various purposes, such as the destruction of animal parasites (sheep dips), the prevention and cure of animal diseases (copper sulphate in the treatment of foot rot), the destruction of weeds ("weed killers" and sprays for destroying Charlock), the destruction of insects on plants (fruit-tree "washes"), in the form of poisonous baits for the destruction of injurious insects (scattering poisoned Clover, Lucerne, etc., over fields for the destruction of surface caterpillars). Poisons are also used in other forms, for instance, powder (Hellebore), or vapour (cyanide of potassium fumes). Though cases have been recorded of animals having died through eating Grass contaminated by the dripping of recently-dipped sheep, and it is conceivable that injury might also arise when copper sulphate is employed as a foot dressing without due precaution, yet with ordinary care the poisoning of pasture in this way should be impossible. There is no recorded case, so far as is known, of injury having been caused to live stock by their breaking into fields where the crop has been recently sprayed with a solution of copper sulphate.

"Washes" applied to standard fruit-trees can only, except by accident, get into the system of animals in large quantities, when the ground underneath the trees grows a crop of Grass or other fodder crop on which some of the solution may fall and be eaten with the crop. How much of the solution may reach the ground will depend upon a variety of circumstances, such as the quantity of "wash" applied, the state of foliage, the density of stocking of the trees, etc. These factors are difficult to estimate, but it might appear probable, under certain circumstances, at least, that herbage in orchards treated with arsenious compounds, such as "Paris Green" or "London Purple," might become so poisonous as to be dangerous to live stock, although no case of such poisoning appears to have been recorded. That no evil results would follow this method of destroying orchard pests had been already anticipated, and this had, in fact, been experimentally tested in the United States, where Professor Snow sprayed Clover with an ordinary Paris Green wash and then immediately fed his horse on it without any ill effects.

In view, however, of the great increase in recent years in the practice of "spraying" in this country, the Board of Agriculture considered it desirable to make arrangements with the South-Eastern Agricultural College, Wye, to investigate the matter, and an experiment to test the effect of pasturing stock in an orchard sprayed with an arsenical solution was accordingly carried out during the past season by that college. On May 23rd, 1902, two acres of young fruit-trees were sprayed with Paris Green; not only were the trees thus treated, but the Grass between the trees was also sprayed. The wash used was prepared by mixing 3 lb. of Paris Green (Blundell's paste) and 3 lb. of lime with 600 gallons of water. About 3 lb. of Paris Green was thus sprayed over the two acres, 600 gallons of wash being put upon the trees and ground, which is rather more than would have been normally employed, and considerably more of the wash went on the Grass than would have been the case in an older orchard, or where hand machines were used for young trees. The machine used was a one-horse "Mistifier," which sends out a dense and even spray. The plot was sprayed between 1 p.m. and 4 p.m. on a warm, cloudy, still day, the ground beneath the trees being covered with a good growth of Grass. No special care was taken, and as the wash was mixed on the plot, several concentrated patches resulted where the machine was filled from the mixing receptacle. While the washing was in progress twenty Kent ewes were turned on the land and at once commenced eating the wet Grass. The sheep were examined from day to day. On May 24th all the animals were quite normal, feeding and chewing the cud. On the following day the ewes were again visited, when some of them appeared rather ill, and a few were scour-

ing. On the 26th the only further alteration in their condition was that a few more appeared to scorch. Several sheep, however, in the same orchard, on Grass which had not been sprayed, showed similar symptoms. On all subsequent dates, when visited, the sheep presented quite a normal and healthy appearance. The last examination took place on June 7th, and the sheep were found to be in excellent condition. They were then removed from the treated plot.

The result of this experiment corroborates the observations of practical men and also the results and conclusions derived from similar trials conducted years ago in America—namely, that stock may be kept on land where trees are washed with arsenites.—*Journal of the Board of Agriculture.*

BARK SPLITTING.

RECENTLY MR. G. Woodward, of Barham Court Gardens, whose trees and fruit suffered so terribly from the hailstorm that devastated the district of Wateringbury, Kent, exhibited specimens of shoots or branches cut from trees which showed the effects of the hailstones on the bark in splitting it down vertically. The object of showing these branches was to ascertain how best to deal with such injury. The chief danger in such case is that the severe splitting may lead to canker, seeing that every wound opens up excellent openings for the access of the canker fungus. Mr. Woodward desired to learn how best to deal with the trouble, whether it was best to prune back entirely to sound bark, or to coat over the injured bark with some air-excluding substance. As the branches were passed on to the Royal Horticultural Society's scientific committee, it will be interesting to learn what advice that body may have given. But seeing that all the splitting in the bark was vertical and not transversely, I pointed out that apart from the possible incursion of the spores of the canker fungus, there was little doubt but that nature would soon close up and heal the injuries, because sap flow would not be at all checked. Had the splitting run round the shoots or branches so as to divide the bark entirely and have stopped sap flow, all the shoots might soon die. Mr. Woodward proposed to coat the injured branches with a mixture of cowdung or clay, sulphur paste, and paraffin, which would exclude spores and air, yet not check the production of inner bark growth, leaving the rest to nature. I suggested that it would create special interest in the experiment were some of the trees—they are chiefly bush Apples—cut hard back and some left untouched or undressed. The injury is of an unusual character, but as it may occur to anyone else at any time, the ultimate effect of remedial or other treatment can hardly be made too widely known.

How very diverse is the cause of bark-splitting referred to by a correspondent, on page 420, who shows that his trees have had their bark split on the hot or sunny sides. The injury in this case, there can be no doubt, is due to scorching, the sap in the woody cells being so heated that it burst the cellular tissue, and thus caused the cracking. Where that form of injury is prevalent, although it is so in very few places, it is obvious that some protection should be given to the bark on the sunny side. That could be done by tying some Furze or Fir branches round the stems during hot weather. When visiting Mr. Woodward's fruit-garden last year I noticed a precautionary measure on his part such as I do not remember to have seen elsewhere. He had pieces of Cork-bark fixed close to the front or sunny sides of the main or lower stems of all the wall fruit-trees that faced the sun. He holds that just at that point of the tree where the sap flow is concentrated scald or scorching is apt to take place, leading to the flagging and ultimate death of some branches, and, in time, of the entire tree. In any case, whether that assumption be correct or not, furnishing this stem-protection did present itself to me as a very simple yet practical one. There is another occasion when bark protection is essential, though not from sun-heat, but from frost. It is when Vines that are planted on an outside border are forced into growth inside the house early. Then because all the sap flow from the

roots is centred in these exposed stems it is important they should have protection from frosts until the outer temperature has materially risen. That could be done by winding hay-bands round the stems. Vines early forced, having had their stems frosted, have flagged badly, and at times are severely injured.

A. D.

FIGS.

THE theory set forth in the communication from "H. N. G., Bath," on page 423, seems to me to be very far removed from actual fact. Barren Figs have been known since Bible times, but their barrenness often is the outcome of unsuitable surroundings, climate, or culture. Though your correspondent cultivates one hundred trees under varying conditions he limits his selection of varieties to three—certainly a small one for so large a number of plants. As pointed out in the notes on page 383, there is a fine collection of varieties grown in the Royal Horticultural Society's gardens, and when examining these I could not distinguish between them in their freedom of fruiting. Nor could one fail to be struck with the small size of the pots so many of the plants occupy. Figs may very easily be rendered unfruitful by encouraging luxuriance with unlimited root space. Their very nature is to produce fine foliage, and to get useful crops demands restraint of this untoward vigour. To define Figs that never bear any fruit as males, and those which drop, even in fine weather, as females, seems absurd. Probably all and every kind of Fig known to cultivation would display such traits were the cultural conditions such as to encourage rank growth on the one hand, or a starved state on the other. When restricted in pots there is no plant that calls for more feeding than the Fig, that is, if fruit is the primary object of its growth, and, as is pointed out on page 383, two, and even three, crops may be had during the season, according to their treatment and variety. How, then, can "H. N. G." reconcile his far-fetched theories in the face of such plain truths? It would be well to ascertain in what respect culture has failed to produce mature fruits, and if "H. N. G." will act upon the advice given on the page quoted above, he will in the course of time find that his theories will have misled him.

S.

PLUMS—YOUNG VERSUS OLD TREES.

OBSERVATIONS extending over a lengthened period show the value of young Plum-trees compared with that of old ones. In a hot, dry season, or a dull, sunless one, the young and healthy specimen will mature its fruit, which will be of a good size, while the old and decrepit tree will, at any rate, in the case of some kinds, give that which is only fit for cooking, and not very good for that oven. As I write I have in mind trees that for some years—how many I cannot ascertain—have cropped annually. This season, and for some preceding ones, the fruit has been unsatisfactory as regards size and quality, not as regards extent of crop, for thinning had to be resorted to in order to reduce it to a normal state. Probably, in some of these instances the over-cropping of the trees in their early stages contributed to the loss of vigour. The variety Jefferson is particularly offending in this respect, and though in a young state, and bearing a reasonable crop, the individual fruits of this are large, handsomely coloured, and altogether attractive, yet, when over-loaded, or from an old tree, quality, which is a marked attribute of the kind, is wanting. Well-grown, perfectly ripened, and full-coloured fruits of Jefferson are excellent, but all this can be changed, and, instead, mediocrity follow, if, when the tree is advancing in years, a heavy crop is permitted. Another summer Plum, Kirke's, which is of the highest value and quality, can be just as easily reduced to an almost worthless state. Three years ago, when ordering trees for my own use, I procured some of Jefferson and Kirke's Plums for a neighbouring cottage gardener, and, at the same time, supervised their planting and after-treatment. An early crop was expected, and, what is more pleasant, was realised, the fruit being fine in every way.

When it is remembered that there is abundance of good cooking Plums to be had, and to

retain a tree of a dessert kind whose fruit is only fit for cooking, and so disappoint year by year when its crop is gathered. Trees are not expensive to purchase in these days, for if the means do not allow of the purchase of those which are trained, maidens, which are much cheaper, are available. To the inexperienced, however, the maiden-tree often becomes a stumbling block. It is better to be a little too severe than forbearing when pruning the maiden-tree, as if a good foundation is not laid in the first instance it is not easily brought about afterwards. For this reason, though a little more costly, the trained tree has all-round advantages when placed in the hands of the inexperienced. In the planting of trees it sometimes occurs that blank spaces are available on walls where a young tree may be brought on preparatory to its taking the place of an old one later, and thus while time is in this way saved, a crop, it may be for two or even three years, is secured from the old one. When temporary or permanent planting is done, fresh soil might always be provided, though the change may be made from ground but a few paces away. Good garden soil is strong enough and quite suitable for growing Plums when some lime rubble and burnt earth are added to it. Rich turfy loam may stimulate too vigorous a growth, and the addition of manure would certainly cause this. The late autumn is the best time for moving Plums, and it is advisable in the year after planting not to allow the trees to bear a crop, as in this way the trees become well established for future bearing. An east, west, or south wall suits Plums, and in some cases a north aspect may be utilised to advantage.

W. S.

NOTES AND REPLIES.

Insects on wall trees.—I have a wall garden, with Cherries, Currants, Peaches, Nectarines, Peas, and Plums on the wall. This year I was troubled with insect pests of all kinds. What kind of winter wash do you recommend for use to spray on? I also propose having the walls whitewashed. Would it be advisable to use some insect destroyer with the wash? If so, what? (C. H.)

[A most valuable wash for wall or, indeed, any fruit-trees, to be applied in the winter, consists of caustic soda and commercial potash, in the proportion of 1 lb. of each to 10 gallons of water. Both soon dissolve in boiling water, and it can then be syringed on to the trees whilst hot. If to it be added 1 lb. of soft-soap for each 10 gallons, the liquid is all the more adhesive. You can give such a washing at once, or, at least, so soon as you have pruned the trees. When you do that, collect all prunings and burn them, or otherwise you may still leave near by many clusters of insect eggs. With respect to lime-whiting the walls and trees, that may follow, but we prefer syringing it on thickly rather than using a brush, and adding some clay and sulphur to colour the wash. The hotter that is applied the better. It will peel off in the spring. Use a fine rose to the syringe for the first-named solution, and a coarse one for the latter.]

Replanting viney.—I have rooted out six useless Vines, and intend to put in their place two new Vines, a Peach, a Nectarine, and a Plum, all in barrels. What Vines should be put in to grow with these fruits, and what is the best compost for each? I think of putting in Black Hamburgh Vines, but do not know if the same best will do for these as for the Peach, Nectarine, and Plum.—W. J.

[We do not think you will succeed in the attempt to grow Peaches, Nectarines, and Plums in company with Vines, and the Vines would not long continue to be of service to you restricted to tubs. You do not say, but we presume your house to be a lean-to, having a lofty back wall. In such case you might, if you limited the number of Vines on the roof so that ample light passed between them to the back wall, grow a Peach and Nectarine trained on the wall. We would remind you, in the hands of the inexperienced Plums are uncertain fruits, and therefore advise you to save yourself disappointment. Black Hamburgh is the best all-round Grape to grow; the Peach and Nectarine should be selected to suit your personal requirement—early, mid-season, or late. The best soil for each is a good turfy, calcareous loam, with which are incorporated lime rubble and crushed bones. Should the turf be from poor ground, a little short horse-droppings would be a useful addition. All should be

made firm, whether you use tubs or make a border. The latter course would be much the best, because more lasting, and what is important in the absence of a qualified gardener is the attention needed from day to day. In tubs fruit-trees soon suffer, if they do not hopelessly fail, unless water is given frequently in hot weather, and unless feeding with stimulating liquids is regularly practised. Much of this can be saved if a well constructed border is provided at the outset. Probably your object in adopting tubs is a saving of initial cost, a course we cannot recommend, except, as before mentioned, there is qualified daily attendance. When Vines are grown in an ordinary manner over a roof trellis there is no other-fruit-tree that will succeed in the same house, because of the shade imparted by the overhead Vine foliage. With fewer Vines, and these rigidly trained so that between each there is a clear space for the admission of light and sun, then Peaches and Nectarines may be grown, but even then they would be better on the wall than in pots or tubs. You need not make a full-sized and complete border at once, but make it at the rate of a yard width each year, or every alternate year, which will render

The most they do is to remove much or all of the undergrowth or that which is so near the ground that the fruit cannot be kept clean, a little forebortening sometimes delayed till the fruit is large enough to pick and market, and scarcely any thinning-out being practised. It is the hard pruning that causes the formation of very much more young wood than is desirable, and the market grower's bushes, though large, are never such impenetrable thickets of growth as might perhaps be imagined.—T.

Pears and Plums for walls.—Please tell me of some good Pear and Plum-trees to plant against south wall, Marie Louise excepted? Standard Plum-trees never bear in this garden.—F. R. LLOYD.

[Of Pears, plant Louise Bonne, Josephine de Malines, Doyenné du Comice, and Winter Nelis. Of Plums, if you want cooking kinds, Rivers' Early Prolific, Victoria, and Czar; if dessert kinds, plant Denniston's Superb, Green Gage, and Coe's Golden Drop.]

APPLE AUTUMN PEARMAIN.

This Apple, frequently met with in old orchards in the west of England, is, I consider, one of

about three good shoots next summer. The shoots selected should be long, firm, and straight, be shortened to a length of 12 inches to 15 inches according to their vigour, be cut clean across below the lowest joint, and have all but the three or four uppermost buds cut out and be then firmly dibbled in to a depth of 6 inches.

GARDEN WORK.

Conservatory.—One of the most striking shrubs in the conservatory now is *Luculia gratissima*. It is not often one sees a good specimen in a pot, but plant it out in a bed of turfy loam and peat and the plant thrives amazingly and produces immense trusses of rose-coloured flowers at this season, which continue some time in condition and are pleasantly fragrant. Give it plenty of water during growth, with weak soot-water when flower-heads are forming, and cut rather hard back after blooming. It is not a very easy thing to strike from cuttings, but succeeds better when layered. Cuttings of the young shoots which break away after pruning, taken off with a heel of old wood, inserted in pots of sandy peat under a bell glass, will root in time, but must not be hurried. It is best to keep the cuttings in a moderately cool house, till the bottoms of the cuttings are callused over, and then give a little heat in a close propagating case, but it is very important for the bell-glass to be wiped dry inside every morning, or the condensed moisture will damp off the cuttings. This is important in the case of all cuttings rooted under glass, especially in the confined atmosphere of a bell-glass. One can always gather a few Roses, if free-growing Teas and Noisettes are planted out in the border. Kaiserin Augusta Victoria is producing very fine blossoms now. Safrano is nearly always in bloom, and the buds are very beautiful. Lamarque is a beautiful Rose in a light position under glass. Those who have failed with the Indian Daphnes in pots might plant one of each kind in a good bed of loam and peat or leaf-mould and sand. The bed must be well drained. I have had very charming bushes planted out which filled a large house with fragrance for a long time in winter. They grow very freely planted out, and, of course, produce more flowers. The red variety, *D. rubra*, grows more frooly than the white, though the flowers are not quite so large. Abutilons in variety are very useful winter-flowering plants. These also do better planted out, and trained over arches or otherwise.

Stove.—A well-managed stove is a delightful feature in a garden for those who can bear the moist, warm atmosphere of the tropics. There are times when one has to use more heat and moisture than are necessary for ordinary purposes. A sudden demand may arise for some particular flower and the temperature has to be raised to produce it. There is a great advantage in the possession of a small, close place for such work, and then the ordinary stove may remain at the normal temperature of 60 degs., or a little more at night, whilst the small forcing-house may be run up to 70 degs. or 75 degs. to give a flip to such things as Lily of the Valley, Tuberoses, Gardenias, etc. Many things, such as Caladiums, Achimenes, and Gloxinias, will now be resting or approaching that stage. Caladiums must remain in the warmth, but Gloxinias and Achimenes, if kept dry, will do in a lower temperature. The summer-flowering climbers, such as Allamandas and Bougainvilleas, will be kept drier at the roots, but though these are now flowerless there are other climbers in bloom now, including the scarlet *Passiflora princeps*. *Hoya carnososa* often flowers in winter. *Jasminum gracillimum* is seldom altogether flowerless where it thrives. I have seen *Hexacentris Mysorensis* prettily in flower at this season, and *Ipomoea Horsfallii* is very bright just now, and the old *Begonia fuchsoides*, planted out in a light position, will flower all the winter. The brightest plant in the stove, if planted out and permitted to ramble, is *Euphorbia jacquiniiflora*. This is often a poor, staggling thing in a pot, but plant it out in a light position and give it freedom, and it is a different thing altogether.

Rose-house.—Where Roses are planted out and either trained over the roof or grown



Apple Autumn Pearmain. From a fruit sent by Miss Solomon, Central Avenue, Covent Garden.

the work more easy, and the results, with proper attention, more certain.]

Canker in Apple-trees.—I enclose two cuttings from a Lane's Prince Albert Apple, about four years old. Finding some trees very much in the condition of enclosed, and being ignorant of the cause, etc., I am anxious for some information. Trees were planted early last March, and were clean and healthy-looking. This season's growth looks all right, but in some places springs from branches showing a slightly similar condition as enclosed. Your opinion and advice would be a favour to—ANADON'S ONE.

[Your trees are evidently suffering from canker caused by the roots getting down into a wet, cold subsoil. Open a trench round the tree, sever the deep-going roots, then refill the trench with some good fibrous loam, and place over the roots a dressing of manure.]

Pruning Gooseberries.—Early pruning is a mistake where birds are known to be troublesome, removing a considerable portion of the young wood rendering the clearance of buds on the rest of the bush easy and certain. In all such cases pruning should be delayed either till the most critical period, this being when the buds are just moving, is past, or even a little later. Market growers do not prune nearly so hard as most private growers, and they usually obtain heavier crops accordingly.

the best late dessert Apples in cultivation. It is of fine quality and handsome appearance. Like the majority of late dessert Apples, a warm soil is needed to bring out its highest qualities. It does well either as a bush or orchard standard, but the leading shoots must be shortened sufficiently in the earlier stages of the tree's growth, or the growth will be rambling. T.

Pruning Black Currants.—Thinning out and freshening are principally what have to be done, the fruit being borne on the young wood formed the summer previous. In order to keep the bushes well within bounds, cut back the straggling outside and leading branches to better placed inner shoots, and then thin out the remainder of the young shoots so as to have them thinly distributed all over the bush. Quite young bushes should be freely cut back for at least two winter prunings, this being the surest way of laying a good foundation. Always keep the centres a little thin. Cuttings made now from young wood and inserted not less than 6 inches apart in rows laid asunder on an outside border will most probably all strike root and form

as bushes, the lights should be taken off in July to ripen the wood, and anyone building houses for Roses, if he means to plant them in beds, should have movable lights. If the plants are grown in pots they can be moved into the open, plunged in ashes, and left for a time to rest and recuperate. There are some advantages in having the plants in pots, as the house can be used for another purpose from the first of July to October—time enough to take a crop of Tomatoes if it is necessary to make the most of things. Then, again, if the plants are grown in pots, the beds in November may be filled with leaves and the plants partially, if not wholly, plunged in the leaf-bed. This little bit of genial root-warmth adds immensely to the vigour of the plant and the consequent size and number of the blossoms, and there is less trouble with insects and mildew. I need hardly say that everything about the Rose house should be clean. Mildew spores and insect eggs may remain in and about the house, and before the roses are brought back the woodwork and walls should be thoroughly cleaned. Of course, the vaporiser will make short work of the green-fly, but a strong effort should be made to clear out every trace of mildew.

Forcing Strawberries.—It is of no use attempting to force these very early unless the crowns are well developed and ripened, and the pots full of roots. A low pit furnished with a bed of fermenting leaves, with a night temperature of 50 degs. to begin with, is an excellent starting place for Strawberries at this or any other season. Be careful with the water-pot at the beginning, or there may be leaf-growth too much in advance of the blossoms. Ventilate to meet the rise of temperature, and fertilise daily with camel's-hair-brush or the rabbit's-tail when the blossoms open, and thin to a dozen fruits when enough has been set.

Window gardening.—Keep Cactuses and other succulents dry during winter. Fine-foliaged plants, such as Ferns, Palms, and Aspidistras, will require less water, still, when water is necessary, a thorough soaking must be given. When a plant has been allowed to get too dry submerge it in a pail for a time till the air bubbles cease to rise. Bulbs coming on must be kept moist.

Outdoor garden.—There has been a wonderful autumn bloom of Tea Roses. Dr. Grill, La France, and the Hybrid Teas have been very fine. Good drainage is very important for Roses, especially for Teas, as it helps the maturation of the growth, and consequently by hardening the plants makes them less susceptible to injury from a low temperature. There is more in this matter of drainage and its hardening effect upon Tea Roses than what is generally thought. Of course, when the drainage is perfect there must be a considerable depth of good soil, or the plants may suffer from drought. If we get severe weather, as a precautionary measure dwarf trees may be earthed up a little, say, 4 inches or 5 inches. If the tops get badly frozen they will break very strongly from the bottom. An inch of good loam will be a great help to beds of Carnations recently planted in checking the lifting power of the frost. Many plants die from disturbance by frost rupturing the roots. Box edgings may be replanted when the weather is suitable, and if Moss-grown or weedy walks are turned over and well rolled down a neat and tidy appearance will be secured at a comparatively small cost. Box edgings are not so much used now in town gardens. Staffordshire tiles are more lasting. Those who appreciate the picturesque may use rough, hard stones, and plant dwarf, creeping plants inside, to grow over and partially cover them. All alpine plants or other hardy plants in pots should be plunged to the rim in ashes, and, if possible, covered with old lights.

Fruit garden.—The autumn is the best time to lift Vine roots and re-make the borders. The work is too heavy to do it before it is necessary, but when there is a falling off in the produce of the Vines it is time to see what is wrong with the roots, and the bold course is generally the best. Those who have had much to do with Vines under glass do not hesitate to lift the roots and re-make the borders when its necessity becomes evident. Vines are hardy, long-suffering plants and a

recover from any little injury done to the roots during renovating operations. If the borders are wide, they need not be all made at once. Six feet of good soil is enough to start with. Any land that will grow good Wheat and Beans will grow good fruit, but for Vine borders take the top 6 inches from a sheep pasture. This alone when in a mellow condition will grow good Grapes, but, to obtain the best results, add $\frac{1}{2}$ cwt. of bone-meal and a couple of bushels of old plaster to each cartload. Anything in the nature of chemicals can be given later if one believes in them, and they are useful at times. When pruning Vines, select a few of the cuttings and lay them in for propagating. It is well to keep heavy rains off Strawberries in pots, but they must not be permitted to suffer from drought.

Vegetable garden.—Make up Mushroom-beds from time to time as vacancies occur in the house. Keep all the spaces filled and there will not be much fire heat required, as the warmth of the beds will be sufficient to keep up the requisite temperature. Open air-beds are still bearing freely. Waterproof covering must be used now, and, when any bed requires water, give it warm and fortify it with a little salt occasionally, with a little nitrate of soda or other stimulant as a change. Clear up the rubbish yard, and convert all cuttings, hedge trimmings, etc., into manure by smother burning. Make this heap as large as possible by adding lumps of clay to the fire, or anything that will smoulder or decay. There is plenty of leaves and other material for making up hot-beds for forcing Rhubarb, Seakale, and Asparagus, or making up light beds for Lettuces, Radishes, etc. Early Potatoes may soon be started in boxes or in single pots for turning out on hot-beds by-and-by. For good and early crops we find nothing superior to Duke of York. All we know who have grown it give it a good name as a forer and for planting outside. For early planting, sets should be placed crown upwards in shallow trays or boxes, and stood in a light position safe from frost. Sow a few Tomato seeds of a good early kind thinly in shallow boxes on a shelf in warm-house. E. HOBDAV.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

December 8th.—As soon as the wall trees are pruned and trained they are thoroughly washed with a solution of soft soap and paraffin oil. The offspring of the flies are concealed either on the wood or in the wall, and a thorough washing will get rid of a good many. One of the walls which has been broken about with much knocking in of nails will be pointed and washed over with lime and sulphur.

December 9th.—Looked over late Grapes to remove bad berries. There are no plants in this house, nor will be until the Grapes are cut, and the inside borders are covered with dry litter to keep down and check evaporation. Pulled up the largest of the Turnips and laid the roots in trenches deep enough to cover the bulbs, the foliage being exposed. This is the best way to store Turnips in winter.

December 10th.—The fruit store is often looked over to remove decaying specimens. The best late Pears have been carefully placed in drawers and shallow boxes, and kept dark. Potted a few Tuberoses for early blooming. Others will be potted in succession, and as Tuberosa blossoms are wanted they will soon be placed in heat. A few of the earliest and best prepared shrubs in pots have been placed in heat for forcing into blossom.

December 11th.—Lawns are rolled after rain, when the turf is soft. A mossy or weedy walk is turfed over, the gravel raked into position, the surface trodden, and then rolled down firmly. Sometimes it may be necessary to add a sprinkling of fresh gravel before or during the rolling. Globe Artichokes have been covered with litter and a light covering of soil placed over the litter to keep it in position. The Globe Artichoke is not perfectly hardy in this country.

December 12th.—Bulbs and forcing shrubs are being gradually moved forward to bloom in the conservatory. Good strong roots of the

Bleeding Heart (*Diclytra*, to use its old name), if well established in pots, will bloom without much forcing. It is not every plant that will stand forcing, but this will if established. Rhododendrons in bud may now be potted up, kept cool for the present, and then grown on in heat for conservatory.

December 13th.—Moss-litter manure has been used freely as a mulch among herbaceous plants, bulbs, etc. Potato clamps have been covered with long litter to keep out frost. Sets for planting are being placed in shallow boxes, early kinds only at present. We are still finding new positions for Roses, especially climbers that will take of the stiffness of the place. Started a few dozen Royal Sovereign Strawberry in a gentle heat for early crop.

LAW AND CUSTOM.

Entry to repair fence.—A fence of Oak paling belonging to the owner of garden No. 1 separates garden No. 1 from garden No. 2, and has been in its present position over 22 years. When the fence was made garden No. 2 was a grass field, and since that time the fence has been repaired when necessary by its owner, who entered upon the field for this purpose when he found it necessary to do so. The fence now requires repair, and such repair cannot be executed without entering garden No. 2. Is the owner of No. 1 the right to enter upon garden No. 2 for this purpose, entering that garden from a side passage at a reasonable hour of the day, and without seeking permission so to do? If an action of trespass were brought by the owner of garden No. 2, in what court would the action be tried?—*ALBION.*

[Upon the facts stated it would almost seem that a right of entry for the purpose of repair when repair is necessary must be presumed to have been granted to the owner of garden No. 1. But it does not follow that, although repairs are necessary, the entrance must be from an extraneous entrance to garden No. 2. Generally speaking, entry from garden No. 1 will be quite feasible either over or through the fence in question, and indeed it is quite possible that the repairs are capable of being executed without entry upon garden No. 2. In that event I think the owner or occupier of garden No. 2 might bring an action of trespass against the owner of No. 1, and such action would ordinarily be tried in the county court. The owner of No. 1 should not attempt to enter No. 2 unless such entry is absolutely necessary. It would not be a defence to urge that it would inconvenience him to do the work from his own garden.—K. C. T.]

The Ground Game Act.—Farmers and the trapping of rabbits.—Can a shooting tenant stop the occupier of the land from trapping rabbits when the occupier has the permission of his landlord to trap rabbits where, when, and how he chooses?—*SOMERSET.*

[The Ground Game Act of 1881 gives an occupier of land the right to kill and take rabbits on such land, and no matter whether the rabbits are or are not reserved to the landlord or his shooting tenant, or whether the occupier has or has not permission from his landlord to kill rabbits, he may kill rabbits if he chooses, and no one can prevent him. He may kill them by shooting, trapping, ferreting, coursing, netting, or in almost any way possible except by poisoning; but as to trapping, he may set traps in rabbit holes only, he may not set traps in open ground. When the occupier possesses only the rights given him by the Ground Game Act, and apart from that Act has no right to the rabbits (as if the right to the rabbits is expressly reserved to the landlord in the agreement of tenancy), he may kill and take ground game—that is, hares and rabbits—only by himself, by the members of his household resident on the land in his occupation, by persons employed by him in his ordinary service on the land, and by one other person (such as a professional rabbit-catcher) *bona fide* employed for reward in the taking of ground game. And the occupier must give each person who kills ground game for him a written authority so to do. Further, only the occupier himself and one other person may kill ground game with firearms, and that other person must be specially authorised in writing by the occupier to kill ground game with firearms. Now I rather imagine from your question that you wish to kill rabbits in some way not permitted by the Ground Game Act, as, for instance, by setting traps in open ground by a number of people not members of your household or ordinarily employed by you on the land, and if this be the case and you want

further advice on this matter, you must say exactly what you want to do, and what it is the sporting tenant objects to. I may as well add that, while the rights given the occupier by the Ground Game Act are indefeasible—that is to say, he cannot be deprived of such rights by any agreement or stipulation—they are not absolute; they are concurrent—that is to say, they exist or run together with the rights possessed by any other person, and so both you and the shooting tenant may have and exercise the right to kill and take rabbits and hares.—K. C. T.]

CORRESPONDENCE.

Questions.—Queries and answers are inserted in Gardening if change of correspondence follows these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF GARDENING, 17, Furnival-street, Holborn, London, E.C. Letters on business should be sent to the PUBLISHERS. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Rose Baltimore Belle (W. B.).—This Rose is not much grown in England, but in America it has a good reputation. It is best grown as a climber, having it unpruned, simply allowing it to grow in its own way. The flowers are pale blue, variegated carmine, rose, and white. They are very double, produced in clusters, and when well established it is a mass of bloom.

English Iris from seed (F. B. C.).—Sow the seeds in sandy loam, covering the seed about a quarter of an inch. Make the surface level and firm, and on this spread some sand, and then sow the seed. It will not germinate till next spring. See that the soil does not get too wet or the seeds will decay. If you have only a few seeds, you could sow them in a pot or pan, covering this with a sheet of glass, and standing in the greenhouse or in a cold-frame.

Slug-infested soil (Acad.).—Slugs are found to be most about the bases of walls and it will be a good plan if you fork away several inches of soil from near the walls, and dress thickly with fresh slaked lime, then replace the soil. Your best remedy, when they are out feeding in the evening, is to dust the crops freely with fresh lime and soil, as that soon kills the pests. Leave your Roses as they are until March, and then cut down as your friend advises you.

Moss on lawn (P. Kilmoch).—In the early spring tear up the Moss with a long-toothed rake, doing this at twice, allowing a week to intervene. In the early part of March dress the ground with good loam, some rotten manure, and wood-ashes, with about one-sixth part of lime; then sow with a mixture of good Grass seed, not that from a hay-loft. You will not be able to use the lawn for tennis till late in the season; in fact, it would be better to cease playing tennis on it for a season.

Forcing bulbs (P. O. B.).—Where bulbs have been potted late, and flowers are wanted as early as possible, there is always a temptation to place them in heat earlier than one ought to do, and so, instead of good spikes of flowers resulting, only indifferent blossoms appear. Last time cannot be made up, as several weeks should elapse from the time of potting to the period when the bulbs are brought into heat, so that roots may have well formed, and it is therefore much better to have good late flowers than weakly early ones.—LEARNER.

Rose Marechal Niel in greenhouse (W. D.).—It will be advisable to keep the plant on the dry side until new growths are about an inch long, then you may give the border a good soaking of water. The cooler you can keep the plant now the better; but when new growths appear from the long canes you must be very careful as to ventilation, so that no cold draughts which would chill the plant are caused. Very little pinching is needed beyond retaining the unripened ends of the long rods and shortening back the lateral growths to two or three eyes from the main stems.

Heuchera seedlings (Wentzger).—It were better had the young plants been picked out some time back into other beds snugly at a short distance apart. This indeed, may be done now, keeping the loam in a frame for the winter, and planting out in March. If you now prick out or transplant into shallow boxes, say 2 inches apart, you will in spring be able to plant the seedlings in groups or in a bed to prove them. By doing what is suggested, you will be enabled to transfer the young plants with small lots of roots, and so gain materially to point of time and size of plant. In the transplanting a dozen may be arranged over an area of, say, 2½ feet, and thus form a showy group. The flowers are nearly bell-shaped and about ½ inch in length, numerous disposed on stems 2 feet high or more. The colour ranges from white and pink to brilliant scarlet.

Telopea speciosissima (R. G. Stone).—This should be sown in about two parts of peat to one of loam,

and rather less than one part of sand. In the case of a 6-inch pot put the crocks to about one-third of its height, and fill with the prepared soil. On this sow the seeds, and cover with about a quarter of an inch of the same compost, place in a shady part of the intermediate-house or the warmest part of the greenhouse, and keep watered. When the young plants come up and form two or three leaves beside the cotyledons, pot them singly into small pots, using the same compost. The Waratah is essentially a greenhouse plant, but it may be placed outside during the summer. You will, in all probability, have to wait some years for this to bloom; indeed, as far as our knowledge extends, it has only flowered two or three times in this country.

Cilanthus Dampieri (W. C. Storey).—This is a very difficult plant to grow in a satisfactory manner. The seed should be sown singly in small pots in a mixture of equal parts of loam and peat, with half a part of sand. The reason of sowing singly in small pots is that the roots are so impatient of being disturbed that if sown together and potted off afterwards most of them would be likely to die. If you have plenty of seed, a good plan is to sow two or three in each pot, and directly the plants are sufficiently advanced to detect the most vigorous, pull out the others, and leave the best in sole possession. A genial, yet airy greenhouse is the best place for this Cilanthus, and as soon as the young plants are sufficiently advanced they should be shifted into pots 4½ inches or 5 inches in diameter. Much the same soil, except that a rather less amount of sand is needed, will suit them well. As the plants grow they may, if necessary, be shifted into 6-inch pots, or they can be flowered in 5-inch ones. As the pots get full of roots a little weak liquid-manure will be of service. The flowers are so beautiful as to well repay any little extra trouble taken in the cultivation of this Cilanthus.

Rose plants infested with mildew (Elic).—An excellent recipe for the cure of this troublesome fungus is as follows: 2 lb. sulphur, 2 lb. sulphate of soda, 4 gallons of water, boil for three hours; add pint of paraffin when left off boiling. To use: A small thumb-potful to 2½ gallons of water. Apply with a good syringe. This would not be of much use during the resting season; but you should prepare some another spring in readiness to apply as soon as the fungus manifests itself. Lime and soot sprinkled over the beds would do no harm to the small plants if applied in moderation, and it would be of much value to the herbaceous border. Before dressing the Rose-beds remove about ½ inch of the surface soil and burn it, then apply again to the beds, taking care to turn at same time any mildewed growths which are usually found at the base from a mode of growth of some varieties, such as Mme. G. Luize, Her Majesty, etc. We are gradually obtaining a mildew-proof race of Roses, and additions to their number will be warmly welcomed by Rose lovers.

Plants for beds (A. B. C. D.).—For the centre bed B we would suggest a margin of yellow Crocus, filling the centre with Tulip Yellow Prince, and freely planting a Tuffed Pansy on the surface. In the side beds, C and D, you could plant white Tuffed Pansies, with scarlet Tulips; while in border A white Crocuses may be planted, with Aubrietia or the double white Arabis. In place of the Tulipa Anemone corollaria will make a most showy bed and flower well. These are also very cheap by the 100, and may be planted 6 inches apart and 4 inches deep. In summer you have the option of many annuals, such as Iberis or Candytuft, Dianthus, Antennaria, Stocks, Zinnias, Mignone, etc., or Ivy Felagoulums, or Verbenaas potted down, or tuberoses Begonias in a mixture, single kinds being especially good for bedding. These last are well suited for late planting, and for flowering alter the other things named. Any good soil, with manure added and deeply dug, will grow these things quite well. You should have no difficulty in growing the Rose Crispus Rambler. It requires a deep rich soil, and should be planted against a wall with south-west aspect or trained to a tall stake or support. The variety should be grown on freely, and when long rods are formed allow these to flower without pruning.

Lilium longiflorum the second year (Bury).—Whenever this Lily may be treated, you cannot expect it to flower as well the second year as the first. The greatest measure of success is obtained in landing the plants out-of-doors in a sunny spot after the blossoms are past. They must be watered when necessary till about the middle of September for even earlier, when many of them will show signs of going to rest. After this no more water will be needed, and as the stems die down turn them out of the pots, remove as much soil from the bulbs as you possibly can without injuring the roots, and repot. After this they may be stood in a sheltered spot out-of-doors or in a cold-frame. This latter is the better, as the lights help to keep off heavy rain, and water must be sparingly given till the roots are again active. Later on the plants may be shifted into the greenhouse. Many cultivators obtain a fresh supply each year, and plant out the old bulbs after flowering in the herbaceous border, in the foreground of shrub or similar spots. In the case of your plants you had better see that the drainage is right, clear away some of the surface soil, and add some good rich material, standing them on a shelf in the greenhouse.

Propagating Pinks (R. G. Stone).—The propagation of the Pink is effected in a variety of ways, each and all having their advocates. Perhaps the most common way is by taking cuttings, or what are more generally known as pipings, striking these in pots of fine sandy soil. Others adopt the more rough-and-ready, though not so satisfactory, plan of dividing old clumps into tiny tufts and planting these out in well-prepared beds where they are to flower. These separate portions do not take quickly from the base, and produce a good many blooms the following season. The best plants are had by simply layering in the same way as Carnations. A little extra time and care are needed, as the old clumps are somewhat dense and need thinning out, so as to allow of the fine leafy, woolly soil being worked in and the knife used. Some who require only a few plants place soil round the old clumps and layer only from the edges. Stems having several healthy growths on are selected, and thus fine stocky plants are secured for early autumn transplanting. Layering is best done when the plants are two years old, before the growths become crowded, and the stems are flowering the north wall is the best, and it is

imperative that plenty of coarse sand or road-grit be mixed with the compost. Early propagation is very important, so that the plants be set out in the autumn, and thus get established before the winter.

TREES AND SHRUBS.

The Holly-fly (Mrs. Hodson).—Your Holly is attacked by the grubs of the Holly-fly (Phytomyza aquifolium). It is a very difficult pest to deal with, as no insecticide can be made to reach the grubs, safely enounced as they are between the skins of the leaves, which are very hard and stiff, and the transformations of the insect are all underground within the leaf. The flies lay their eggs under the skin of the leaves in May or June. If the exact time of the appearance of the flies could be found out, it might be possible to prevent them from laying their eggs by spraying the leaves with paraffin emulsion, taking care to spray both sides. The leaves would have to be kept under the influence of the wash for several days. The only other remedy is picking off the infested leaves and burning them, which would be almost as difficult to accomplish as the spraying.

FRUIT.

Keeping Nuts (North Wales).—Thoroughly dry the Nuts, then store them in large earthenware or stone jars with lids, and on top of the Nuts put 3 inches of sand or Cocoa-fibre, and keep the jars in a cool cellar. In this way we have seen Nuts kept till they come in again.

A winter wash for fruit-trees (R. D. O'Brien).—For making a small quantity dissolve ½ lb. of caustic soda in a gallon of water, then add ½ lb. of commercial potash (pearlash), stir well, then mix both, adding enough water to make 5 gallons of solution. Apply to the branches and stems of the trees with a syringe or engine when the trees are dormant.

American blight on Apple-trees (T. M. B.).—Your trees are attacked by this pest, for which paraffin is the best cure. Put at the rate of 1 pint of paraffin to 3 gallons of water, thoroughly agitating it with a syringe for a few minutes previous to applying it, one man continuing to do this, while another man syringes the trees with the mixture. The following summer treat the trees in the same way when the leaves have fallen. As a preventive have the trees syringed every autumn with a similar mixture. Those whose Apple-trees are infested with this very injurious pest should syringe them at once with a similar mixture.

Diseased Grapes (S.).—Your Grape sample, as sent, presents a pitiable aspect. Beyond shanking, as seen in the withered stems, the berries are largely failing to mature and ripen. It is evident the root-action is at fault. Your border has, no doubt, become damp and sour, especially if, as you say, over-saturated with a leakage of water. That should be stopped. Then the surface of the border should be carefully forked off, roots lifted, the bottom soil drily broken up, and have wood-ashes and lime refuse freely worked into it; then the roots relaid, using about them some fresh soil, and adding lime-rubbish or wood-ashes to the top soil.

VEGETABLES.

Forcing Seakale (Mama).—You ought to have put some of the crowns into a large pot or box. If in pots you should invert another of the same size over the one in which the roots are planted. You should have then placed in a temperature of from 55 degs. to 60 degs. to 11 in hours they should be deep enough for the roots to stand upright, and there should be sufficient depth for the roots to grow to its full length before it reaches the lid of the box. Keep up a succession by introducing into heat a few crowns as may be necessary.

Seed Potatoes (Subscriber, Kerry).—As you do not say how many Potatoes for seed you obtained for 1s. 3d., we are unable to judge whether your price was high or low. But few seedmen could select all tubers of one size unless an extra price was paid for the sample. They have to purchase their stocks from the growers just as lifted, and they must sell. Your best course will be to set all the tubers in boxes, as you proposed, keep them in ample light and air, but from frost during the winter; then when planting time comes, cut the large tubers into about 3-ounce pieces. Lay those out thinly, and well dust with slaked lime to dry off the cut surface. Do that two days before planting. As to the very small and put two together. Of course, they are really too small for good seed, but if you need not be wasted. Puritan Potatoes should be planted in rows 2½ feet apart, and 12 inches apart in the rows. Some Potatoes give relatively few small tubers for seed, the general stock being of large size.

Application of gas-lime (Gynno).—Gas-lime is not a manure. It acts as a swardener or purifier of sour soil; it kills moulds of fungus, such, for instance, as produces club in Cabbages; and it destroys grub, wireworm, and other insect life. If you think insects, grubs, or eggs are wintering in the soil about your fruit-trees, a dressing of the lime, 1 lb. to the square yard, well broken up and allowed to lie two or three weeks before being forked in, may do good. But as your trees have been recently root-pruned, allowed in May with a coating of half-decayed manure as a summer mulch and to wash in. You can apply gas-lime at once to any vacant ground. If it is sour or needs some agency to destroy lungoid or insect life. If not, then it will do no good. A proper dressing is at the rate of 2 bushels to 3 rods of ground, allowed to lie for a month, well pulverised, then dug in. It does not help poor ground, which would be helped by a manure dressing. Apply superphosphate and kainit (potash), and dig it in, at the rate of 6 lb. per rod, in January, and 3 lb. per rod of sulphate ammonia after the crop has made partial growth.

SHORT REPLIES.

Maldstone.—1. You had better wait until the trees get established. 2. The two stocks are one and the same thing. The Doucin, however, has somewhat darker wood. —R. G. Stone.—Kindly give us the size of your garden, and also the nature of the soil, and then we can better advise you. —Acad.—Leave your Roses alone till March, and let them ripen as you suggest. —J. S. H.—In such a position you cannot get any flowering plant to succeed, as the wood will never be ripened sufficiently. The only plants you can use are some of the strong-growing trees,

which you must fasten to the wall to start them, or Ampelopsis Veitchi, which is self-clinging.—A. J. O.—See reply to "W. J." re "Replanting viney," p. 530.

M. A. H.—The *Desfontainia* is not grafted on the Privet. This plant will not grow away from the warmer sea-shore gardens. If you could send us a piece of each plant, then we would be better able to help you.—E. O. B.—See next dealing with the subject in our issue of Nov. 23, p. 512.

P. M.—Merely cut off the flowers and stand on a shelf in the greenhouse for the winter, increasing by cuttings in the spring, and potting on those you already have.—H. H. Birch.—Wait in both cases till the spring. Plant out your *Chrysanthemum* early in May.—E. Rains.—See reply to your query, which was answered in our issue of Oct. 4, p. 418.

Miz.—There is no weed-killer that you can use. See that the weeds are cut off below the collar, and then top-dress the lawn with some rich soil to help the Grass.—*Nottingham.*—Very difficult to assign any reason without further particulars as to soil, etc.—F. S. Brown.—Today's "Villa Gardening," from this office, post free for 6s. 6d.—E. H. Smart.—Plant the *Gladiolus* and *Hyacinthus* candidates at the end of next March or early in April, and get in the others at once. Leave the *Hyacinthus* in the ground. They will all do in any good garden soil.—*Prior.*—Plant out your early-flowering *Chrysanthemum* early in May. You will find a list of the best sorts in our issue of Oct. 18, p. 423.

Mrs. sooner you can plant your *Roses* the better.—P. L. Benson.—We hope to deal with the best kinds in a coming issue.—*Dainton.*—You will find a note as to relaying Box in our issue of Oct. 11, p. 425.

NAMES OF PLANTS AND FRUITS.

*. Any communications respecting plants or fruits sent to names should always accompany the parcel, which should be addressed to the EDITOR of GARDENING ILLUSTRATED, 17, FURNIVAL-STREET, HOLBORN, LONDON, E.C. A number should also be firmly affixed to each specimen of flowers or fruit sent for naming. No more than four kinds of fruits or flowers for naming should be sent at one time.

Names of plants.—*Red Lily.*—Your plant is the Snake-plant (*Arum Dracunculoides*), from South America. You cannot change the plant in any way.—*Anous.*—1, *Adiantum gracillimum*; 2, *A. Farleyense*; 3, *Hydrothamnium elegans*.—R. C. C.—*Variiegated New Zealand Flax* (*Phormium tenax variegatum*).—J. M.—*Impatiens Nilitai*. The house is too cold, as this Balsam wants a stove. Keep it in the stove and propagate from cuttings next spring.—*Bury.*—*Salvia Heeri*.—*Philip.*—One of the many forms of the Crown Aneone (*A. coronaria*).—G. Jotcs.—1, *Aconitum*; 2, *Abutilon*; 3, *Aurone* of the common Oak; 4, *Adiantum Capillus-Veneris*.—E. S. W.—*Aster cordifolius elegans*.—*Maise.*—1, *Aparagus decumbens*, easily increased by division in the spring; 2, *Centaurea ragusina*.

Names of fruits.—T. *Burroughes.*—1, Hunt, Lane's Prince Albert; 2, Cripp, Yorkshire Greening.—*Alfred Salt.*—1, Three fruits sent to be small Emperor Alexander, the other two are different; 2, Rymer, M. M. Everard, 1, Yorkshire Greening; 2, *Yorkshire Seedling*; 3, *Spencer*, insufficient; 4, *Waltham Abbey Seedling*. As we have so often said, it is very difficult to name fruit when only one specimen is sent. See our rules.—E. C. T.—*Duchesse d'Angouleme*.—*Hertfordshire.*—1, Winter Hawthornden; 2, Not recognised.—H. K. A.—1, Red Hawthornden; 2, *Beauty of Hants*.—*Hope K. Birke.*—1 and 2, Not recognised; 3, Autumn Pearmain; 4, Small Mere de Menage. It is very difficult to determine names when only one specimen of each is sent.

Catalogues received.—Wood and Ingram, Hinton-Ington.—*Special Revised Catalogue of Nursery Stock.*—The Horticultural Company, 1, Beale-Hill, Cheshire.—*List of Seeds and Plants for 1903.*—F. Bower, Quedlinburg.—*Special Trade Offer of Extra Choice Flower Seeds and Nurseries for 1903.*

Request to readers of "Gardening."—*Readers, both amateur and in the trade, will kindly remember that we are always very glad to see interesting specimens of plants or flowers to illustrate, if they will kindly send them to our office in as good a state as possible.*

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No. 1,240.—VOL. XXIV.

Founded by W. Robinson, Author of "The English Flower Garden."

DECEMBER 13, 1902.

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PLANTS AND FLOWERS.

CHRYSANTHEMUMS.

LARGE CHRYSANTHEMUMS.

TO THE EDITOR OF "GARDENING ILLUSTRATED."

SIR,—A good many of your readers will, I think, agree with Mr. Millington in his criticism of Chrysanthemum shows, in spite of the protest it raised last week. I have before me now a batch of catalogues of new varieties. Almost all belong to the Japanese class. "Immense bloom," "very large flower," "a monster," "very popular, being a large flower," "9 inches across," "large, handsome flower," and "white, rivaling Mme. Carot in size," are descriptions of the high-priced novelties. Every amateur knows full well from past experience how miserably so many of these will fail to please when he grows them—how he will turn with disgust from looking upon their two or three lanky stems and their, as likely as not, coarse, uninteresting blooms 3 feet and more above the pot, to rest his eyes upon the profusion of Petite Amie, Phidius, Framfield Beauty, Purity, and Mary Anderson that have not been grown for the shows. Growers raise to sell; they sell to live. They must raise what exhibitors, who are their best customers, know the shows require of them. Effort in every direction but in the race for big Japanese blooms is discouraged by the practice of the shows. Colour and form are sacrificed on the altar of size. Let me illustrate what I mean by a reference to the November Aquarium Show. Among the multitudes of Japanese blooms there was not one good crimson to be seen. Though yellows were staged by the score there was not a shade among them we had not been accustomed to for years. The eye was wearied with the monotony. I recollect well seeing Hooper Pearson for the first time at the Aquarium a few years since. It stood in the trade exhibit of a prominent raiser. To judge by the remarks of the visitors it was one of the delights of the show. At the recent exhibition it was represented by, I believe, one bloom. Exhibitors cannot afford to grow it, it lacks the all-important qualification of size. One might multiply illustrations from the Japanese class of this stiling of effort towards development of colour and form by the practice of the shows.

To pass to the Anemones. Is it not, to put it mildly, a matter for regret that the committee of the premier show of the world should give no encouragement to the development of these exquisite flowers? They can lavish money upon their big Japanese, but for the Anemones they can offer but a paltry sum, with the result that the exhibit in this class is gradually becoming insignificant, and progress is at a standstill. Much the same may be said of the singles. The exhibit in this class was very disappointing. Those who grow them in quantity will bear me out that they offer many possibilities for an effective display. The Aquarium could not avail themselves of any of them. The exhibit was a sorry and

was the qualification for the prize. I visited the small hall late in the day. There in "dim religious light" the specimens in pots were shown. If anywhere, it is in this class some attempt might be made to encourage the love of the beautiful. And what was the show? A collection of antiquated varieties tied and staked to look as unnatural as possible—as unlike the things of beauty pot-plants should be, as skill and ingenuity could make them. But these monstrosities were awarded the prizes. It was a flower show, and one felt a relief to turn to the Carrots and Onions.

There are signs that Chrysanthemum societies are passing through a period of financial difficulties, and this is not to be wondered at. The public are a little satiated with the monotony of the shows. People want to see more change in these annual displays. People who love the beautiful in nature want evidence of taste. People who care for none of these things want a little more variety for their shillings. The Chrysanthemum is without a rival among our cultivated plants; the possibilities it holds out to the raiser who will but study it seriously are endless. He can give us for our conservatoria dwarf plants covered with bloom. He can give us for our tables cut-flowers that will charm the eye with colour and form. He can give us for our shows such a display as will rival the gardens of summer for variety. He can, but he does not. He is bound down to the routine of the Medes and Persians of our societies. C. A. GRIFF.

CHRYSANTHEMUMS—NEW EARLY-FLOWERING VARIETIES.

(REPLY TO "NOVEMBER.")

SEVERAL of the varieties mentioned in your list can scarcely be regarded as early varieties, and the list herewith embraces the best of those added to the early-flowering section during the last two seasons. We have given a preference to varieties which are free-flowering and also branching in their style of growth, although by so doing we may be including some varieties known to develop rather larger flowers than the majority of sorts.

HURACE MARTIN.—This, a sport from the well-known Mme. Marie Masse, is rich yellow in colour. In growth the plant is ideal, and also free-flowering. Each flower having a long flower-stalk adds very materially to its value. Height 3 feet; in flower from August till October.

RYECROFT PINK.—The colour of this is a beautiful and telling shade of bright pink. It is of sturdy habit, height about 2 feet. Period of flowering mid-September to mid-October.

LEONARD PÉTO.—But for the appearance of Horece Martin, this variety would have elicited the highest praise. As, however, it is quite distinct from the variety just referred to, its inclusion in this list is justified. The colour is a clear, bright, and effective yellow, and the habit is very bushy, and the flowers are developed in the greatest profusion. Height 3 feet, in flower during September and early October.

ROSE YVON.—This, one of the newer sorts,

develops charming blossoms of a pleasing shade of flesh-pink, and is a welcome break from the lilac and mauve shades of colour which at one time prevailed. The flowers may be regarded as pure self-coloured. Height about 2 feet. Period of flowering September and later.

GOACHER'S CRIMSON.—This variety should be grown for its colour, which is rich, bright crimson, with a golden-bronze reverse. The flowers are large, and each one is borne on a long, stout, erect footstalk, which should add materially to their value, either for cutting or for border culture. Height not so branching as in most others, yet distinctly good. Height about 3 feet. In flower September and October.

CHATEAU ST. VICTOR.—This variety is not so much a novelty as are the others described here. The colour is a bright amaranth, and the plant, which has a nice bushy habit and is about 3 feet 6 inches in height, makes a fine display throughout September and early October.

ORANGE MANSE.—Although not quite so early-flowering as one could wish, this makes a very large and handsome bush, and is literally covered with charming flowers of a rich apricot colour, tipped orange. When grown without disbudbing from terminal buds, the sprays of bloom are invaluable for decoration. Height 4 feet. Period of flowering October. The name may lead some growers to suppose this variety is a sport from Mme. Marie Masse or its sports, but this is not the case. Naming the plant in this way is very misleading.

DORIS PÉTO.—A distinct gain to the pure white early kinds. This plant develops flowers equal in form to those of Mychett White, and in so far as regards constitution is quite on a par with Market White, which has always been highly thought of in this respect. Throughout September and October this plant, which is less than 3 feet high, is seen at its best.

NORBERT PROKEZ.—Although introduced about twelve years ago, this variety must still be looked upon as a novelty. The plant was first sight of for many years, and has only recently been found again. Truly it is a beautiful flower, the colour being a rich golden-salmon, and the blooms are large. Height just under 3 feet. In flower late September and October.

CRIMSON MARIE MANSE.—This is another sport from Mme. Marie Masse, and the colour when the blooms are first opened is a fine chestnut. As the flowers age they pass to a deep bronze colour. In every other respect the plant is identical with the parent variety.

IRENE HUNT.—This plant bears a profusion of lovely chestnut and gold blossoms, having rather long and twisted florets. To be seen at its best this plant should be slightly disbudded. Height about 3½ feet. In flower September.

Mons. Louis LINNET.—Another one of the older sorts, which may still be looked upon as a novelty. The bushy plant bears a profusion of charming blossoms of a flesh-pink colour. Height 3 feet. Period of flowering September.

C. A. G.

Chrysanthemums with an open centre (*J. R. H.*).—Your experience is quite common with beginners, and need not discourage you in the least. Several reasons could be given why the blooms of your Chrysanthemums have failed to develop. One of the chief reasons why Chrysanthemum blooms open with an eye is want of good culture, and this is why so many novices fail in this particular. A beginner cannot be expected to know much during his first season as a cultivator, but practical experience, supplemented by information gathered from journals devoted to gardening, generally will give indefinitely better results in the second season. Your plants very probably are Japanese varieties of somewhat difficult culture, and to succeed with plants of this description, a long season of steady growth is absolutely essential. For this reason, therefore, commence to propagate by inserting nice healthy cuttings as soon as they can be obtained. The earliest days of December should answer your purpose admirably. First procure some good loam of somewhat light texture, and equally good decayed leaf soil. Take of these

ROSES.

OLD-FASHIONED CLIMBING ROSES.

KINDLY give me a list of the real old-fashioned Roses Cluster and others, which are now becoming rare?—*MADAME LAGONIER.*

[Now-a-days it is all the rage to plant Rambler Roses, but who would not desire some of the old Noisettes which give us of their beauty in the late autumn as well as in June? Growers for sale find it almost impossible to maintain large collections of Roses, for it does not pay to grow what does not sell. Therefore, it would appear that we are in danger of losing many old Roses if these Ramblers are to take their place. It is true some of the best of the old favourites are still to be obtained, for instance, the delightful Aimé Vibert, which will give its snowy blossoms even in November. But how we miss such as Desprez à fleurs jaune, a beautiful mixture of red, buff and yellow, and as hardy and sweet as it is good. Lamarque, being somewhat tender, is perhaps overshadowed by Mme. Alfred Carrière, but the latter, splendid as it is, does not compare with Lamarque in

raised by Ducher in 1879, and if it is not identical with Cooling's Yellow Noisette, it certainly bears a very close resemblance to it. Many other old Noisettes I can recall, such as Caroline Furniess, Jeanne d'Arc, La Biète, Mme. Massot, Miss Glegg, Triomphe de Rennes, etc., all of which seem to be fast disappearing. The last is really too good to lose, but it is capricious, and is, perhaps, more fitted for greenhouse culture than outdoors. I am sorry to see these old Roses disappearing, for they made the walls bright with blossom in the autumn months when so many individuals are at their country homes. It is true we have a host of Teas and Noisettes to take their place, but they somehow lack the profuse blossoming of these older Noisettes. Before I leave the Teas and Noisettes I would remind planters that they need not fear being able to obtain some really good wall Roses in the recent additions to these groups, and although one is rather loth to lose old acquaintances, yet if there are others that are improvements, then we should be thankful for them. All who plant such as Climbing Kaiserin Augustus Victoria, Billiard and Barré, Noëlle Nabou-



Root of Giant Lily (*L. giganteum*), showing the offsets.

two soils equal proportions, and pass through a sieve having a $\frac{1}{4}$ -inch mesh. Add very liberally coarse silver sand, and mix the whole heap in a thorough manner. Use thumb-pots, and insert the cuttings singly in these, pressing the soil firmly around the base of each cutting. Stand the pots in a frame or glass-covered box, watering in the cuttings previously. The small frame or box should be stood on the greenhouse bench, and the temperature kept at about 45 degs. When rooted, remove the young plants to the greenhouse shelf and keep them growing sturdily. Repot as needed, and give the plants hardy and consistent treatment until housing time in the autumn.

Chrysanthemum Dorothy Pywell.

—This is a refined and handsome Japanese bloom, and is quite free from that coarseness which characterises some of the newer introductions. I recently saw about 150 plants of this superb variety, each plant carrying three or four large and handsome blooms. The colour may be described as ivory white, and the florets, which are long and fairly broad, build up a bloom of considerable depth. The height of this plant is about 6 feet. Any amateur can grow the plant well.—*E. C.*

shapeliness of bud. Solferino, when given a sunny wall, is not only most rampant in growth but flowers freely. Ophirio is certainly not to be compared with William Allen Richardson, but yet it ought to have a place for its reddish copper-coloured quaintly-formed blossoms. Earl of Eldon was a good wall Rose, and in its day considered of great merit. Even within the last ten years this Rose has, by crossing, given us a very beautiful variety named Beaute Inconstante, for I am informed by M. Pernet-Ducher that he was fortunate enough to cross a seedling of Earl of Eldon and Mme. Falcot, which resulted as I have already pointed out. That Beaute Inconstante will play a conspicuous part in stamping its unique colouring upon many future novelties seems very certain. Fortune's Yellow, sometimes known as Beauty of Glazenwood, has certainly been saved from oblivion by some few individuals, who have planted this fine Rose under glass and exhibited its blossoms at the spring shows. It is without doubt one of the most remarkable climbers we possess, but must have a dry, sunny position, preferably under glass. We often find an old Rose resemble a new comer. I have one in mind now. I refer to Joseph Bernachi-

and, Fanny Stolwerek, Mme. Jules Siegfried, Francoise Crousse, the last a very brilliant Rose and highly commended, Dr. Rouges, etc., will not regret so doing.

We used to grow a grand Rose, named Belle de Bordeaux. If it was somewhat deficient in brightness, it was extremely hardy. Another excellent half climber was Sombriuel. Of course, this is still obtainable, and I would commend it for its snowy blossoms, which are freely produced in autumn. Unless it be for lofty walls I think we miss a grand opportunity in not planting the strong-growing Tea Roses usually grouped with the dwarf section. I refer to Marie Van Houtte, Anna Ollivier, and such like, not forgetting Souvenir d'un Ami, of which Dean Holo says he once had on a wall a specimen 7 feet high, in which a thrush built her nest.

Perhaps I may be allowed to refer to one or two really good old climbers that every one should make an attempt to obtain. First, there is the old Double Yellow or Yellow Provence. I know there are readers of GARDENING who succeed well with this erratic Rose. I wish they would tell us how they manage it. I have seen the specimen at Burghley House, and the late Mr. Gilbert even gave me some

buds. but beyond the first year I could not succeed with it. Is it a chalky soil this Rose requires? It is such a wonderful yellow that it is worth trying to grow even if failure follows. Can Blairii No. 2, the common Blush China, the old Crimson China, and others of this class be surpassed when treated well?

and not to be compared with the lovely violet-scented double white. Old Roses worth retaining are Bourbon Cadicalle, and also Gloire des Rosomanes. Finally, I would commend La France de '89 to all who desire a large, profuse blooming Rose for moderate wall. This Rose, although not old, is gaining favour in spite of its name. When looked up to, its huge blossoms appear like so many rosy-crimson Paonies.—ROSA.]

Rose La France late in November in Notts.—I beg to forward photograph of a bed of La France taken last Friday. As a proof of the mild weather, I thought you might find it of interest.—J. BRYKOWSKI HOLZ, Nov. 27, 1902. [The blooms shown are well formed and numerous.—Ed.]

OUTDOOR PLANTS.

LILIUM GIGANTEUM.

A COLONY of this Lily, with six or more bulbs in flower, as in our illustration, forms as stately and unique a garden picture as can be conceived. Such a display, however, must not be looked for during the first season or two after planting; but when the bulbs are well established and throwing up their lofty flower-spikes, the grower is amply repaid for waiting. The bed should be formed, by choice, in a sheltered situation, where deciduous trees, at a little distance, throw a partial shade and intercept rough winds, and should be fully 3 feet in depth. Decayed vegetable matter and fibrous loam form the most desirable compost, while an annual top-dressing of well-rotted hot-bed manure and leaf-mould adds to the vigour of the plants. If so-called "flowering" bulbs are procured, and they happen to bloom the year after planting, their flower spikes rarely exceed from 4 feet to 6 feet in height; whereas,

if, as is most probable, their blooming season is delayed, they attain a far greater stature, often exceeding 10 feet or 11 feet in height. In purchasing bulbs for such a bed as described it is well to refrain from procuring those of the largest size, for the reason set forth above. From one to two dozen small to medium-sized bulbs will produce a grand effect when fully established,

as they will be before they throw up their flower-spikes. The flowering bulbs when they die, as they invariably do after blossoming, will be found to have produced offsets (see illustration on opposite page), which, if lifted and replanted, will, in the course of four years or so, themselves bloom, and the bed, being thus filled with bulbs of varying size, will annually contain flowering specimens.

Lilium giganteum is seen in but few gardens, and, in those in which it occurs, it is often represented by but one or two flowering plants, the effect of which is not to be compared to that produced by half-a-dozen or more stately flower-spikes, ranging from 8 feet to 10 feet in height, standing in close proximity. The long, ivory-white blossoms, stained with purple in the interior, ten to twenty of which are often borne on a single flower-head, emit a delicious vanilla perfume.

RAISING FROM SEED.—Our experience with the seed of Lilium giganteum is that not more than 10 per cent., and frequently less, can be expected to germinate, and, when one

considers the large quantity yielded by a single plant, this represents a goodly number. The seeds may be sown in pans in a mixture of loam, peat, and sand. They should be covered with about a quarter of an inch of fino soil, and placed in the greenhouse or in a garden frame. Bottom-heat is not at all necessary for them; in fact, they are better without it, as it tends to weaken the young plants. The seed may be expected to germinate in the spring, and when the seedlings are large enough to handle they should be pricked off into other pans or boxes, using the same kind of soil. The following season they can be planted out in a sheltered spot, and care must be taken that they do not suffer from drought during the summer. In the raising of this Lily from seeds a considerable amount of patience is necessary, as the young plants will take seven or eight years to attain flowering size.

THE BELLADONNA LILY (AMARYLLIS BELLADONNA).

THIS may not be a success too far north, but where it does succeed it is most useful from the early part of September to well nigh the end of October. Owing to the precarious summer I was unable to cut until the middle of the former month this year, while in some seasons flowers have been ready by the first Monday in August. Even in the west the warmest position must be chosen for it, and where the bulbs can be planted within 6 inches of a wall and no roots of tree or even shrubs to trespass anywhere near, and the aspect pretty much south, I find them most satisfactory. It resents too much interference with, and will go on for several years with very little aid in the way of manure or fresh soil, though no doubt could a little loam and bone-meal be given each year better results would follow. In my case, a row of Anemones is planted about 6 inches in front of the Belladonna, so that unless the latter shows signs of deteriorating no assistance



Lilium giganteum in an Irish garden. From a photograph by Miss Sophie M. Wallace, Ardnamore, Lough Eske, Co. Donegal.

Some of the old-fashioned Hybrid Chinese, such as Charles Lawson, Coupe d'Hebe, &c., hardly come under our review, as they are really pillar Roses. Albeit, they are splendid for wooden fences, where good, hardy kinds are desired. But here, again, the H.P.'s have superseded them for even this purpose.

I do not imagine there is any danger of the Ayrshire and Sempervirens Roses falling into oblivion. I find them as much sought after to-day as ever they were. Of course I do not mean all the kinds. Among these tribes there are several that resemble each other too closely. It is not collections we want but selections. So that if we plant Raga, Dundee Rambler, Bennet's Seedling, Alice Gray, and Queen of the Belgians, we have as many of the first-named tribe as can possibly be required, and Felicité-Perpetue, Flora, and Myriantbes renoncule are the best of the Sempervirens group.

Of the Multiflora group, the Seven Sisters seems to be difficult to obtain. I believe the De la Grifferaie is as near as possible a replica of this old Rose. Lanré Davoust is pretty, but surpassed by Euphrosyno. Mme. d'Arblay is very rampant, and altogether a good Rose for wild garden or pillar. The Prairie Roses are not in much request in this country, neither do I think we miss anything by their absence. The Banksian Roses, white and yellow, are still popular, but require to be either planted under glass or given a warm wall. Planters should be on the alert against a spurious thorny wooded kind often sold for the white Banksian. It is really Fortuniana,



Part of group of Lilium giganteum. From a photograph sent by Mrs. H. Peters, Bill Hill, Wokingham.

in the form of fresh soil is afforded. Where it is considered necessary, early in the month of December I find is a good time to assist them just as new growth commences, and if thought necessary to take them up and plant them in the same soil as soon as they

pass out of flower. Anemones were planted in front to flower early, which they do, especially fulgens, when very little foliage has been made by the Belladonna, but later in the spring it smothered the former, and, of course, to its disadvantage, as it cannot ripen properly, though it blooms better than one would expect under such adverse circumstances. Another good plant to put in front of the Belladonnas is *Zephyranthes candida* (the Peruvian Swamp Lily), recently figured in these pages. The flowers are pure white, borne singly, and at their best early in September. I planted it in this position on account of its Grass-like foliage, which to some extent compensates for the absence of the Belladonna foliage, which is its only drawback when grown in any prominent position. When the foliage begins to fall in early summer it should be allowed to ripen off thoroughly before removing it.

In arranging the spikes a little foliage of *Clivia* sets off the flowers nicely if about a dozen are set up in a large vase. During summer, when in growth and the weather hot and dry, frequent waterings should be given, and again as soon as the spikes begin to push up, as it is often dusty at the foot of a south wall, even should rain fall every week or so. If the bulbs have been several years planted, a little weak manure-water occasionally would prove beneficial. Of late years an improved form of this noble Lily has cropped up, which intending planters would do well to secure.

EAST DEVON.

HERBACEOUS LOBELIAS.

EXCEPT in a few favoured districts these Lobelias will not survive our winters outdoors, and must be lifted and stored in a greenhouse until the return of spring, when they may again be placed where required to blossom. If not already lifted, the matter should be no longer delayed, and a convenient way of doing it is to place the roots, after relieving them of surplus soil, close together in boxes, filling in the interstices with light compost afterwards, giving the boxes a shake now and again to make sure there are no hollow spaces left. An excellent place to keep them through the winter is on an airy shelf in a cold greenhouse. Here they will keep in capital condition and free from their greatest enemy, damp, and in spring they can be split up, if it is desired to increase the stock, or they may remain intact till planting time arrives. The greatest favourites are *L. cardinalis*, *L. c. Firefly*, and *L. fulgens* Queen Victoria, a distinguishing feature of the last being its glossy deep bronze foliage. *L. Queen Victoria* has brilliant vermilion flowers, and grows to a height of from 3 feet to 4 feet. The colour of the flowers of the first two named sorts is bright scarlet, and they grow to the same height. There are also several other varieties, such as *L. f. Gerardii*, rosy-violet; *L. f. Rivoirei*, rosy-scarlet; *L. sylvatica*, pale blue. Among the newer varieties deserving of mention are *Carmine Gem*, bright carmine; *Distinction*, crimson, shaded with purple; *Jupiter*, rose-purple; and *Lord Ardilaun*, crimson-scarlet.

Established plants may be bought, or a stock can be raised from seed of the better known and more popular sorts, which should be sown in heat early in the new year. These seedlings make nice plants and flower the first year, but it is in the second season that the plants make a full display and attain their proper height. Mixed with the white Japanese Anemone in a bed, or planted in clumps of nine to twelve midway between the back and front of herbaceous borders, they create a brilliant and dazzling effect, and flower at a time when this particular colour is none too plentiful.

A. W.

THE MIXED BORDER BEAUTIFUL.

TO THE EDITOR OF "GARDENING ILLUSTRATED."

SIR,—The letter of "L. D. L.," in your issue of Nov. 29, very strongly commends itself to me, and the writer has my sympathy. I, too, am a lover of the mixed border beautiful, but the numerous paragraphs I have met with, advocating "colour schemes," have had as depressing an effect upon me as constant blotches of one colour in the same spot in a border would have.

I think them right. I have some fairly large beds in Grass, which in spring are delightful with the rich gold of *Forsythia suspansa*, the bright reds and pinks of *Ribes sanguineum* and *Cydonias*, which later give place to glorious groups of white Madonna Lilies, and I find the change altogether charming. Then, again, with a large group of various Brooms—white, yellow, etc.—when their blooming is over, the bed glows with Tiger Lilies, and, later still, is aflame with Tritomas. I have also a large herbaceous border which is edged with Daffodils, Mrs. Sinkins Pink, and Montbretias. In spring this edging is gay throughout its entire length with the yellow of the Daffodils; later, I get the fragrant white of countless Pinks, and, later still, the orange-red and yellow of the Montbretias.

I have not striven for the "constant colour scheme," yet I find few jarring notes between either of these edgings and the varied colours of the larger plants deeper in the border. I may be wrong, but it seems to me the effects I get are the lovelier because my colours move about, so to speak. Nothing would weary me more than to look from my windows and always see the same splash of colour in one spot. The gorgeous colourings of my Azalea beds are no whit less beautiful because they are followed by the white of *Lilium longiflorum*; *L. speciosum* Kratzeri, etc., and, later still, by the purple of the *Menziesia polifolia* edgings. The flowers of the field grow where they may, and who is so bold as to say such natural grouping is wrong?

I think if we paid more attention to the artistic grouping of flowers and flowering shrubs in fine form, without the endless striving for one range of colour in one spot throughout a season, gardeners would do better. Of course, no one with an atom of taste would argue that such violent contrasts as brilliant blues and vivid scarlets planted together are correct or agreeable, but there is a medium course, and the wise man will strive to follow it. One may do worse than take a few ideas from the skies, and emulate them in their ever-varying colour effects.

B. W. A.

NOTES AND REPLIES.

Carnations failing.—Finding border Carnations went off badly last winter, I am anxious to make another start. The soil is a medium loam. Would a good dressing of marl or clay improve it? I mean to follow the bed this winter and plant in the spring.—H. M. P.

[Your best plan will be to have the border trenched, adding as the work goes on a liberal dressing of well-rotted manure, a little mortar rubbish, and some road-scrappings. A little bone-dust may be added at the same time. Perhaps the cause of the plants going off was wireworm. If this be the case you ought to dress the ground with gas-liquid.]

Top-dressing lawn.—Would dressing advised for golf-green answer for lawn, in issue of Nov. 29, p. 518? The lawn is in fair condition now, and has previously, I am told, been dressed with horse manure. It is not very fine Grass, and here and there wiry, coarse stems make rampant growth, as do Dandelions. One part, where, probably, soil is shallow, gets brown in summer. Would cow-manure do good on this part.—M. SMITH.

[You ought to dig out the rough Grass and also the Dandelions, filling up the spaces with fine soil. Then top-dress the whole of the lawn with the mixture recommended for the golf green. The part which gets brown you ought to take the turf off and dig up, well incorporating some good manure and relaying the turf. Top-dress this part as well. You could in the spring lightly top-dress again and sow some good Grass-seed.]

The Barren Strawberry (*Wahlsteinia trifolia*).—This seems to succeed in almost any kind of soil and situation. It is suitable for planting at the extreme edge of herbaceous borders and in front of the rock-garden, as in such positions its bright yellow flowers are seen to the greatest advantage. The plants should be set out in groups of not less than five or seven, when they quickly spread. On a south border it comes into flower at the end of May, and ten days later on one having a western aspect. There is another variety named *W. geoides*, but the above is, in my opinion, by far the prettier of the two.—A. W.

Echeverias in winter.—These plants, frequently seen as edgings to flower-beds in summer, are not so tender as many people imagine, and anyone who has had a cold frame

under a wall sheltered from the east will be able to winter them, provided in exceptionally severe weather some little extra covering is afforded by placing mats over the lights. I often see them in greenhouses occupying places where other things perhaps more useful might be found room for. *Echeverias* do not want heat, but simply keeping from frost and damp, and for years I wintered them in cold-frames in boxes filled with sand, withholding water entirely. A cool, dry potting-shed will answer the purpose.—LEARNSTON.

The New Zealand Flax (*Phormium tenax*).—Can any of your readers inform me if they find this plant succeed with them in the open air? I have a lot of young plants that stood fully exposed through the past two winters and have grown into handsome plants. I do not suppose if they will withstand any very severe frosts, as we have not had any such to try their hardiness. From their fine, leathery leaves, one would suppose that they would stand a rather low temperature.—JAMES CLAY, Glasgow.

[In warm gardens in the south and west of England and Ireland this does very well in the open air, given a light, deep soil. The variegated variety is also pleasing in the open air in warm situations in the south of England and Ireland, and, in any case, it will do out-of-doors in the summer. There used to be a plant in the R.H.S. Gardens, Obiswick in a border against a wall facing north, which stood several winters. In the same border were also several Camellias which flowered freely every spring.]

Tree-leaves.—It is a matter for surprise that so few persons who have gardens, and especially grow pot plants or flowers in borders or beds, should not collect at this time of year leaves that have fallen from trees, as these, when in due time well decayed, form most valuable manure or potting soil. There are many opportunities to secure these leaves, where trees overhang roads. With a couple of boards, 18 inches by 6 inches each, one in each hand, and a wheelbarrow, or a box or basket on wheels, it is possible to collect, in the course of a couple of weeks, quite a large heap, making with them a square but not too deep stack. It is a good plan to mix with the leaves horse-droppings from the roads, and then, in making up the heap, to dust freely with soot and well moisten with house-slops. Also well soak the heap from time to time with this liquid. If the heap can be turned once in two months, it will greatly help it to decay.—A. D.

Watering Violets in frames in winter.—It is no uncommon thing to see a question as to watering Violets in winter in garden papers. This is more easily asked than answered, especially when no information is given as to the conditions under which they are growing. Those who frequent gardens know how varied is the culture of this favourite flower. At the close of September and early in October I visited several gardens over a wide area. In one place in Kent I found in a good garden some Melon-pits had just been filled with both double and single Violets. These pits faced south with a sharp pitch, and on asking my friend regarding the behaviour of the big-long-leaved single kinds, he said he reduced the leafage when the plants were put into the pits, and they were a great success. A few days after I saw in another well-known garden in Hampshire many garden frames filled with double kinds. These were partly filled with soil, bringing the foliage up to the glass. These were placed in the front of some vineries where the roots were inside. In both of these cases it would be advisable to water the Violets through the winter. I adopt a different treatment. I have some shallow garden frames that are used on leaf-beds for *Gloxinias*, etc., during summer. During October these are prepared by putting soil over the leaves. Towards the close of that month the plants are lifted from their summer quarters with big bells (preserving all young roots), placing them in these frames, and bringing the foliage close up to the glass. I never allow the lights to remain on the Violets till I am obliged to, this retarding them, and also keeping the leafage hard and damp-proof. This year the lights were not put on till November 12th. What makes Violets damp in many instances is shutting them up during the autumn. During the time the lights are kept off the Violet plants receive all rain, and should there be no rain through waterings are given to wet the surface of soil. During the past three

winters no water has been given them during the last six weeks of the old year and the first eight weeks in the New Year. The situation is low end damp.—J. CROOK.

WHITE CACTUS DAHLIAS.

WHITE in any flower is a colour raisers are always ambitious to obtain, and it is a shade usually the most difficult to get in conjunction with other qualities. The first really good variety was

KEYNE'S WHITE, still cultivated largely, but at best uncertain.

GREEN'S WHITE came with a great flourish. This, after a season, was discarded—at least, for exhibition. It has a free-flowering and good habit of growth, whilst the colour of the flower

National Dahlia Society, and an award of merit from the Royal Horticultural Society.

H. S.

INDOOR PLANTS.

CHINESE PRIMULAS.

VERY common now at autumn flower shows are classes for both single and double Chinese Primulas. But a few days since I was interested to see at the Sutton (Surrey) show a class for seed-raised semi-doubles, and there were some half-a-dozen collections of six plants each shown. Generally, the specimens were capital, but most of the competitors exhibited one variety only, the most favoured being white and carmine. Seeing that such beautiful

been some five months in bloom. The plants are dropped into rather larger pots, fine, sharp soil put round them, then the side growths neatly notched, and layered into it. When well rooted these are cut off, potted singly, and grown on near the glass until, in either 6-inch or 7-inch pots, they in due course become superb specimens. A. D.

NOTES AND REPLIES.

Perpetual-flowering Carnations.—Please give me names and colours of twelve good Carnations to grow in pots under glass? I want perpetual-flowering sorts, or those that will give longest period of flowering, and prolific bloomers. How old will the plants be before they commence to flower?—OLD SUBSCRIBER.

[You will find the following dozen varieties free-flowering: Winter Cheer, a brilliant



Cactus Dahlia Albion. From a flower exhibited by Messrs. Burrell & Co., Cambridge.

is good. This for garden decoration still has its uses.

LORD ROBERTS.—This variety is by far the most elegant and true Cactus-like sort we have. In growth it is excellent. The stem is good, although the blooms are somewhat pendent. The flowers are not pure white. There is room, therefore, for improvement.

EVA is a new variety with pure white blossoms, and if it is as good in the hands of others as exhibited by the raiser it will be welcome.

ALBION.—This (see illustration), raised by Messrs. Burrell and Co., Howe House Nurseries, Cambridge, is, I think, the choicest new white variety yet seen. The flower is pure white, the centre slightly creamy-white. It has very long, elegantly-formed florets, and being of good habit and carrying the flowers on stiff stems, will be very useful in the garden. It received a first-class certificate from the

varieties of the semi-double type can thus be raised from seed, such a class merits all possible encouragement. At Kingston we have classes for both double and for single Primulas, but the former are to be real doubles, and, of course, propagated plants. Of both classes at the recent show the plants taking first prizes were remarkably good. It has always been to me matter for wonder that the best doubles I see at any show invariably come from Leatherhead. It does not follow that the air of that district gives growers special advantages. What is probable is that all have well learned the secret of culture. Where plants measure from leaf to leaf some 18 inches, and the heads of bloom are as relatively broad and massive, without being in the least drawn, it is evident that the cultivation of double Primulas is well understood. Propagation usually takes place towards the end of February, after the plants have

scarlet with a shade of crimson; Reginald Godfrey, rich salmon-pink, a large flower of good shape, a strong grower, and sturdy habit; Flora Hill, one of the best whites and sweetly scented, as well as free-flowering; William Robinson, a rich scarlet of fine form; Mrs. Leopold de Rothschild, a beautiful salmon-pink flower; Exmouth Gem, a salmon-blush, blooms freely, and the plant has a good constitution; La Neige, a pure white, not so large as some but very free. Christmas Cheer is good, with rich salmon flowers freely produced; Mary Godfrey is a grand white, and the plant very sturdy; Deutsche Brant is a very pure white fragrant flower; Mrs. Thos. W. Lawson, of American origin, has a fine pink flower of good size, and the plant vigorous and free-flowering; Yule-tide is a rich glowing scarlet of fine form and substance, and the plant very free. The plants will be in full bloom in nine months after putting in the cuttings. If taken off with

heel attached from the lowering growths of plants early in January, morely removing a little of the under Grass and placing half-a-dozen cuttings around the side of a 3-inch pot filled with light sandy soil. Place under a bell or hand-light in a temperature of 70 degs., with a little bottom-heat, and shade from the sun. In three or four weeks they should be fit to place singly in the same sized pot, keeping in the same temperature and near the glass roof until April, when stand in a cold-frame. Repot when necessary, and pinch out the point of the shoot soon after potting off the first time, and again when established in the pots they are to flower in—namely, 5½ inches and 6½ inches in diameter. Cuttings can also be put in during October and treated similarly as above. These would make larger plants, having twelve months to build up the growths instead of nine as before mentioned.]

Hardy plants in pots.—Many hardy plants that are of particular service in the borders in spring and early summer may be used to advantage in the greenhouse by potting them in October, and after they have become established bringing them into gentle heat. For such a purpose one thinks of Spiræas, Campanulas, Dielytras, Forget-me-nots, Doronicums, and Irises. I think we are disposed to overlook altogether plants of a hardy nature when potting bulbs, etc., and that is the reason why in many houses in spring, apart from bulbs, there is a want of variety; but this may be remedied by planting into pots in autumn some of those mentioned.—W. F. D.

Growing Cyclamen.—I should be glad if you or one of your readers could give me some information with regard to growing Persian Cyclamen? My corms, which are two years old, were re-potted in the early autumn, when they began to make leaf, in a compost five parts peat, four parts loam, three parts leaf-mould, and some sand and old mortar-rubbish, and are standing in an airy greenhouse on ashes about 2 feet from the glass; temperature from 55 degs. to 60 degs., but sinking last week during the cold nights to 50 degs. The house is well ventilated every day when the weather is mild. The leaves, however, are coming small and weak, and flowers small, many of them dying off before even advanced enough to show colour. My plants have not been allowed to get dry, but have, if anything, been kept rather damp. Should they be given liquid-manure or weak, diluted guano as soon as they begin to root? I see plants in shops full of sturdy leaves and large flowers. I had the same experience with the same corms last year, having a fair number of flower buds, about half of which developed into small flowers, and the other half withered away. Any information will much oblige.—C. L.

[This plant requires very careful watering as soon as the flower buds appear; it should not be allowed to touch the buds from the end of September onwards, and the plants require all the light it is possible to give them. Shelves within 1 foot of the glass roof are the best position for this plant until the flowers are well up among the foliage, when they may be removed to the staging, and even there the plant should be raised on a flower-pot so that air can play around it. In potting Cyclamens, the corms ought to be kept well up, so that the crown of the corm stands clear of the soil, and, if this is the fault with yours, remove a little of the soil with a label, and keep the plants a trifle drier at the root. Plants with plenty of roots working down around the sides of the pot are benefited by an occasional dose of manure-water, not strong, say, twice a week; weak guano-water is suitable for a change. Examine the centre of the plants every few days this time of year, removing at once any decaying matter, or it soon contaminates flower buds, also the young leaves. Cyclamens do not require peat when you have good fibrous loam and good leaf-mould, the two latter in about equal parts, the loam predominating, if anything, adding a 6-inch pouf of bone-meal to every bushel of soil, using plenty of coarse silver-sand to keep the whole porous. The temperature appears about right, though during cold nights the plants would take no harm if the thermometer fell to 40 degs., but, as before said, the plant dislikes a stuffy atmosphere when once the flowers begin to push up, and the finest specimens are to be found growing where plenty of fresh air on every favourable occasion can play around them. Sometimes the tiny small yellow thrips will attack these plants and cause the flower buds to shrivel; fumigating once a fortnight with N.V. vaporising compound will generally clear them.]

GARDEN PESTS AND FRIENDS.

THE MARGUERITE DAISY-FLY (PHYTOMYZA AFFINIS).

I HAVE been very much troubled with the leaf-mining grub during this season; Chrysanthemums, Cinerarias, and Marguerites alike have suffered. I shall be very much obliged if you will give me a description of the fly which produces this grub? Does it lay its eggs during the winter months, or only in summer? Does the grub become a perfect fly during winter, under glass I mean? I am sure the history of this pest will be welcomed by your readers in this district at the present time.—J. T. B., Bolton.

[The leaves of various plants belonging to the natural order Compositæ, or Daisy-like plants, particularly those of Marguerite Daisies, Chrysanthemums, and Cinerarias, are often much injured by the grubs of this destructive fly, which burrow into the leaves and feed on their inner substance. When many leaves are attacked in this way the plants are not only rendered unsightly, but suffer in health very considerably by so many of their leaves having been rendered useless. The attacks of these grubs may at once be recognised by portions of the leaves losing their colour and appearing blistered. In the figure the darker parts of the leaves are those which the grubs have not yet reached, and the oval blisters show the



Fig. 1. Marguerite Daisy-fly (*Phytomyza affinis*): 2, grub of; 3, chrysalis of (all magnified); 4, leaf mined by grub.

positions of the grubs, and the small black dots their droppings. The most certain method of destroying this insect is to go carefully over the plants as soon as it is noticed that they are attacked, and pick off any leaves which are so badly infested as to be rendered useless; these should immediately be burned. In the other leaves the grubs may be killed by pinching them firmly at the place where the grubs are. By placing the plant towards the light so that you can look through the leaves, the position of the grubs will be easily seen. When the grubs are very young their position can only be detected by a small, greenish, transparent spot, about 1-10 inch in diameter, in which is the grub, and running a needle through the leaf at this point would probably kill the grub. When plants which have been infested are cut down after flowering, the parts cut off should be burnt, and not thrown on to the rubbish-heap, for if any of the grubs are full grown they will undergo their transformations just as if the plant were still growing. Various washes have been recommended, but it is very questionable if they are of any practical value, for if used of sufficient strength to kill the grubs, through the skin of the leaf, they would probably injure the sound leaves. The fly usually makes its appearance in the spring, and lays its eggs on the undersides of the leaves, probably just under the skin. The grubs attain their full

size in the course of a fortnight or three weeks. They then work their heads through the skin of the leaf, and become chrysalides, from which the flies emerge in due course. If the grub did not make provision in this way for the escape of the fly into the open air as soon as it leaves the chrysalis, it would not be able to make its way out of the leaf. There are several broods of this insect during the summer, so that it is very important to kill as many of the grubs of the first brood as possible. The Marguerite Daisy-fly is a small insect, about 1-10 inch in length, and measures not quite a ¼ inch across the wings. The general colour of the fly is blackish-brown, but the head between the eyes, which are red, is paler, and so are the edges of each joint of the body—the knees. The head and body are sparingly covered with stiff black hairs. The grubs are of a pale, transparent green colour, and when full grown are about 1-10 inch in length. They have no legs. The chrysalides are about the same length as the grubs, but are somewhat stouter. The joints are very well defined.]

Paraffin emulsion (F. W.).—There are various recipes for making paraffin emulsion which vary in their proportions, according to the purposes to which they are going to be put. Some plants will not bear such a strong dose of paraffin as others, some resent too much soap, so that no hard-and-fast rule can be laid down in the matter. The recipe in most general use is that known as "Cook's." Dissolve 1 quart of soft-soap in 2 quarts of boiling water, while hot add 1 pint of paraffin-oil, and mix the two together till an emulsion is formed by stirring or working it through a syringe for five or ten minutes, when an emulsion should be perfect. Dilute this with ten times its volume of water, more or less according to circumstances.—G. S. S.

Common gnat (Blozham).—The insects you forwarded are specimens of the females of one of our common gnats. The bite of these insects, as you say, is very irritating. It is a curious fact that it is only the female gnats that bite and suck blood. The mouths of the males are so formed that they cannot pierce the human skin. Several kinds of male moths have practically no mouths at all. It is also singular that, considering the enormous numbers of female gnats and midges that exist without ever getting the chance of tasting blood, the comparatively few that do gorge themselves with a food that is unknown to them, and which their ancestors for, perhaps, many generations have not tasted. How can they know that blood is fit for food?—G. S. S.

VEGETABLES.

SEED POTATOES.

I DIFFER, with all deference, from your correspondent, "T.," p. 515, when he says that seed Potatoes may be kept very well in the dark. That might be true enough were the temperature of the store low, so as to preclude premature sprouting, but it is more difficult on the whole to keep the temperature of a dark, and, therefore, close, place low, than one that is fully exposed to the light and, naturally, to the air. Just now natural temperature is high, and it is not possible to keep a Potato store low with an external temperature high. For that reason it is of the first importance seed tubers should be in the light, because should, under such conditions, premature growth follow, and it is almost certain to do so, then the shoots are stout and green, and do not elongate or become waste. I have my own seed tubers in a very light store, where ample air is always admitted unless the weather bids fair to be severe. If so, then the temperature falls, growth is arrested, and the tubers remain at rest. Our winters are so varied and changeable that we seldom get a week's continuance of the same weather, and when higher temperature follows the cold, there is on the part of the seed tubers a quick rebound, and growth begins again, even more rapidly than before. To check these oscillations of temperature I leave the windows closed for a few days, boxing in the cold until the indoor and outdoor temperatures gradually

accord. It is of the first importance that an equable temperature be maintained so far as possible, but that cannot always be so, hence it is important that when shoots grow they should be in full light and have plenty of air. Already early ripening tubers are pushing, and if we have a mild winter, as seems very probable, late varieties will soon be starting growth also. Few things in Potato culture are of greater importance than is the keeping of the seed tubers under the best possible conditions during the winter. A. D.

PROTECTING CELERY.

(REPLY TO "MIDDLETON.")

The decay of Celery is more often than not due to other causes than frost. During severe or prolonged frost a little protection of great assistance, but the continual covering and uncovering of the rows which some people subject their Celery to must be injurious. It is very annoying after trouble has been taken to have good Celery to find that at

and snow were to follow directly afterwards, it would lie very close, and afterwards when a thaw set in, it would become a wet and sodden mass, and the Celery would suffer accordingly. Damp is the worst enemy to Celery. Celery will suffer more than usual from damp this season on account of the very open weather which we have experienced.

Whatever form of protection is used it must be so arranged that both light and air can have free access. Covering over with a cap by having two boards nailed together thus **A** has been frequently recommended. Celery that has been forced into a coarse growth by heavy applications of liquid manure and the too free use of artificial fertilisers is always the first to succumb.

TREES AND SHRUBS.

VIBURNUM TOMENTOSUM.

This is closely allied to the Japanese *V. plicatum*, from which it differs chiefly in its more

London atmosphere will prove too much for many of them. Again, the height of the fence will prevent the employment of vigorous climbers, as they would need so much cutting to keep them within bounds that few, if any, flowers would result therefrom.

You have the choice among other subjects of the many beautiful varieties of Clematis, among which the range in colour is now great; while *Jasminum nudiflorum* is valuable from the fact that its golden blossoms are borne in mid-winter, and its near relative the common white *Jasminum* is a summer flower, and a universal favourite. The cut-leaved Grape-Vine and the purple-leaved form are both very pretty. Others that can be recommended are *Cotoneaster horizontalis* and *C. microphylla*, neat berry-bearing shrubs; *Crataegus Pyracantha* (Fire Thorn), whose scarlet berries form such a showy winter feature; *Cydonia* or *Pyrus japonica*, of which the varieties vary in colour from white to crimson, and bloom in the winter and spring months; *Forsythia suspensa*, with bright



Viburnum tomentosum at Coombe Wood. From a photograph by G. A. Champion.

In winter the greater part has decayed. There is no doubt that the form of earthing which is adopted has much to do with early decay. By earthing too early, the blanching is done much too soon; consequently after a decay commences, let protection from it be ever so efficient. In Celery that is protected fermentation sets in through lack of air and close confinement. Celery, to keep well, must be well moulded up. The beds should be well sloped up and made fairly smooth, the soil being also well worked in around the top of each plant, all of which should, when earthing is finished, be exposed about 6 inches. Heavy coverings of litter or bracken laid along the tops of the rows cannot but have an injurious effect, and late Celery will be in a worse condition at the turn of the year than even if left freely exposed.

The best plan, if the weather should become unusually severe and there is no covering of snow, is to lay some dry litter or bracken fern along the sides of the rows and then to shake a little of the very lightest and driest loosely along the top. If a heavy covering is put on

with hairy leaves and in its sterile flowers being confined, as in *V. Opulus*, to the outer part of the inflorescence. The habit, as may be seen by our illustration, is spreading, the branches having a somewhat table-like aspect. The flowers are borne freely, those at the circumference of the umbel being five or six in number, and forming a very elegant collar encircling the central flowers, which are very small. It is by some said to be not so hardy as *V. plicatum*.

CREEPERS FOR FENCE.

I SHOULD be so much obliged if you would give in your most useful paper a list of suitable creepers for growing upon a 6-foot matchboard fencing which goes round three sides of a garden, the soil being a very dry one? I shall be grateful for suggestions.—C. M. S.

[There are a great many beautiful plants of a shrubby character suitable for growing up your fencing, but, of course, they would need to be secured thereto. One's thoughts naturally turn among other subjects to Roses, but if the garden is situated at the address from whence you lettered to us, written we are afraid that the

yellow blossoms in early spring; *Viburnum plicatum* (Japanese Snowball Tree), flowers in May; *Kuonimus japonicus aureo variegatus*, *argenteo variegatus*, and *radicans variegatus*, all three pretty variegated leaved kinds of *Euonymus*. The only plant that will attach itself without any support is *Vitis inconstans*, far better known as *Ampelopsis Veitchi*, which is so freely planted in suburban districts. The numerous *Ivies*, too, are available for the purpose you mention, and for the shaded portion of your fence they are particularly valuable.

Of climbing subjects other than those of a shrubby character mention might be made of the Everlasting Pea, which is always admired; *Apocynum tuberosum*, with curious purple flowers; and *Calystegia pubescens flore pleno*, a pretty double pink Bindweed. You could also, if you like, put out during the summer some of the better *Tropaeolums*, *Convolvulus*, *Mina lobata*, and that pretty climbing Dahlia, *Hidalgoa Wrecklei*. We note your remark upon the soil being very dry, and to counteract this as far as possible the ground should be deeply

dug before the climbers are planted, and some cow-manure incorporated therewith, as this is by far the best stimulant for dry soils. Again, in planting, a saucer shaped depression may be left around the stem of each, as this greatly facilitates artificial watering, which may be necessary till the plants become established.]

FRUIT.

MILDEW ON VINES.

Thisinery of this rectory, to which I came in August, contains several Vines, all of a healthy nature. Mildew had set in when I came, and all the fruit had to be destroyed. I attribute the mildew, whether rightly or not I do not know, to want of attention to the border—to the fact that the fruit was not thinned out at the proper time, and that my gardener, who never had much success with the Vines, kept a barrel of water in theinery and another tank outside which constantly overflowed, as it caught the rain-water from theinery roof, and saturated the soil. I burned sulphur, and kept some in open pans in the house, but the only apparent result was that the leaves and fruit of a good Fig-tree on theinery were destroyed. I wish to know what I should do to (1) the border; (2) the Vine itself; (3) the walls and glass; (4) the floor, and when your recommendation should be carried out? The branches of the Fig-tree and those of a Nectarine appear to be infected now, as are also the leaves of some Chrysanthemums in pots.—*FRIDA.*

[Your Vines are evidently in a bad way, and we would strongly advise you to lift the roots of the Vines, carefully working away the soil with a five-tined fork, preserving all the roots as the work proceeds, and tying them up in pieces of hag or matting after damping the roots. Then after getting out all the soil, examine the drainage and see whether the water can freely pass through the same, and if it is found to be at fault, remove it and pass it through an inch sieve to get out all the small, when you may return the same, which should be 8 inches or 9 inches in depth, after making quite sure the water, after passing through the border, has an outlet. If not naturally, place 3-inch drain-pipes 4 feet to 6 feet apart at the bottom of the drainage. These must lead to a main drain outside your border, having a gentle fall to the lowest point. Next, get some Grassy turves 2 inches thick, and place over the drainage, Grass side downwards. These will prevent the finest portions of the soil from getting amongst the drainage. Your new border should be from 1 foot 9 inches to 2 feet deep, and if you could procure enough maiden loam from a pasture to make it entirely new, so much the better, or if this is inconvenient and you could get one-half new loam and mix with the old soil, such a compost would last several years, working in a fair percentage of old plaster, lime-rubble, or charcoal, well mixing all together and filling in when not too wet, well firming the soil until within 6 inches or 8 inches of the border's level. Next, place the Vines in position, laying out the roots evenly over the newly-prepared border, first cutting away any bruised or mutilated pieces, then fill in with the soil, make firm, and tie the Vines loosely to the trellis, and do not apply water to the border until the Vines are breaking nicely. Such work would have been better carried out at the end of October, when with foliage attached the roots of the Vines would soon have laid hold of the new soil. As it is, you had better defer the work until March. In the meantime get your Vines pruned, scrubbing with soapy water at a temperature of 100 degs., then make a thickish paste of flowers of sulphur and paint every particle of the Vine, well working it in between the spurs. The woodwork, also glass, should be thoroughly washed down before tackling the Vines, or before the new border is put in. It is more than likely that the constantly overflowing tank on to the border during early spring and summer caused, or greatly augmented, the rapid spread of mildew. Keep a constant watch over the Vines as soon as in leaf, and should it again appear, dust with flowers of sulphur immediately. You do not say whether your house is heated or not. Of course, mildew is more likely to attack the Vine in unheated houses, and greater care is necessary as regards moisture about such structures.

You made a great mistake in burning sulphur in the house. Sulphur must not be ignited in any way, as that would to a certainty not only destroy the mildew, but the Vines also. We have seen Vines so treated and destroyed. The burning of the sulphur

was the cause of your Fig-trees losing their leaves and fruit. In fact, it is to be feared that all the plants you have in the house have been killed.]

FRUIT GATHERING AND PACKING FOR SALE BY SMALL GROWERS AND COTTAGERS.

For the purpose of eliciting some practical information with respect to fruit gathering and packing for sale, the Fruiterers' Company, of London, recently offered the valuable prize of 25 guineas, and a gold medal for the best essay on it, not exceeding 25,000 words in length. The judges of the eight essays sent in were Messrs. Asstee, manager of Covent Garden Market, Mr. G. Gordon, of the *Gardener's Magazine*, and Mr. A. Dean, of the R.H.S. fruit committee. The object aimed at was the production of an essay such as was lucid, practical, and well written, and that would be creditable to the company to publish at a low cost. The fortunate winner was Mr. R. Lewis Castle, manager of the Duke of Bedford's Experimental Fruit Farm at Ridgmont, Bedfordshire, and who has had considerable experience in packing fruit in small utensils for sending to all parts of the kingdom. There can be no doubt that fruit culture by small growers is in this country materially hampered because of the difficulty of finding suitable markets for small quantities. This the small grower rarely can do in large markets, not only because of the cost, but also because of the distance. What is needed is that small growers should co-operate, have their fruit in the season collected, marked, then in bulk taken or sent to the nearest markets. For that purpose it is most important that they should gather their fruit with the greatest care, assort or grade it into best and seconds, so that the top layer in all cases fully represents the bulk, and also that the fruit be put into neat, cheap, and non-returnable packages of wicker or wood, and be in small quantities, such as will suit private purchasers, who could in that way obtain their fruit direct from the grower without the aid of any dealer or middleman. In the prize essay named all the matters essential to success in the directions desired are referred to clearly, and are assisted by simple drawings. Even the making of bags, boxes, and baskets at home is described, the work being such as small growers and cottagers can well undertake in the winter months. In some places small growers can find markets close at hand. In other cases they can work up a trade by advertising, then in well-packed utensils sending by carrier or by rail. Of course, good fruit can only be obtained by good culture and growing the best varieties. A. D.

NOTES AND REPLIES.

Nailing trees to walls.—I have fruit-trees growing on a stone wall and find a difficulty in tying them to it. The mortar will not hold nails, and I cannot get nails to drive into the stone—they all turn up. I suppose I must use wire; but I do not like it, as it cuts the trees. Please advise me. Is there any nail that will drive into and hold in stone?—*H. SHAWCROSS.*

[If your wall is built of soft stone then the cast wall nails should answer, but we should advise you to have the wall properly pointed and wired, giving the wires two coats of white-lead paint. By this system nails and shreds are dispensed with, the walls are not injured in any way, and insects are not harboured. The tying of the trees, too, can be done more quickly than by the old system of nailing.]

Pruning newly-planted trees.—When, and how much, should I prune fan-trained Peach, Apricot, Plum, and (dwarf) Cherries which were planted in the middle of this month against a wall? In pruning Peach-trees, should they always be cut to a triple bud?—*R. W.*

[There is always a certain amount of doubt in the minds of amateur growers as to the amount of pruning that should be done in the case of newly-planted trees. The question depends entirely on the state of the trees themselves to be operated on. Some received from the nursery are from their treatment there in such a state that no pruning is called for at all, and a tree that a nurseryman has been devoting time and labour to to mould it into a good shape certainly ought not to need much aid from the new owner. In the case of a trained tree, however, a better course can be taken than to follow the

rules set up in the nursery. The extremities of leading shoots may be shortened if the branches are not uniformly disposed, and in cutting a Peach shoot it is always desirable to cut to a wood or a triple bud, or not to cut it at all. Weak shoots are always best cut back somewhat hard, for if allowed to grow unpruned they do not break evenly, and the basal buds, which are the most important ones, will fail to break at all. The object in training trees should be to make sure of getting them well furnished at the base. The pruning may be done at any time from now till next February. Before nailing the trees make sure the soil is settled and firm, for it sometimes happens that after a tree is fixed to the wall the soil, if at all hollow, will settle down and leave the root unsupported, with the inevitable result—collapse.]

St. Joseph Strawberry.—In a 10-20 number damp is given as the cause of mildew attacking this. I do not think this is the cause. In this district hardly a fruit has come to perfection, even in the very dry years we have recently had—in fact, growers have noted them up wholesale. The district I write from is a limestone one; I have heard of this variety doing well on dry, sandy soils. I have tried it under glass, and cannot get a fruit without it is mildewed.—*NORTH CORNWALL.*

Alpine Strawberries in greenhouse.—I have a few dozen plants of alpine Strawberries—St. Andrew, Ladoue, and St. Joseph—which were potted up last August and are now well established. Would these varieties succeed if forced on gently in an ordinary greenhouse, placing them inside, say, in February or March, so that all blooms showing before that time be picked off?—*E. W.*

[These introduced in February or March should succeed very well under ordinary greenhouse treatment. Much, however, depends on the greenhouse itself as to what success is likely to be obtained. With a nice light and warm greenhouse, having shelves to stand them on, these perpetual Strawberries by some can be grown during the winter months, but though some succeed, others would fail. There is every willingness on the part of the Strawberry to fruit—that is to say, flower spikes are formed freely, and fruits swell up a certain size—but when they approach their ripening period they slow down and do not always realise the anticipations of the grower. When in March the days lengthen, and the sun has more power, there are more life and progress in Strawberries of every sort. It would be as well to remove the present formed trusses of flower from those you propose to fruit in March, and some of those fruiting freely now could, if you so wish, be kept steadily moving in the greenhouse. You may then get a few ripe fruits early in the New Year. Those to remain for later use should have some protection from frost—the pots, if nothing else can be done, should be plunged in ashes, leaves, or Cocoa-fibre, or the pots may suffer as well as the roots should frost set in with any degree of severity.]

GARDEN WORK.

Conservatory.—Pelargoniums, especially those for early blooming, should be in their flowering pots. When potted late they do not flower so well, and the growth is less robust and dwarf. Firm potting is essential to freedom of flowering. Where the plants are well done they do not appear in the conservatory till the flowers are on the point of expanding. A light, airy house is the place for Pelargoniums, with a night temperature of 45 degs. to 50 degs. now, and till the days lengthen water is being given only when dry, and then all the soil must be moistened. A keen watch should be kept upon insect life, and the vapourer used when the first fly is seen. Under such conditions the Pelargonium is a tower of strength in the conservatory, and will give a brilliancy equal to the Chrysanthemum at less cost. Give Geraniums, Arum Lilies, Cinerarias, and other plants coming into flower weak liquid manure. I am going to recommend any special kind of manure—chemical or otherwise—to make liquid manure. Those who have a farmyard, or a deer park, or sheep pasture to run to may generally obtain what stimulates them, requires without incurring much expense. These chemical or proprietary manures are all rather dear, but I am not sure if there was a general run-

for them they might doubtless become cheaper. All are good for certain plants and purposes, and when it is necessary to make a supreme effort to win a prize sulphate of ammonia will be useful in giving the finishing touches to the blossoms. Cleanliness is as important in plant houses as in the structure where human beings live. Dead leaves should be removed at sight, green, slimy pots should be washed, and borders should often be freshened up with the rake. These and other little matters, which the good cultivator understands the value of, must have attention from time to time. In sweeping paths in the conservatory avoid raising dust, which often clings to the leaves and stops up the pores and gives the plants a forlorn appearance.

Ferns under glass.—A good collection of Ferns has a special interest in winter when in good condition, and the way to have and keep Ferns in good condition is to have a young plant or two of each kind continually coming in, and to discard the plants of the same variety or species when they get old and out of condition. Of course, now that Ferns are so much used for indoor decoration, there will probably be many duplicates of certain kinds available for that work. These for the most part will be found among the greenhouse species. Where there is much indoor decorating to do there is not likely to be too many Maidenhairs, especially of the old familiar types—cuneatum and elongatum. Maidenhairs of small sizes are useful for table decoration, and, if they suffer injury, they soon recover when taken back to a warm-house. Among the Pterises, cratica major and cretica cristata are most useful, because they can be kept in condition longer than most. Pteris tremula and argyrea are exceedingly useful for a change; the last-named has broad, variegated fronds, very striking, but will not last so long in a room as the hardier forms of Pterises first named. Phlebodium aurum has a striking appearance, but will not last so long in a low temperature as others named. One of the most useful and hardiest of Ferns is known among connoisseurs as the Holly Fern (*Cyrtium falcatum*). I have seen this Fern in sheltered places doing well outside. It is one of the few Ferns that keep in condition where it is burnt, because of the hardness of its foliage. If the thrips get established on its hard, glossy points, the green matter is soon eaten away. This is the one enemy to this very useful Fern. More loam is used for this class of Fern than was usual years ago, and the plants in consequence produce more robust and amply foliage, which renders them useful to the average grower.

Early Peach-house.—This house will now be ready for starting, and if the trees have been forced in previous years the buds will start at the right time without much forcing. Cleanliness everywhere is most important. Trees, paint, glass, and walls should have undergone the usually preparatory routine of cleaning. The border, also, should have been renovated, so far as the surface is concerned at any rate. It is always a good plan in the case of all fruit-houses to remove, at least once a year, the exhausted soil from the surface of inside borders, and replace it with good loam, enriched with bone-meal or some other suitable manure. The red-spider is often a troublesome enemy in the early Peach-house, and some rains should be taken to clear it out now, to save labour and trouble in summer. One cause of the presence of red-spider is dryness at the root, and every dry spot in the Peach borders should be hunted for and moistened now, even if in using the fork some little disturbance of the roots should take place. Any little damage is soon made good if the soil is thereby made more suitable for the roots to work in. A temperature of 45 degs. at night will be high enough to start with from fire-heat. During the late mild weather our houses have often stood between 45 degs. and 50 degs. without fire-heat; but this does no harm. Use the syringe as often as is necessary to keep the atmosphere sufficiently humid to give strength to the swelling buds, and ventilate at 60 degs.

Late Grapes.—Perfect ripening is necessary to long keeping. This has not been a good season for ripening late Grapes, especially where Gros Colman and Lady Elizabeth were

started late. It is better to use fire in the spring than put it off till the days are shortening in October. All that can be done now is to keep the atmosphere of the house dry; fire-heat will not avail much now beyond what is necessary to dry up damp.

Window gardening.—A stand in a light position arranged with Chinese Primulas, Cyclamen, and Roman Hyacinths, with a fringe of Ferns, is always pretty and interesting, and the fragrance is grateful without being too powerful.

Outdoor garden.—Roses may still be planted. The introduction of Rambler Roses has led to the planting of Rose screens or hedges in many gardens, and beautiful they are. They may be used to form backgrounds anywhere. All one has to do, after having selected the site, is to trench and prepare a space a yard or so wide and plantsuitable Roses. For tall screens, 10 feet or more high, the tall Rambler Roses should be used, the base being filled in with Chinas or Polyantha Roses. Hybrid Sweet Briars are also being planted to form hedges. I saw a hedge of this character the other day, very thickly covered with scarlet H.P.'s, very bright and attractive. In the summer this hedge was even more attractive, with its various coloured blossoms, several varieties having been planted. Those who have dwarf walls to cover will find the various forms of Eonymus very dressy and effective. The Laurustinus makes a very effective shrub for a wall up to 8 feet or 9 feet. It is best to start with quite a young plant. Berberis stonophylla is a specially valuable wall shrub, and there are now several varieties of Yrus japonica well adapted for covering low walls. For covering low terrace walls and the side walls of the steps, the various forms of Cotoneaster are very suitable, because they want no training, and consequently always look natural. Cotrus atlantica and its variety glauca are among the most beautiful of lawn trees, and are hardy.

Fruit garden.—Peaches may be pruned on open walls now when the weather is not frosty. These are generally left to the last, because it is necessary to cut to a wood-bud, and this is seen better when the buds are getting a little prominent, otherwise there is no reason for delay, though when there is much pressure of work something has to be postponed. I never knew a gardener that was good for anything that ever had much leisure at any season. During the autumn the pruning of the roots of the over-luxuriant trees needs attention, but for trees of a moderate size I prefer lifting and replanting, bringing the roots a little nearer the surface. When we dig round a tree and cut the roots which are running down, we check them for the time being, but it does not alter their downward course in the same way that lifting does. Then when the roots have been attended to the branches receive their annual thinning and shortening. There is no difference of opinion about the treatment of wall-trees and espaliers, but there is still too much knife-work done to pyramids and bush trees. This is more seen now in suburban gardens than where a good man is placed in charge. Even in the case of wall trees it is an advantage to rearrange trees when crowded on a wall, and give each tree more space to cover rather than cut back.

Vegetable garden.—When taking up Seakale for forcing, the thongs or small roots removed from the strong stems should be cut into lengths of 4 inches or 5 inches, and laid in sand outside, and a little litter laid lightly over them. During the winter crowns will form at the upper end of the roots, and if planted in February or March in rows about 15 inches apart, strong crowns suitable for forcing will be available next year. All available frames will now be in use for sheltering such things as Cauliflowers, Chervil, Parsley, or for forcing Asparagus, or anything else for which a demand may be expected. In country places, where there are many trees, the leaves form a valuable crop worth gathering and taking care of for forcing, and afterwards are valuable as a manure. It will require a warm-house to produce French Beans now, and the pots or boxes should occupy a position near the glass, and the individual plants not crowded. The principal demand now for the

choicer kinds of vegetables will be for Mushrooms, Seakale, and Asparagus. These may be produced at a reasonable cost, but French Beans are costly to produce in the dead of winter. In consequence of the scarcity of good Apples, Rhubarb should pay to force early, and those who have plenty of strong roots might start at once. E. HOBDAY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

December 8th.—Vaporised Cinerarias and Pelargoniums. Finished potting Hyacinths and plunged in fibre in cold-frame, with lights off for the present. A few Strawberries have been started in a leaf-bed in a pit, where there is a gentle fermentation going on. The watering will be carefully done, as an excess of moisture will cause too much leaf development. Mico have been helping themselves to the red berries of Solanums, and traps having failed, and the matter being urgent, we have been obliged to use poison. This has checked their work.

December 9th.—As soon as pruned, Gooseberries and Currant-bushes were dressed with lime and soot, scattered over the trees when the branches were damp. The dressing has some value as a cleansing and manuring agent besides its deterrent effect upon the birds. Roses in pots and also those planted out under glass have been pruned and top-dressed. A few have been potted up from outside for late blooming and to come in for early flowering next year.

December 10th.—Endives are taken to the Mushroom-house a few at a time to blanch. Rhubarb and Seakale roots are introduced at necessary intervals to ensure a succession. When a Mushroom-bed ceases to bear, the material is removed and the space filled up again from open shed near where it has been fermented in readiness. We are still using retarded Lily of the Valley crowns for forcing, although our autumn stock has come to hand.

December 11th.—I thought, a few days ago, we had finished planting Roses, but fresh sites have been found for pillar Roses and Ramblers, and these are so beautiful and free, one is tempted to plant them wherever a support can be found. We have generally a piece of ground waiting for trenching. There are days when the ground is too wet for surface work, but trenching can be carried out, even in wet weather. Rearranged stove to give growing plants more room.

December 12th.—Carted in a lot of turfy loam from the surface of a pasture, and placed in ridge-shaped heaps. One heap has been mixed with alternate layers of horse-droppings for Polargoniums, Fuchsias, Chrysanthemums, and other things. This, when chopped down in six months' time, will be ready for use. Pot-Vino house is kept at a temperature of 30 degs. at night. Buds are swelling. A little air is given at 65 degs. when the sun shines. Figs in pots have been pruned and top-dressed.

December 13th.—In bad weather the sponge is used among Palma and fine-foliaged plants. Liquid-manure is given to Camellias swelling buds. Fern spores which have come up thickly have been transplanted in patches or colonies into shallow boxes and kept on shelves in warm house for the present. When the days lengthen the patches will be broken up and extended. Mustard and Cress are sown in shallow boxes twice a week in warm house. Seeds are not covered.

LAW AND CUSTOM.

THE GARDENER AND THE CITIZEN.
COURT OF KING'S BENCH. MAXFIELD C. ROSS.
MR. GARROW observed that this was an action brought by the plaintiff, a gardener, to recover of the defendant the sum of £11, the balance of £26 for fitting up his garden at the back of his house. The defendant had paid £16 into Court, and contended he had been overcharged the other £5. The plaintiff, said the learned counsel, was one of the most eminent in his ancient and honourable profession; he had been for years employed in keeping in order

the delightful garden, which constituted the ornament of Queen's-square, and it was no small proof of his superior ability that he had the cultivation and improvement of those sweet and pleasant gardens, more fresh than the Bower of Irem, the air of which gave mildness to the spring, and the scent of whose herbs refreshed the spirits, and conveyed perfume to the very soul; in short, he had been selected, by the noble lord who presided in the Court opposite (the Court of Chancery) to decorate the enamelled spot in which his lordship unbent his mind, after the painful labours of his professional duty; to speak in plainer language, he was gardener to Lord Eldon, and, consequently, must be supposed to be a man of character, and one who would not make an unjust charge. The defendant was a gentleman of fortune, residing in Red Lion-square; and, being desirous of uniting in his town house the pleasures of a country one, applied to the plaintiff to afford him, by the exercise of his art, all the advantages of a *rus in urbe*. He was one of those London-country gentlemen who wished to have—

"Within their walls their shady groves and
Their flow'ry gardens and their green alleys;
In midst of winter to enjoy the spring,
And hear the captive birds in cages sing,
The city air perfumed with sylvan sweets,
And rural walks combin'd with crowded streets."

Such was the ambition of the defendant, and the plaintiff had completely gratified it. He had converted the limited space behind the defendant's house into the most delightful garden imaginable—Rose-bushes, Jessamine, and sweet flowering shrubs were planted along agreeable walks and alleys green; and whatever could charm the senses of the defendant, or make him imagine himself another Rinaldo, in the Bowers of Armida, was profusely provided. Having completed his task, he naturally expected to be paid, but the defendant, though he had expressed himself perfectly satisfied while the work was going forward, refused to remunerate him, alleging that his charge was exorbitant. Lord Ellenborough made a few observations to the jury, who immediately found a verdict for the plaintiff.—*Times, 1802.*

CORRESPONDENCE.

Questions.—Queries and answers are inserted in *GARDENING* free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF *GARDENING*, 47, FURNIVAL-STREET, LONDON, E.C. Letters on business should be sent to the PUBLISHERS. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as *GARDENING* has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Michaelmas Daisies (E. S. W.).—Good varieties are: *Aster Amellius*, A. *lesparabicus*, A. *acris*, A. *cordifolius elegans*, A. *Coombe-Pishare*, A. *lavis*, A. *Novae-Angliae*, W. *Bowman*, A. *Novi-Belgii*, Robert *Parker*, A. *Shottii*, A. *Chapmani*, A. *diffusus horizontalis*, and A. *eritoides*.

Achimenes (W. W.).—Start your tubers of *Achimenes* and *Tydaea* next February in boxes filled with leaf-mould, Coco-nut fibre, or some other light material, potting afterwards into turfy soil, well-rotted leaf-mould, and sand. If you wish to grow the *Achimenes* in baskets, place the tubers all round so that at the blooming season little of the framework may be seen for flowers.

Roses for seaside (L. Sweeten).—Where the soil is good there should be no difficulty in cultivating Roses in close proximity to the sea. There may be a small amount of truth in the statement that the salt spray in the air has a somewhat deleterious effect on the plants, but we have generally found that where flowers by the sea have failed, the shallow and chalky soil has been responsible. Recently we found Roses flourishing beautifully around Eastbourne, some masses of such lovely kinds as William Allen Richardson, Laurette Messimy, Perle d'Or, etc., being most profusely in bloom and in rude health. Doubtless Tea, Hybrid Tea, China, and Polyanthus are the best to grow in seaside districts, and as the collection is now so numerous, a beautiful Rose garden can be formed of these plants.

Ixias in pots (Mab).—Seeing that your Ixias are showing growth, you should remove them from the plunging material and place them on a shelf in a cool greenhouse near the glass. Water moderately, and, as the shoots advance, give liquid-manure at alternate waterings. Water less after the flowers fade, and, as the leaves show signs of yellowing, withhold water altogether, and keep the bulbs quite dry until the potting season comes round again.

Lilium longiflorum (P. L. L.).—This is one of the most manageable and least capricious of the Lilliums. Its large, white, trumpet-shaped blooms are very handsome, and as the plant itself is a moderate grower, the flower-stalks do not run up so high as is the case with many kinds; the flowers, therefore, are not so likely to become bruised in stormy weather. This Lily likes a good, sound loam to grow in, and prefers a partially-shaded, somewhat cool situation. There are many varieties of it.

Sweet Peas in winter (Frankley).—There is always the risk of severe weather and mice and other pests destroying Sweet Peas which have been sown now. You can assist them by protecting with coal-sashes along each side, and putting some small bushy stakes to them. A far better way is to raise in pots under glass in spring, and plant out, so long as the weather is the usual way, and thus keeping up a succession of bloom.

Treatment of Oleander (L. Bentley).—The Oleander is naturally a tall, loose-growing bush, and, if kept dwarf it is at the expense of bloom, for it is on the upper part of the long, flexible, Willow-like shoots that the flowers are borne. In all probability, the failure of the flowers to open is due to the non-ripening of the wood. Leave the flowers as they are, and give it as sunny a position as you can. In the summer stand it outdoors in a sunny place and water freely.

Flowering Stephanotis floribunda in small pots (J. M.).—This may be done by obtaining strong young plants and growing them on in a moderate temperature, where they can obtain plenty of sunlight and air. In summer they may be placed out-of-doors in a sunny spot, where the wood will get well ripened. This side shoots should then be spurred in to within 1 inch of the main stem, and early in September the plants should be removed indoors, and their shoots tied up to a trellis near the glass. If a little heat be applied in summer, the shoots will be emitted at every joint, all of which will flower profusely.

Cobaea scandens (Luty).—This is a capital climbing plant for a cool greenhouse. It also thrives against an outside wall in favourable localities in southern and western counties, and it will cover a considerable space of trellis-work during summer. It should be planted in light, rich soil, and, if watered liberally during the growing season, it will soon cover a large space and flower freely. If afforded some protection it will survive an ordinary winter. Plants of it may be easily raised from seed, which should be sown during spring in a frame or handlight. Cuttings also strike readily in a brisk heat in spring. This variegated form must be raised from cuttings.

Own root Roses (Duplex).—Roses "on their own roots" have many advantages over those that are budded, the most important being their ability to reproduce themselves from the base, even though a sharp winter cut down the growths to the ground. We do not recommend own-root Roses for very heavy soil. By throwing up a succession of shoots, a more continuous blooming is assured, and, when once established, the plants grow and flower freely. Tea Roses are especially good on own roots, but as these in our climate must of necessity be produced under glass, they should either be planted in summer or late in spring.

Forcing Gladiolus Colvillei The Bride (Tom).—This plant requires a varying degree of moisture, according to growth and the season—little at first, to be increased with growth, and the soil maintained fairly moist up to the appearance of first blooms. Towards the end of April ample supplies are essential. If the soil is good there is no need for artificial manure, but if used it is best in solution—guano, for example. The plants should flower during April with fair treatment, in which we include the avoidance of too high a temperature. You will find a great lapse of time between the production of the last leaf and any sign of the coming flower-spike, and it is at this period that many mistakes are made in the culture of this useful plant.

Chrysanthemums—a good bronze Japanese sort, dwarf-growing and spiky (A. Cooper).—We are somewhat at a loss to know what you mean by "spiky." In the first place, however, we assume your plant must be a double one, and, in consequence, a freely-flowered specimen; and, in the second place, we also assume the florets of the blossoms must be stiff and straight, as nearly alike to a *Cactus Dahlia* in form as possible. If this is what you desire, we can recommend *Vivid*. This is not a bloom with pointed florets, yet it has stiff and straight florets of the kind likely to suit you. This colour is chestnut-bronze. A variety with twisted florets is *Sourire d'Or*, and, when grown freely, should develop blooms of a "spiky" kind. The colour in this case is an old gold.

Chrysanthemums—when to propagate early sorts (Voicer).—There is a tendency on the part of some growers to commence the propagation of early *Chrysanthemums* now, but such early work is a mistake. As a rule, the old plants are worth propagating at the close of their flowering season, and, in consequence, it would be better to shake the old stools out of their pots and plant them out in frames or on the bench of a cool greenhouse, leaving them thus until January. By the last-mentioned period new growth of a most desirable kind will be found breaking away around the base of the old stem. It is from cuttings of this kind that real progress is made. During January, February, and March, cuttings, if inserted with care, will root quickly enough, and, if potted on as soon as ready, will develop into sturdy little plants in a short time. It is surprising what a number of plants can be raised from a few old stools treated as here prescribed. Shallow boxes are useful in propagation, as, too, are 5-inch and 5-inch pots. The cuttings, if dibbled in 1 1/2 inches apart with rather more space between the rows in the boxes, succeed very well and rarely fail.

Chrysanthemums Soleil d'Octobre and Ralph Hatton (A. Cooper).—Both of these varieties mentioned above are worth cultivating. Soleil d'Octobre

as its name implies, is an October-flowering Japanese kind, of a lovely shade of canary-yellow colour. This plant is of very easy culture, and may be grown to develop large blooms, either in the orthodox manner, or on simple stems in 6-inch pots. As a plant for decoration this variety is also largely grown. Ralph Hatton is one of the newer incurved sorts, and is a bloom of large size and of excellent form. The colour is a purple-lilac, with more or less reverse to the very smooth florets. To see this variety at its best, and in the early days of November, the plants should be pinched or stopped towards the latter part of March, and second crown-buds retained.

Roses with divided centres (M. Cockle).—One of the strong doses of liquid-manure would certainly be one cause of the defective blossoms, and the want of artificial heat to enable the very double kinds to expand would be another. In unheated greenhouses it is always best to avoid very double varieties such as M. Cochet, Catherine Mermet, Ecole de Lyon, etc., but kinds such as *Cawley*, Westcot, Mme. Hoffer, Anna Ollivier, Mrs. W. J. Grant, France, etc., are always easy of culture. Of course, there are several Roses habitually addicted to come with quartered or divided blossoms, and no amount of care can prevent it. Such Roses should be banished, although it is only fair to say that the same Rose is not so defective in all counties. When pruning, cut back the current season's wood rather severely, and the out the plant so that the new growth may get the full benefit of sun and air.

Rose Marechal Niel as a bush plant (G. B.).—If you prefer a short standard Briar for this Rose, the bush or dwarf form will succeed almost equally as well, provided it be on a Briar root, or on its own roots, and planted in a good border. Splendid plants may be purchased, grafted on the Briar, that are specially grown for greenhouse culture. These usually have growths some 10 feet to 12 feet long, and, being well-ripened, prepared to give some good blossom the first season. The truth is to remember with this Rose is to give it a good border, be it indoor or in a cold-pantry, the Rose stems be protected from injury by frost, and the border covered over with corrugated iron or similar material to ward off superfluous moisture. Where artificial heat is not provided, we always advise planting this Rose inside, and a half-standard. This hedge Briar seems to possess more rooting power, a circumstance very desirable for a vigorous Rose as *Marechal Niel*.

TREES AND SHRUBS.

Arucaria falling (Monkey Puzzle).—As a rule, this soon presents an unhappy appearance, and is therefore, not to be recommended. It was killed in great numbers during the severe winter of 1890, and is no longer worthy of its popularity in the garden, being really a tree, of a climate quite different from ours. We fear we can do nothing to help your specimen, as it is apparently all but dead.

FRUIT.

The heaviest Gooseberries (A. Burns).—It is well-known that very fine fruits are produced for exhibition in Lancashire and Yorkshire, but this is only done by excessive thinning and special cultivation. We do not think the variety has so much to do with size as most think. We are not anxious to encourage Gooseberry culture for the production of huge berries, as it is better to produce the fruits in abundance for market or home use. Besides, the richest flavour is always found in those fruits that are relatively small, yet abundantly produced.

Pruning Vines (Heating Vinery).—You can prune your Vines at once. Cut off all the shoots on which the fruit has been to one eye or bud from the main stem. If you care to, you may leave two buds, and rub them weaker near where the Vines start into growth in the spring. If there are any insects in the house, you must wash down all the paint and glass, and also draw the rods with some insecticide. All you need do in the way of firing is to keep out frost, a temperature of about 40 degs. to 45 degs. being quite sufficient for your *Pelargoniums*, etc. Wrap something round the pieces of stem about that is exposed, otherwise frost may injure the Vine when the sap begins to rise. An old mat or piece of canvas will answer the purpose.

Manuring Apple-trees (H. H.).—In applying artificial manures to fruit-trees, especially those which like yours, are from three to ten years planted, and therefore have roots a long way below the surface, it is necessary to give a dressing fully double the quantity of manure that would be needed by vegetables or shallow-rooted crops. We usually advise the application of so much of these artificial per rod, and if you top-dress an area of 3 yards square about each tree, you should apply 3 lb. of the manure—viz. basic slag 2 lb., and kainit 1 lb., well broken and mixed, then lightly forked in. You can add with advantage 1 lb. of sulphate of ammonia in May. This is a dressing at about the rate of 1 1/2 lb. per rod, whereas for vegetables, 6 lb. would suffice. Apply the two last-named manures at once. Give Peas just the same. Turn the roots near the surface, one half the quantity would suffice. As it is, we fear the roots have gone deep.

VEGETABLES.

Caterpillars on Cabbages (Belle Isle).—The only remedy is to catch the moths before they deposit their eggs, which they do in the summer on the lower leaves, or handpick the caterpillars. Another remedy is to use fine salt, sprinkling it freely over the Cabbages in the evening, then washing it off the next morning with clear water.

SEEDT REMPLIS.

A. Wingrove.—See reply to "Davies" in our issue of Dec. 6, p. 524, re "Weeds in lawn."—*M. Brown.*—It is very difficult to advise without seeing the Vine. Ask the advice of some practical man in your locality.—*Edith Shirley.*—The Ivy will cling, but you will have to be careful by nailing it at first. The *Eunymus* must be exterminated from the wall. It makes a good wall covering.—*Caroline.*—We do not know any of the varieties of *Caroline* you mention, neither can we find the Rose in any catalogue we have.—*N. V.*—By reversing, you will find it very useful for striking cuttings and for placing it over the plants in which the cuttings are in a warm-house.—*Tracy.*

-We cannot undertake to name Potatoes.—*Paddy*.—See article in present issue, re "Lilium giganteum," p. 537.
 -C. A. Phipps.—The competition only closed on the 20th. Result will be announced in our pages in due course.—E. W.—No; keep the faggots out and substitute brick rubble or rough stones. The wood as it decays will only breed fungus.—*Mela*.—Not a gardening question.—*Mab*.—1, You will find a note dealing with "Raising Ferns from seed" in our issue of Oct. 19, 1901, p. 41, which can be had of the publisher, price 13d. 2, See note in issue of Feb. 15 of this year, p. 67, re "Raising Tuberosa Beronias."—W. E. Mason.—Try Amos Perry, Windmoore Hill, London, N., who showed the Poppies you mean.—W. Godfrey, Egmucuth, also showed Oriental Poppies.—W. J.—"V.M.H." stands for Victoria Medal of Honour; 3, You can fasten roses to the fence you mention, and they will, we think, take no harm, as the creosote will have soaked into the wood.—A. Burns.—See reply to "T. Maxwell," re "Increasing Clematis," in our issue of Oct. 25, p. 452. You will find an article on the best dark H.P. Roses in our issue of Sept. 20, p. 385. These numbers can be had of the publisher, price 13d. each.—A. L. Plumbridge.—You had better get someone in your neighbourhood who is used to such work.—S. O.—Cannot you manage to burn all the refuse you speak of, and not apply the ashes to the ground? If not, withhold the dressing of farmyard manure for one year, and give a good dressing of freshly-slaked lime.—B. E. Moore.—"The English Flower Garden," from this once, price 10s. 6d., post free.—*Guendolen*.—It will be advisable to leave them till the spring.—*Inkstand*.—1, The paint when thoroughly dry will not injure the plants. 2, Raise the pipes just off the ground on two bricks, taking care that the bricks have a solid foundation.

NAMES OF PLANTS AND FRUITS.

Names of plants.—*Bob*.—You have evidently got your names mixed. 1 appears to be Mrs W. Trafford, and 2, Charles Davie, badly grown.—*Belle Isle*.—*Helianthus scaberrimus* var. *Melish*.—*Sarnia*.—1, *Adiantum concinnum latum*; 2, *Adiantum concinnum*; 3, *Begonia incarnata* var. *maculosa*; 4, *Arecia* sp.—*Faircross*.—*Aparagragua plumosa*.—E. Seggore.—The Dittany of Crete (*Origanum Dictamnus*).

Names of fruits.—J. R. Huckleby.—1, King of the Pippin; 2, Northern Greening.—W. Wright.—1 and 2, Evidently small fruits of Northern Greening.—*Oxford*.—Small fruits of Ecklinville seedling. In sending fruit for name it is well to send really good specimens.—T. Brown, Burford, Oxon.—1, John Apple; 2, Manx's Codlin; 3, Adam's Pearmain; 4, Small's Admirable.

Rotting leather.—Will you kindly tell me if you can recommend any method by which leather scraps can be made to rot more quickly? I use a quantity of fine leather dust as manure, but large pieces can be bought more cheaply, and, if they can be made quicker in action by the addition of acid or other means, a considerable saving in manure bills would be effected. Should you be unable to give me any information, do you know anyone who could?—H. B. POLLARD.

THE HOLLY BOUGH

has already been marked for the adornment of the home, and paterfamilias is perhaps thinking of his last struggles with the sprays of shining leaves and glistening berries. But Mother is a trifle perplexed about the menu for the children's parties. As, however, Chivars' Jellies are sure to find a place in her list, she need not worry about the rest. The "Gentlewoman" says: "Chivars' Jellies are delicate luxuries." They are absolutely pure, and are favoured with ripe Fruit Juices. Ask the Grocer, and you will find he stocks them in various flavours in pint and quart packets. For a perfect beverage for the youngsters, Cambridge Lemonade is the thing. "It heals all." Chivars and Sons, Limited, Histon, Cambridge. First English Fruit Growers' Jam Factory.

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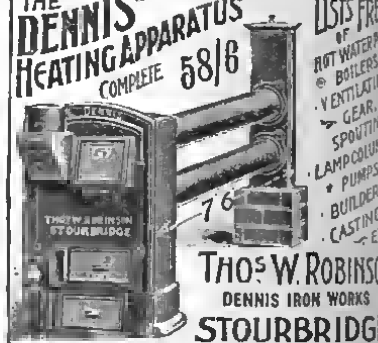
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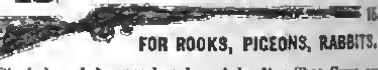
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FRUIT. APPLE CULTURE IN S. WALES.

Years ago, I bought the following trees, selecting them myself the previous summer at local nursery: Two "Alfriston" and two New Hawthornden" (standards), one "Stirling Castle," one "Lord Sutfield," and one "Keswick Codlin" (bushes). Of the two last, after planting, I tied out all the side branches. The trees were by the side of the path, and I cut away all that were—as I may term it—behind them, as my idea was to form them into espaliers. When expanded some of them were 2 feet to 7 feet from one side to the other. I tried to bend one branch on Lord Sutfield, which grew right out from the front and snapped it nearly off. However, I did not like doing it, so, by chance, I stuffed some clay all round the break, and tied it up; to-day it is the best branch on the tree. The soil in this garden is a good loam, with clay about 15 inches deep. Before putting in the trees I was advised to place bricks and stones in the holes, and put the roots on them. This I did; I have carefully pruned these two trees every year. In July I cut away almost every new growth on two or three eyes—finishing in November—and I have kept extending and adding new shoots. The branches on "Lord Sutfield" number now seven on one side and eight on the other, and average about 9 inches apart, and measure 8 feet in length on each side of the trunk. This has bloomed well every year, and when the fruit has to be thinned before it is fit for use. The Keswick Codlin has eight branches on each side, and nearly all are 8 feet in length. This has never failed to produce a good crop. This year has been the worst; but a good picking. The trees of Alfriston I have not pruned at all. They only bear a good crop every alternate year, this being their good one. Stirling Castle I have kept well under with the scythe every year, and have not had one bad crop. This year, although it is only 7 feet in height, and about 4 feet through at the bottom, I have picked over a bushel, besides quite as many that fell. The New Hawthornden (one especially) has always cropped well. I prune these very little, only to keep them of a good shape. Last year on one tree I had some very large specimens—two were a pound each—and this year I weighed nine of the largest, and they turned the scale at 17 lb. Last November I bought at a sale in Cardiff six cordons. Apple-trees, which I planted—as I did the others—three on one side of the path, and three opposite on other side. My idea is to arch them over the path in time. They are only 15 inches apart. They were sadly knocked about in the sale-room and in their journey to me, but for all that I had sixty-seven fruits on the six-seventeen on Yorkshire Beauty, fourteen on Lady Sudeley, eleven on Newton Wonder, eight on Warner's King, sixteen on Lane's Prince Albert, and one on Peargood's Nonsuch, this one weighed a pound. I attribute the cropping of these to their being kept moist at the roots. I give them a good bucket of slops and soap-suds every week all through

the year, and in April manure-water, and never use the spade nearer than 4 feet from the trunk.

C. PERRY.

PEAR PITMASTON.

As regards size, I think this may be truly styled the king of Pears, for no other kind that I know can compete with it, given special treatment in its season of growth. In my notes on Pears (page 307) reference is made to some which in September of this year weighed nearly 2 lb. each. From this same tree I have in former years seen enormous Pears; in fact, the largest I can ever remember to have met with, if my memory serves me correctly, turned the scale at 3 lb. each. Now while the grower would naturally feel very proud of his marked achievement, many were heard to say, what is the value of such fruits? They certainly are not fitted for the dessert table, except as an ornament, which in substance was probably true; but who, it may be said, would not be proud of such giants could he point to the tree in his own garden which bore them? Judged from a quality point of view Pitmaston cannot be considered first-rate. There are many judges of fruit at autumn shows, who will pass over Pitmaston as being beneath their standard of quality. Even as lately as the third week of November this year, I overheard enstic remarks from milkers who criticised the judgment in a collection of Pears where this variety was included, and which gained a favourable position. Opinions differ widely in the matter of quality in Pears, and this, too, as affecting varieties usually above the average. I will give one case in support of this remark. A gardener sending fruit to the family who were away from home received a message complaining of the quality of the Pears he was sending. The variety was Burrell Superfin, and the fruits typical in size and maturity, and as I was privileged to try them myself I could vouch for their superiority. Its name certainly ought to place it above complaint. This and Pitmaston are two out of three so highly spoken of by your able correspondent, "East Devon," on page 548, one who not only grows Pears well, but who knows also what the points of a good Pear should be. I had never before heard a complaint made against Burrell Superfin as regards its quality. These 3 lb. Pitmaston Pears were the outcome of a course of irrigation, the water given being slightly diluted with drainings from a cow-yard. The natural soil was fertile, overlying gravel. The surface roots were preserved by a mulching of strawy manure, and the tree a young and healthy one.

NOTES AND REPLIES.

Grape Lady Downe's.—When at Bliton lately, I observed a fine lot of late Grapes. Lady Downe's was in fine condition, though the house is not in the best position for its growth. In former years Mr. Mayne has been troubled with mildew, but this year he resolved to give more air, closing the house much later in the afternoon. This has been productive of much good.—J. CROOK.

Pruning Plum-trees.—I have just planted some young Plum-trees (mostly Victoria) against a garden wall. They have each six or seven branches about a yard long trained fan-shape. The gardener wishes to cut them

all back to about 3 inches from the root. Is he right? Should they not be left as they are, to form the tree and rather encouraged to grow longer? I have two standard Plums, planted four years ago. They have flowered two or three times, but no fruit ripened. This summer a great many branches were a yard long. I cut them back a third of their length and trimmed the trees to balance them nicely. Could you kindly direct me how to prune the young trees the first few years?—HARR.

[Even if your Victorian Plum-trees planted against a wall had not been just planted, yet being young, and having to be pruned to make permanent trees, would have to be pruned somewhat hard. But when trees are newly planted and roots etc. of course, pruned, and reduced also, it is of the first importance that the lead or branches be reduced also, to make root and head equal. For that reason it is needful that the branches on them maintaining the season be shortened back to about 9 inches to 10 inches each, the weaker ones being shortest. Were the branches left as they now are, there would be poor root action, as the new shoots made from every bud would be weak. By cutting back to a few lower buds, these are induced to send out several strong shoots, and these react on the roots and cause them to make strong growth also. It is a matter of the first importance with young trees to cause them to become well established at the outset. With regard to pruning your standard Plum, four years planted, hard pruning is hardly the course to adopt to secure fruitfulness. These trees are now well rooted and carry good heads. The proper treatment for them, therefore, is spurring back weak inner shoots, those which break from the sides of the main branches, to two or three buds, and the leading strong shoots about one-third of their length—that is, of shoots 3 feet long, cutting them back to 2 feet. That removes points that may not be well ripened. Later, as the heads become larger, all that is needful is to keep the branches moderately thinned, leaving the shoots alone, as they will then be probably less strong. Very hard pruning of well-rooted trees tends to cause them to reproduce wood-shoots. Light pruning then induces fruiting, and fruiting becomes the best of all pruners.]

Fruit not ripening.—My fruit-trees, Pears, Plums, Peaches, and Nectarines, have been rather a failure this year, and the fruit has not ripened, although allowed to remain on the trees later than usual. I think they must require a change of treatment. Can you give the name of any manure or chemical likely to benefit them?—T. W., Hastings.

[Although the past summer has not been an ideal one for outdoor fruit in general, we have heard but few complaints as to the fruit not ripening properly, except in the case of very late Peaches, and the wet, sunless autumn would account for this; but in the matter of Pears and Plums we must look to some other cause. You mention about manures or chemicals, so conclude the trees are not so healthy as they should be. If this is the case, we would advise you to prick up with a garden-fork the top 3 inches of the soil the trees are growing in, and take out a trench 1 foot wide, 13 inches deep, 4 feet away from the bole of tree, taking every care of all fibrous roots, and replacing the former soil with good turfy loam, with a fair sprinkling of wood-ashes, bone-meal, and a little soap, with the addition of lime or mortar-

rubble for the stone-fruit. Make the soil quite firm, but do not undertake such work during wet or frosty weather. We could have advocated more drastic treatment of your trees, had fuller details been sent, so assume that they have given general satisfaction up to the past season. Crop lightly next summer, and endeavour to keep the trees free of insects, and if the trees show signs of improvement, you may assist them by giving manurial waterings two or three times during the growing period. A light sprinkling of guano or Thompson's Vine-manure occasionally, well watering them in, would benefit the trees. Avoid all this feeding if the trees show signs of growing too strongly, which they are not likely to under the treatment advocated above. Get the trees pruned, cleaned, and put in order, after seeing to the roots, avoiding treading much on the borders.]

APPLE PEASGOOD'S NONSUCH.

THIS is too well known to need a lengthy description. It is good for either dessert or cooking use, and is at its best early in November. It does best as a bush or espalier, while



Apple Peasgood's Nonsuch.

in cold localities a west wall would be well occupied by a tree of it. In some seasons the fruits colour grandly, when they have a noble appearance. The tree is inclined to grow strongly, so should be root-pruned every year or so, should such be the case.

EAST HEVING.

Curl in Peaches.—For the last few years the outdoor Peach and Nectarine-trees have suffered from excessive attacks of the disease known, I believe, as "curl." This appears now to be attributed to a fungus growth more than to the effect of cold winds. The trees here are on the south wall of a very sheltered garden, and are protected in spring by double folds of netting. They receive a wash of a mixture of sunlight soap, paraffin, etc., before the blooms show. There is usually a splendid show of bloom, and at first a healthy growth of foliage, but later the "curl" sets in and the trees become almost bare of leaves. Perhaps some of your correspondents may have discovered an effective preventive. I should be grateful to hear of any.—G. H. N.

Defoliating Vines.—The Vines I had in my eye at the time of writing had neither been hard-fenced nor heavily cropped. It was sim-

ply a question of two evils—either go without the Chrysanthemums or reduce the leafage—and I know more than one instance where the cultivator, in his anxiety to give his Chrysanthemums every bit of light, has reduced the leafage below three eyes, and this on Vines where the foliage was very green. I am far from believing that to reduce to three eyes when the foliage is fresh and green is good for the Vines. The best Grapes that I have ever seen and the largest-sized Vines were those on which the foliage was allowed to ripen naturally.—J. CROOK.

PLANTS AND FLOWERS.

INDOOR PLANTS.

NOTES AND REPLIES.

South African bulbs.—In your issue of GARDENING, dated Oct. 6, 1902, p. 416, you kindly replied to a query of mine, re "South African bulbs." You stated that the different kinds of *Cyrtanthus* do not require drying off. Please tell me if all the rest are to be wholly dried off, and the best temperature the year round?—JACK.

[As stated in the reply to your previous question two years ago, the different species

folia (which we had beautifully in flower in October in the warmest part of the greenhouse) should even in the winter be kept somewhat moister than the others, and in the summer it should be watered freely. In your previous communication you mentioned that a temperature of 59 degs. to 55 degs. could be maintained during the winter, and if such is still the case it will be suitable for all the plants you mention. The warmest part of the greenhouse is just the place for them, and as spring advances the day temperature may, with sun heat, run up to 65 degs. or 70 degs. or even more. By the middle of May fire heat may be discontinued till the cold autumn nights set in.]

Eucharis amazonica falling.—Kindly tell me the reason why the leaves of *Eucharis amazonica* die off so fast as they grow, so that there are only three or four in a 4-inch pot at a time? I am told the plants have many flowered. They are potted in equal parts loam and peat-mould, with a little sand (min. temp. 65 degs.). What heat do they require, also soil? Should they be dried off and when? Any information will oblige.—ARON.

[It is quite obvious on the face of it that your plants of above are in a low and weakened state. From your description, we imagine the bulbs have very few, if any, good root fibres attached to them. This is the main reason of the foliage failing to develop. These things are due to a variety of circumstances, though chiefly overmuch water and too little heat. It is in these conditions that the bulbs become a prey to the mite, and then it is almost as cheap to throw them to the fire-heap. Some years ago, however, we had just such a lot of neglected bulbs, nearly 2000 pots each 10 inches in diameter being quite full of bulbs, and hardly a green leaf upon them. These plants had occupied a front stage in a Gardening-house and apart from a very generous watering for the *Eucharis* alone, the plants came in for most of the moisture that in syringing fell from the Gardening. An examination of many pots revealed a very sour condition of soil, and being winter time, and no good loam available for repotting, other means had to be adopted. It so happened, however, that a long bed in a propagating-house was well supplied with bottom-heat, and no sooner was this realized than the whole of the pots of bulbs was quickly transferred. The pots were immediately plunged to half their depth in tan bark and fibre-refuse and no water was given to the roots. The pots were set down on a bottom-heat that rarely fell below 85 degs. Top-heat, meanwhile, was at 70 degs. to 75 degs., and a semi-moist atmosphere maintained. From the moment of introduction to this bottom-heat, the syringe was used at least three times each day, notwithstanding it was mid-winter. In a very short time one or two good leaves appeared, not weakly, but strong and permanent and of a good colour, and in six weeks the plants had so developed that three times the original plunging room was required for them. Perhaps the most remarkable thing in bringing this large and valuable lot back to health was the fact that in all those weeks the plants had never been watered at the root at all. The light spray of the syringe was all the moisture given, and the spray from it was so fine that hardly any water would travel to the bulbs. While we do not believe in bottom-heat where the bulbs are in good health, we have every reason to regard it as the best of means to bring sickly and poor plants back to health. This large lot had been kept far too wet and much too cold. Your plants appear in a similarly weak state, and we strongly advise you to do what is already stated, if you can. If you have not the bottom-heat, increase the temperature to 70 degs. and treat generally as follows: If no bottom-heat, raise the plants on pots so that the base of the pot is clear of the stage. Suspend all root-watering for several weeks, and until you have really fine foliage. Where no bottom heat exists the syringe must not be employed as we have stated above. The soil you mention is quite good and suitable, and we have little doubt your failure is due to too much root moisture and too low a temperature. In a temperature of 65 degs., very little water at the root is required at any time, but it is not a safe temperature by any means. Given a temperature of 75 degs., and the pots of bulbs—that is, the healthy plants—standing on open wooden stages, free watering is only necessary where

of *Cyrtanthus* do not require drying off during the winter, but, of course, as they are in a partially dormant state they do not need as much water as when growing freely; indeed, enough should be given to keep the soil fairly moist, but no more. We have several pots of *C. lutescens*, *C. McKoni*, and *C. parviflorus* that have been treated in this way in a structure where a temperature of 50 degs. to 60 degs. is maintained, and most of them are just now commencing to push up their flower-spikes, so that before January is out the earliest should be in bloom. Of the others, *Crinum Moorei* and *Bowiea volubilis*, both of which have large fleshy bulbs, will, unless they are in a particularly dry part of the greenhouse, not need any water till the commencement of February, and then only just sufficient to maintain the soil in a slightly moist condition till growth recommences. The *Gladiolus*, too, may be kept dry, while the following are all the better if the soil is kept slightly moist, not by any means wet, but just enough to prevent them becoming parched up: *Kempferia natalensis*, *Hemantthus natalensis*, *Hemantthus hirsutus*, *Littonia modesta*, *Gloriosa virescens*, *Sandersonia aurantiaca*, *Anoctanthus breviflorus*, *Begonia geranioides*, *Eucomis undulata*, and *Eulopia speciosa*. The *Stenoglottis longi-*

growth is rapid. With the foliage matured, much less water is required, and for a long period, but no actual "drying off" must ever be practised. A good rule is, that with a temperature of not more than 65 degs., root-moisture is not much required, and at this temperature the plants would be safer if not watered for a month. For growing plants, however, a temperature of 75 degs. is a much safer one, for it is not possible in these lower temperatures to gauge the degree of moisture, which less easy is it when the pots are associated with other things in the greenhouse. If you can follow the instance recorded here, you will be able to improve your plants quickly.]

FERNS.

BIRD'S-NEST FERNS (ASPLENIUM NIDUS).

These plants are easily grown into large and some specimens; their roots require good and careful drainage, because if this becomes clogged the chances are that the plants will grow up deformed fronds, which spoil theirauty, and render them eyesores instead of

australasienn will stand very well outdoors in the summer time if not exposed to the full sun. Great care should be taken to keep away slugs and woodlice, which are exceedingly fond of the young fronds. The best way to prevent these pests getting at the plants is by placing the latter over a pan of water on three inverted pots, so as to prevent the bottom of the pot touching the water, but at the same time leaving a liquid barrier of 2 inches all round to keep off all intruders.

WINTER TREATMENT OF MAIDEN-HAIR FERNS.

All the Maidenhair Ferns require a period of rest, and in none is this more evident than in *A. cuneatum*. Plants which have been growing freely during the latter part of the summer and autumn should be well exposed, and when the fronds are well matured the cooler the plants can be kept the better. If gradually hardened off and kept fairly dry, they will keep well where the temperature does not fall below 40 degs. Fahr., the fronds changing to the pale-green hue which florists prefer. It is no doubt owing to the fact that they have found

preferable. *A. elegans*, which has large and more spreading fronds, is now extensively grown. *A. scutum* is also valuable for cutting, the large spreading fronds being very effective and lasting longer than those of most of the Maiden-hairs. In the spring this makes a very pretty plant for decoration. The young fronds of plants grown in a light open position are prettily tinted. Of the smaller-growing Maiden-hairs, *A. mundulum* is the most useful. It makes a very compact and pretty plant, and the fronds are of a useful size for button-hole bouquets or any other purpose where perfect little fronds are desirable. In winter this requires some care, as it is much inclined to damp off. The plants should be stood up on pots and have sufficient room for the air to circulate among them, and in watering care should be taken not to wet the fronds.

ROOM AND WINDOW.

FLOWERS IN THE HOUSE.

PROBABLY more flowers and plants are required for decoration at this season of the year than at any other. For a fortnight before and as long after Christmas, there is a constant round of festivities of one sort or another. In order to make the most of everything some little ingenuity is necessary in the use of the flowers, whilst if it be frosty weather additional care is needed to preserve the plants, which are taken out of their growing quarters from coming to any harm. At such times it is an all-important matter to have a good supply of such plants as need not be afterwards kept for use another season. These can then be consigned to the rubbish-heap, save only sufficient to work up the stock another year. As much as possible plants of comparatively hardy constitution should enter into the arrangements so as to preserve others that are of a more tender character from injury. More depends upon proper care and attention in the preservation of decorative plants than is at times credited thereto, whilst in the use of cut flowers some considerable amount of forethought is necessary both in the selection and the disposition of the material at command.

FLOWERING PLANTS, ETC.—With nothing more than the average convenience of a well-ordered garden, it is possible to have Poinsettias of good quality, the old variety and *P. plonissima* (the double form) being the best late kinds. With a reserve for next year's stock it will not matter if a few of these do come to grief; this they will not do very quickly provided they are well-rooted plants and that they are not over-watered. Primulas, both single and double, are invaluable, but the plants should not be in large pots, those 4½ inches in diameter being quite large enough. The same applies to Cyclamens, except in the case of extra good plants, which may be used when in 6-inch pots. *Erica hyemalis* and *E. gracilis autumnalis* will be just in their full beauty; so also will the earlier of the Epacrises. These will all last well if looked after carefully. Turning to bulbs, we can obtain an invaluable supply from Roman Hyacinths and *Duc van Thol* Tulips (various colours), but notably the scarlet and the yellow. As decorative plants these should be kept as dwarf as possible, whilst 4½-inch pots will be far more useful than larger ones. Turning to berried plants, the most important as well as the hardiest yet in season are the Solanums, which if well established will stand well. Berried Aucubas will also be useful. Both *Rivina humilis* and *Ardisia crenulata* are valuable as a change in the form of berried plants.

Unsuitable vases for cut flowers.

—Those who have much to do with arranging cut flowers must have noticed how unsuitable many of the vases, etc., are for this purpose. Frequently one has to arrange large flowers in long, narrow receptacles. Many of them that are wide at the mouth taper to the bottom, so that only a few of the stalks can touch the bottom, and as only a few of the stems can reach the bottom, and as these generally hold only a small quantity of water, the flowers soon flag. A worse type is those with wide legs and bottom, with a narrow neck. Only recently I saw some 7 inches to 6 inches across



The Australian Bird's-nest Fern (*Asplenium Nidus australasicum*).

elements. The soil must be made sandy, and could consist of light turfy loam and peat, with some leaf-mould and good sharp sand.

A. NIDUS.—An interesting East Indian species, popularly known as the Bird's-nest fern, from the remarkably peculiar manner of its growth: produces entire fronds about 6 inches in length and 4 inches in breadth, which rise up from the crown, leaving quite a hollow centre at their base, formed by the fronds of equal breadth throughout, growing horizontally at first before taking up their upright course, thus leaving a large, open centre.

A. NIDUS AUSTRALASICUM.—This fine evergreen plant (here illustrated) is a native of New South Wales, and may possibly be only a variety of the preceding species, from which it differs greatly in its fronds being of larger dimensions and of an elliptic lanceolate shape, instead of being of a uniform breadth. Besides the above characters there is one point essentially distinct; the fronds, instead of growing horizontally at first, are produced all round the rhizome and take an upright direction at the first start, so as to leave the crown elevated and exposed, thus making the hollow centre more funnel-shaped. Although requiring more heat to grow and develop properly in winter the best part of the year, *A. Nidus*

the pale-green fronds so much more durable than the deeper green ones that the change has been brought about. For early spring use another batch of plants should be grown; these should be kept in cold-pits and as dry as possible without injury to the roots. They may then be started in warmth late in the autumn, and under fair conditions will make good fronds, and either for cutting from or as pot plants will come in for use about February and March. Like those for autumn work, these should be hardened off after the fronds are fully developed. It is useless to try to get good results from plants which have been kept growing throughout the year; the growth these will make during the last three months of the year will be weak and imperfect, and they will also have become so exhausted that it will be late in the spring before they will make any progress. All *Adiantums* should be kept moderately cool and dry at this season, and will then, if given a little more warmth, make good growth as soon as the days begin to lengthen. Where the pots are well filled with roots a little artificial manure may be given occasionally while they are growing.

A. cuneatum still holds first place among Maiden-hair Ferns for decoration, though several others which are for many purposes

at top and bottom, and in the centre not more than an inch wide. How is it possible to get enough stems into this space to make the vase look well? Much of the material made to hold out flowers is more ornamental than useful. Surely those who value flowers are not concerned with the appearance of the vases? If we can have nice-looking vessels and equally useful then there is a gain. The same may be said against a large number of the ornamental pots to put plants into. Vessels that are simple in make, with a broad base, and that hold a good supply of water are the most suitable.—J. CUMK.

OUTDOOR PLANTS.

ARABIS (ROCK CRESS).

WHILE the common *Arabis albidia* will always be found in cottage gardens and in market gardens where propagated in immense quantities every autumn, it will long also find a place in ordinary gardens not only as an early border flower, but also for growing on rockwork. For flowering, the green form is much better than the silver-leaved or variegated variety, though that too grows strong and flowers freely. If needed for its leafage, then the flowers should be gathered. But for edgings and especially for its foliage none are better than the close, compact, and almost rosette-like golden variegated, sometimes called *mollis variegata*. This should not be allowed to bloom, indeed does not do so much. The plants should be lifted and be replanted every October, both to have them very evenly placed and to increase the stock. The variety does not increase fast, but in a few years a very fine stock of plants may be secured. Once obtained it will be hard to lose if but ordinary care be taken to keep the plants safe.

HARDY FLOWER NOTES.

HELEBORUS MAXIMUS.—The giant-flowered Christmas Rose is undoubtedly the finest late autumn-flowering hardy plant we have. When conditions are suitable, one may have first-class blooms from the latter end of October up to January. I have at the present time

if the glass is shaded from the time the buds appear, the pink tinge will disappear. I think the flowers are most beautiful, as they expand naturally in the open air, but it is a pity to expose them to the influences of our uncertain climate. Cold winds, heavy rains, and snow destroy the beauty of the flowers, so that some provision should be made for sheltering them. Like all members of the family this variety loves a little shade during the hottest month of the year. It should be planted where the sun goes off by midday. Heavy, moisture-holding soil should get a liberal dressing of leaf-mould, and very light sandy soil should be enriched with good loam.

POLYGONUM BERNONIS is another autumn-blooming plant of considerable merit. It is in the way of some native Knotweeds, the foliage being dark green and carpeting the ground thickly. The flower-spikes, thrown up some 18 inches above the leaves, are rosy-pink, deepening in colour as the season advances, becoming quite crimson by the end of October. They are quite weather proof, heavy rains having no effect on them and autumnal frosts seem to intensify their brightness. This Knotweed should be planted where the underground stems can run without hindrance, and where the plant can remain undisturbed for some years. It is one of those things that do not care for frequent root disturbance. It likes moisture, but will do very well in a sunny position on light soil.

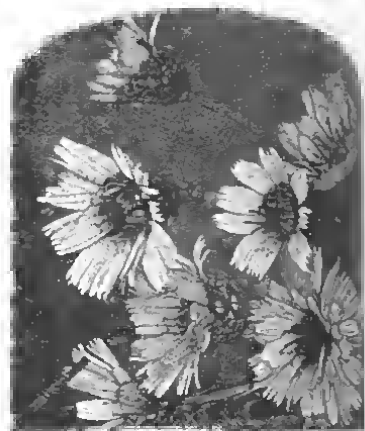
PLUMBAGO LAURENTE.—I made acquaintance with this plant some forty years ago, but can say that I have not seen it in really good form more than three times. It is by no means a difficult thing to cultivate, but it frequently disappoints, and comes in time to the rubbish-heap, especially in the colder districts of Great Britain. In the south of England the flowers do not begin to open before the middle of September. This season with me they were only expanding the first week in October, and are, therefore, liable to be cut off by hard frosts. It is, therefore, necessary to select a warm, sunny, well-sheltered position, so that the plants make an early well-ripened growth. This will hasten the formation of the flower-

time blossoming in a manner that affords the liveliest satisfaction. The fact of its blooming so freely outdoors at this season of the year, when flowers are scarce, and following so closely on the heels of the border varieties of *Chrysanthemums*, must be my apology for again calling attention to it.—A. W.

BLUE CUPIDONE (CATANACHE CERULEA)

(REPLY TO "PENTH.")

CATANACHE CERULEA (see illustration) is an old border plant, about 2 feet high, flowering



The Blue Cupidone (Catanache cerulea).

in summer. The flowers are a fine blue, and grows freely in corners and on margins of shrubberies. There are a white variety, which is as common as the blue, and a bicolor one. It is a native of Italy and the South of France, growing quickly in any soil, and is easily raised from seed.

DWARF PHLOXES.

IN the autumn of 1901 I planted a number of these attractive spring-flowering subjects in the rock garden. These blossomed in due course most freely, and have since grown into good-sized clumps, and give promise of a fine floral display next season. Each plant was set out in a "pocket" filled with prepared soil, the site for each being carefully selected, so that they would, when established, be able to display their trailing growths on and clothe the face of the rock forming the front of the "pockets." This they have done in a most satisfactory manner, and have largely assisted in hiding the inevitable bald appearance of newly-constructed rockwork. Among the varieties deserving of special mention are *P. amena*, a low-growing plant which is entirely covered with light pink blossoms early in May. *P. reptans* flowers later than the preceding, the colour being rosy-purple. It flowers quite as freely, but in habit of growth it is more loose and trailing, and does not form dense clumps. *P. subulata* has purplish-pink flowers with a dark eye or centre, and grows into a spreading mass not exceeding 6 inches in height. This flowered after the others were past their best, and is valuable, if only to prolong the season. *P. Nelsoni*, or *P. s. alba*, is a very effective variety having white flowers with pink centre, while *P. nivalis* is pure white, and flowers in the greatest profusion. This last is of very prostrate growth, and is, in fact, the dwarfest of all. *P. proemmensis* has pale lilac flowers, and sends out long, wiry, trailing growths, quickly hilling stones and rocks in their proximity. *P. frondosa* is another dense prostrate growing sort having light rose coloured flowers, and is a worthy companion to *P. amena*. The next two are more erect growers, and, although admirably adapted for growing on rockeries, are not so useful for the purpose named in the opening sentences of this note. One is *P. divaricata*, which has lilac mauve flowers, and the other *P. ocaia*,



The White Rock Cress (*Arabis albidia*). From a photograph by Miss Vaughan, Whittington Lodge, Worcester.

(Nov. 7th) plants carrying half-a-dozen good blooms, and they will continue to throw up until February. The pink tinge which distinguishes the flowers of this variety is very pleasing. In the open air this is very pronounced, the reverse of the petals being stained, but when the plants are sheltered by hand-lights the blooms come much purer, and

make note of it. To ensure good growth it is well to top-dress annually with leaf-mould or well-rotted manure. J. CUMK.

Wallflower Earliest of All. True to its character for flowering in advance of other varieties, this Wallflower is at the present

Original from the University of Urbana-Champaign

the colour in this case being deep rose, and is most effective. The individual flowers of both varieties are much larger than any of the above, and are borne in panicles, while the leaves are very large, compared with those of the trailing kinds, they being round at the base, and from about midway or half their length they narrow off to a point. These two varieties can also be employed for the embellishment of the fronts of flower borders with most satisfactory results. They all appreciate a light rich soil, and during hot, dry weather should not be allowed to suffer from want of water. On the approach of winter it is time well spent to afford the plants a light mulching of leaf-soil or, what is still better, Cocoa-nut-shire, which prevents frost and snow from injuring them to any appreciable extent, while it encourages roots to form wherever the growths come into contact with the soil.

A. W.

THE HERBACEOUS PHLOX.

THIS handsome plant, particularly valuable in the garden owing to the bright effect it produces during the summer and early autumn, between the seasons of the spring-flowering subjects such as Rhododendrons, Azaleas, Lupines, Delphiniums, and such-like plants, and of the autumn-blooming Michaelmas Daisies or Starworts, and perennial Sun-flowers, is, unfortunately, but rarely accorded the liberal treatment that its merits deserve. In the majority of gardens the erroneous impression apparently prevails that herbaceous Phloxes will succeed anywhere, and one consequently sees them languishing in shrubberies, barely keeping alive during hot, dry summers in unmanured, shallow beds, or struggling for existence in close proximity to plants of rampant growth whose far-reaching root-fibres absorb all the nutriment that should be reserved for the Phloxes alone. Such treatment is unworthy of such a decorative plant as the herbaceous Phlox, which, to be seen at its best, requires every whit as liberal allowance of food and moisture as do herbaceous Peonies and Delphiniums. In light soil this is specially imperative, and a heavy dressing of cow-manure should be placed at a depth of 12 inches to 15 inches, which will tend to keep the ground cool and eventually feed the roots, while, in filling up, the soil should be mixed with a good proportion of well-rotted hot-bed manure. In addition to this provision of rich food copious supplies of water will be needed in dry weather, for many of the Phlox roots are but just beneath the surface, and the upper rootlets soon shrivel if exposed to the burning rays of the sun day after day without being moistened. For this reason it is advisable to have the beds so constructed that the water does not run off them, but will sink into the soil. In heavy, holding soil these precautions are not so necessary, but even in this case the more liberal the treatment the more satisfactory will be the display.

Phloxes are far more ornamental in their effect when they are massed in separate colours so that they will afford breadths of one colour than if forms of varied tints are planted together, when they give the impression of a spotty medley of hues very different from the grand coloured-masses of crimson, salmon, or white which are provided when the former plan is adopted. Badly-coloured Phloxes of washed-out purple, dull magenta, and allied tints are often seen, but there is no reason why these should exist in any garden of to-day when varieties of the best colours are so easily obtainable. All dull or crudely-coloured forms should be banished from the garden, and none but the best introduced.

some hundreds, but the few here mentioned will be found good in their respective colours. *Red*: Coquelicot, vermilion suffused with orange; Etna, almost identical with the last named, but perhaps not quite so bright; Flambeau, large flowers of fiery orange-red. *Pink*: Baronne de Kessel Zeutsch, salmon-pink; Le Soleil, rose-pink, white eye; William Robinson, cerise-rose, crimson eye. *Purple*: Gretchenette, bright purple, white centre; Lord Raleigh, deep violet; Sesostria, violet-purple. *Lilac*: Escarmonde, soft lilac; Lucio Baitet, pale lilac-blue, white centre. *White*: Mrs. E. H. Jenkins, splendid white; Avdanche, Miss Robertson, very large flower, white with coloured eye; Madame Antoine Denis, white with crimson eye; Countess of Aberdeen, white with pink eye; Fille de l'Air, white carmine eye. In light soils herbaceous Phloxes may be planted either in the autumn or the spring, but in heavy soils spring planting is preferable. A mulching of rotten manure in June, and frequent waterings with weak liquid-manure from that time until the blooms are about to expand will increase the height of the flower-

niums. As far as it went my plan was very successful, but I quickly saw that my tubs had a "futuro" if managed with care and skill. The first winter the tubs, as seen from the house, were an eyesore when the kindly trails of Ivy-leaved Geraniums were destroyed by frost and then consigned to the rubbish-heap. The green paint, in all its hideous crudeness, could not be endured for so many months. The effect produced by several naked tubs was too artificial and formal to please anyone, and I therefore planted Ivy round them, and by the second winter the offending paint or form of the tubs could scarcely be seen. I had some of the beds turfed over and others filled with shrubs, leaving any Rose-trees suitably placed. Then I ennobly introduced two or three tubs, covering the sides with Ivy of different sorts, Ampelopsis Veitchi, Periwinkle, etc., keeping to ever-green creepers as much as possible for the sake of the appearance in winter. Ampelopsis Veitchi is, however, too beautiful in summer and autumn to be discarded.

The tubs can be kept bright and gay both in



Phlox Tapis blanc in Mr. Gumbleton's garden at Belgrove, Queenstown, Ireland.

stems and the size of the individual blossoms. Phloxes may be propagated by cuttings taken off the old plants in the autumn, these being the growths that shoot from the stem after the flower-head is removed, and kept under glass through the winter, or by those made after growth has started in the spring, which latter must be kept for a month or so in a frame before being planted out. Side growths appearing from the ground near the parent plant may be severed with good roots and soon make nice plants. Old stools may also be divided and replanted.

S. W. F.

THE GARDENING.

HAVING a flower garden too large for me to keep up in anything like good order with the limited amount of labour at my command, I began, two or three years ago, to brighten up neglected corners by tubs filled with flowers

spring and summer with very little care beyond watering. This is more than can be said for plants in a border, where a rat of water serves only to sprinkle the leaves, whereas the same quantity given to flowers in a tub goes home to their roots - no mean consideration this in a dry season. In starting the tubs care must be used. A surface of fine ashes must be first laid on the ground to keep out worms; then the tub, in the bottom of which at least a dozen holes must have been drilled, is placed in position, large crocks placed on each hole, and further a layer of broken crocks to ensure efficient drainage. On the crocks place a layer of rough, unscreened soil, so that the tub is filled to one-third of its depth, after which fill up nearly to the top with good garden soil, which, if possible, has been mixed with leaf-mould, silver-sand, and well-rotted manure. Unless the drainage be good and the soil well prepared and mixed you

will be disappointed in the quality and quantity of your flowers.

It would be beyond the scope of this letter to enumerate all the plants which may be advantageously used in succession in these tubs. Crocuses, Daffodils, and Hyacinths are amongst the bulbs which answer well; and close planting will give a better result. The brilliancy of a tub of yellow Crocuses peeping up in spring from what appears to be a clump of Ivy is very charming. At the end of May have your Zonal Ivy-leaved Pelargoniums, Heliotropes, Fuchsias, etc., ready, and after stirring up the soil when the bulbs have been removed, and reovating it by the addition of a little manure and any good compost, take the plants out of their pots and plant the Ivy-leaved Pelargoniums round the edge of the tub to allow them to trail down into the Ivy; then the Zonals, reserving a properly trained upright Ivy-leaved Pelargonium for the centre of the tub. Six Ivy-leaved Geraniums will be none too many for a tub, and the same number of Zonals. The arrangement of colours will be a matter of individual taste. A tub filled with Asters later in the season makes a good show, as also Stocks and many other annuals, which often fail in effect when scattered broadcast in a flower-bed. No one with any gardening capabilities at all can fail to secure brilliant patches of colour at a minimum of labour in gardens large or small. Ivy soon covers the tubs, starting off on its own account over the ground, and when it becomes too rampant is easily clipped into shape. The soil in the tubs during a dry season does not become so dry as might be expected, the Ivy or creeper outside helping largely to prevent evaporation. I cannot conclude without giving two pieces of advice. Hide the tubs by creepers as quickly as you can, forcing the growth by doses of liquid manure. Never throw away a paraffin cask, but have it sawn in half, and fill it with flowering plants. NIX.

Herts.

BOUARDIA LONGIFLORA OUTDOORS.

I do not think it is as widely known as it should be that this variety of Bouvardia can be easily induced to afford a great wealth of its beautiful white fragrant blossoms outdoors through the late summer and autumn months, and that without much trouble. Such is, however, the case, and the precaution is taken to select a site for the plants where they will be sheltered from the north and east, such, for instance, as a border in front of a greenhouse or a range of glasshouses. Here, if planted in a light, rich compost and afforded ample supplies of water during dry weather, they will thrive and make such growth as will astonish those who have not hitherto attempted growing them in this way, while from the middle of August until the middle of October—when they are best lifted and taken indoors—they will produce their trusses of long, tubular-shaped flowers in the greatest profusion. Of course, many will say we have an abundance of flowers at that period without troubling to grow anything so choice as Bouvardias, but although such may be the case, a border filled with them forms so beautiful and pleasing an object both to the eye and senses at the season mentioned, that if they could but behold them such objections would at once be dissipated. They give no more trouble in the way of labour and attention, and, in fact, do not require nearly so much care as many summer bedding plants, and all that is necessary is to keep them moist at the roots, and free from weeds by occasionally stirring the soil. A compost made up of loam, leaf-mould, and spent Mushroom dung in equal parts, with a liberal addition of river-sand or road-grit, suits them exactly, and in it the roots will ramble so freely that they can be lifted with balls of soil large enough to fill 10-inch pots by October. I use "cut-backs" for this purpose, and plant them in a border fronting a Peach house rather close together, so that they ultimately form quite a low hedge. Planting was done early in June, when the shoots were about 5 inches in length, and by the middle of August they had grown to such an extent that the growths were quite 3 feet high, and each plant 15 inches

through. Since then, although quantities of flowers have been cut for house decoration, the border has been quite a feature in the garden and has come in for a large share of admiration. The plants continue to afford flowers for some time after being lifted, if accorded warm greenhouse treatment. After they cease to bloom they should be gradually dried off and kept quite cool until March next, when they may be gently started into fresh growth, and finally hardened off so that they may be transferred to their summer quarters early in the month of June.

Most varieties of Bouvardias make excellent growth if planted out in the summer months; in fact, many gardeners grow their stock in this way for autumn and winter blooming, but none of them make such growth and produce such a profusion and continuity of bloom as does the variety under notice. Such a success has it been the past two seasons that provision for making a still greater display with it will be made between now and next summer. Those who are called upon to furnish an abundant supply of scented white flowers in late summer and autumn months should make a point of growing this Bouvardia on the lines indicated, and they will not, I venture to think, be disappointed. A. W.

HERBACEOUS BORDERS.

If evidence were needed to convince anyone of the superiority of borders of hardy herbaceous plants over summer bedding, one has only to learn a lesson from the past season. In not a few gardens where Pelargoniums, Calceolarias, Lobelias have helped to form the display, the dull, wet weather we have had has contributed to abnormal growth, with a falling off in bloom. On borders, however, where hardy plants have been, this has not obtained in anything like the same degree, and, generally speaking, notwithstanding much adverse weather, hardy flowers have been as plentiful as ever; indeed, in some respects the rain has proved beneficial, particularly in the case of Pyrethrums and Campanulas which were cut down after their first flowers. These furnished many useful blossoms in September, which one cannot always guarantee in a dry season. But now the glory of our herbaceous borders is past, and we are face to face with the season when planting may be done. There is pleasure to be found in a garden at all times—in the autumn, when the plants are resting, as well as in the summer, when their blossoms are on every hand. Just at present few flowers are to be seen, but now is the time to extend borders and enlarge one's collection. Specimens possibly we saw in bloom last summer will be added, clumps in our own borders that long have needed dividing will be dug up and split, and so the beauty of the garden will be further enhanced. It is a good plan to go over all herbaceous plants at this season and renew any labels that are nearly obliterated, so that during the winter there will be no possibility of our disturbing plants in mistake. One may instance Pyrethrums, Starworts, Chrysanthemums, and Phloxes that benefit frequently in being divided. We, doubtless, each have our own ideas as to the

ARRANGEMENT OF HERBACEOUS PLANTS.

It is nice to have as long as possible some flowers in the borders. In too many gardens there is a galaxy of blossoms from June to September, but in the interval there is an entire absence of bloom; but this need not be, having regard to the many that flower early and late in the season. We close the year with the Hellbore, whose blossoms open pure, even amid frost and snow. Why not augment the display by introducing one or two shrubs like the Winter Sweet (*Chimonanthus fragrans*), or the yellow Jasmium (*nudiflorum*), especially if we have a wall at our disposal? Then early bulbous things, as Aconites, Scillas, and Chionodoxas, will keep borders bright for many weeks. In the colour scheme of one's borders, too, it is largely a matter of taste. Pæonies, Oriental Poppies, or Kniphofias would not offend some if planted in close proximity to the walk, whereas others would consider them ill-placed in any other position than a distant one, where their tints are somewhat subdued. Again, one should, if possible, avoid having too many of the same colour in the border. What is

method and order should be manifest in every garden, one should remember that the best effects are not produced by endeavouring to grow every plant in a straight line. Some plants need full exposure to light to bring out prominently every detail, and some flowers with quiet tints need to be planted on the fore-front of the borders. With certain flowers their beauty is considerably enhanced when others intervene. It should ever be a question of harmony, and not of great contrasts. After all, what are really the happiest recollections of gardens we have seen? The blaze and garishness of some place where crude designs in carpet bedding exist for a time? I think not. Rather is it, to my mind, the garden where hardy plants bloom in succession, and come again year after year. WOODBRISTWICK.

NOTES AND REPLIES.

Agrostemma coronaria Walkeri.—This is a hybrid between *A. coronaria* and *A. flos Jovis*, and is a great improvement on both, the offspring having a neat, compact habit of growth, and possessing the good feature of lasting in flower until late autumn. The flowers open in rosy-crimson, and deepen in colour to purplish-crimson before fading, and a clump in full bloom can be seen a long distance off. The height is 18 inches, consequently it can be planted in the front row with telling effect. A. W.

Gaura Lindheimeri.—How beautiful and free flowering this has been during the past season. In fact, been in flower more or less since the middle of June, and only succumbed when cut off by the sharp frosts experienced the third week in November. All having a herbaceous border should make a point of growing it, not as an isolated plant, but in clumps, when they will be found self-supporting, or only needing four or five stakes and strings round the outside. It then rewards the owners with great quantities of spikes of the beautiful white and slightly rosetinted blossoms, and gives a long succession of them into the bargain. A. W.

Helianthemum.—Are these, in your opinion, worth sowing as hardy perennials, say in April next, and if they look well on comparatively small rockeries? I should get a packet of mixed seed. F. ALKXANDER.

[The *Helianthemum* is a plant of sub-shrubby habit, rather procumbent, and spreading freely. The blossoms are rather more than 1 inch across, mostly single, and appear several at the tips of the rather wiry stems. The plants are very hardy and true perennials. We should not be tempted to use them on quite small rockeries (there are so many better things), but on those of a rougher type in a less frequented part of the garden. Seeds of these may be sown any time during winter, and the earlier the better, for at times they are of uncertain germination. Any good seedsman will supply the seeds.]

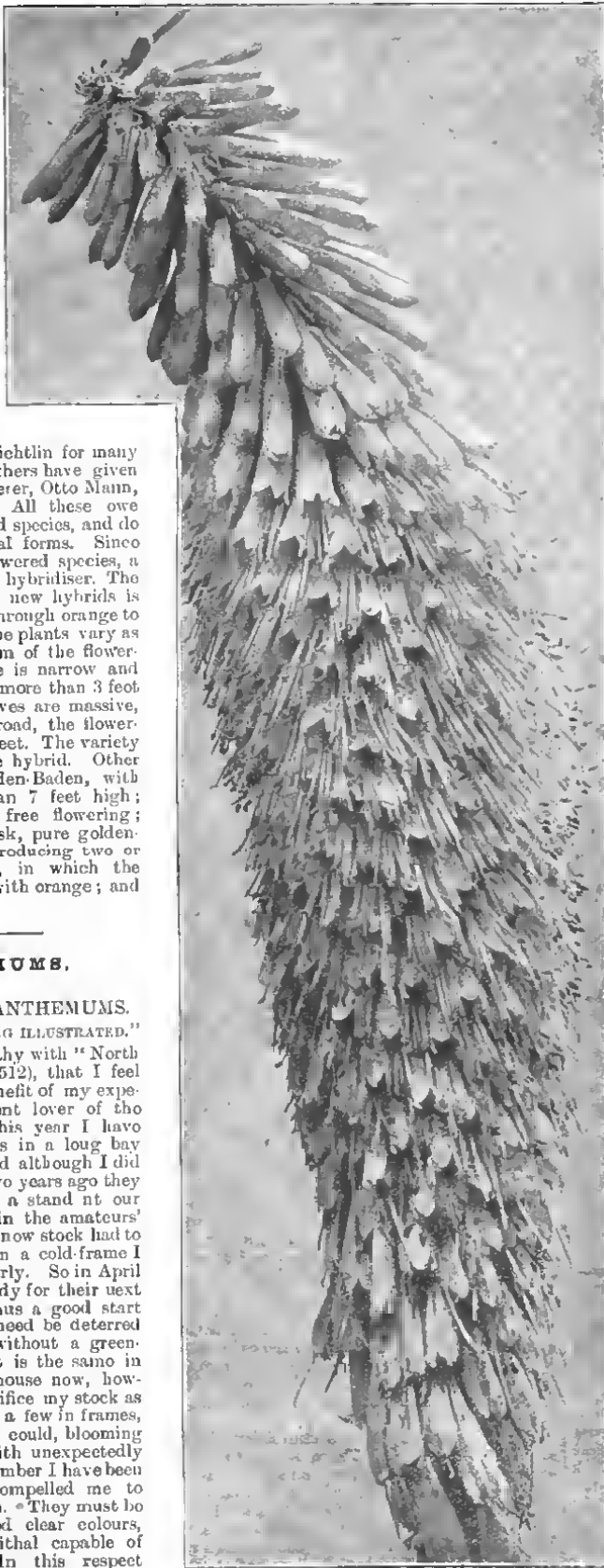
Treating seedlings of biennials.—I have recently bought "Hardy Flowers" (Wm. Robinson), the admirable clearness of the instruction in which renders it infinitely more valuable than the small sum (1s. 6d.) it cost me. I notice in the sowing of hardy perennials it favours the plan of leaving the seedlings in the seed-bed until autumn transplantation. Would you have the kindness to say if, in your judgment, this should be adopted in the case of hardy biennials, such as *Honesty*, *Cantabrigia*, *Bells*, and *Sweet Williams*? As you know, some authorities counsel these being transplanted once into reserve beds before being finally planted out. F. ALKXANDER.

[Exactly what is best to be done with all seedlings and with quick-growing plants in particular, depends on the seedlings alone, and especially as regards size and age. To keep certain things of naturally quick growth confined in the seed-pots or boxes for a prolonged period would, in not a few instances, mean partial ruin. This is due to the inability of the plants to develop afterwards. Seedlings sown in the open ground and quite thickly would not generally come under this head, and with the plants named, as *Honesty*, *Sweet Williams*, etc., by reason of the soft nature of the stems, these would take no harm. The same things in pots or shallow boxes would simply be starved if allowed to remain in such receptacles. An excellent plan with all these quick-growing subjects is to transplant when quite small into a prepared bed in the open, giving room for development, so that when the time arrives for transplanting to permanent quarters a good ball of earth and a tuft of roots provide us with a satisfactory material check.]

HYBRID FLAME-FLOWERS (KNIPHOFIAS).

LAST beautiful hybrids have, within the past few years, been raised, but if one only had the old Kniphofia Uvaria it is a plant capable of yielding very fine effects when planted in groups along with other suitable vegetation. All the hardy kinds do well in deep, well-drained soil. Once well planted Kniphofias form an effective mass of colour, and their beauty is visible at a long distance. A bold group of flame-flowers, backed or partly surrounded by amboos, is, in October, when in bloom, very effective.

We are indebted to Max Leichtlin for many of the hybrid forms, while others have given such varieties as John Waterer, Otto Mann, and Leichtlin, and others. All these owe their origin to the red-flowered species, and do not vary much from the typical forms. Since the introduction of yellow-flowered species, a new field was opened up to the hybridiser. The prevailing colour in all these new hybrids is now in all shades, varying through orange to crimson. In habit the plants vary as much as in the colour and form of the flower-stems. In some the foliage is narrow and deciduous, and the spikes not more than 3 feet high, while in others the leaves are massive, the spikes reaching a height of 7 feet. The variety figure to-day is a very fine hybrid. Other kinds are Star of Baden-Baden, with orange-yellow spikes more than 7 feet high; or, orange-yellow, very free flowering; or, deep yellow; Obelisk, pure golden-yellow, strong spikes, often producing two or three smaller spikes; Leda, in which the flowers are coral red tinged with orange; and Meteor, deep red.



Kniphofia hybrida Triumph. From a photograph by G. A. Champin.

CHRYSANTHEMUMS.

AMATEUR'S CHRYSANTHEMUMS.

THE EDITOR OF "GARDENING ILLUSTRATED."
I feel so much sympathy with "Northwood" (Nov. 29th, page 512), that I feel tempted to give him the benefit of my experience. I am such an ardent lover of the Queen, that until this year I have raised my Chrysanthemums in a long bay window facing south-west, and although I did "grow for exhibition," two years ago they were so good that I entered a stand at our garden and gained first prize in the amateurs' class. The trouble was that a new stock had to be bought every spring, as in a cold frame I did not strike sufficiently early. So in April I bought plants in 60's ready for their next year, and thus a good start was made. Indeed, no one need be deterred from growing a few, even without a greenhouse, as summer treatment is the same in all cases. I have a greenhouse now, however, so do not have to sacrifice my stock as a novice. I, of course, saved a few in frames, and cuttings, as early as I could, blooming plants in 6-inch pots with unexpectedly good results. The limited number I have been able to accommodate has compelled me to make a very careful selection. They must be of dwarf, strong habit, good clear colours, easy doers, and yet withal capable of producing large blooms. In this respect I am misleading to a novice a visit to a show. We see Mme. Carnot or Mrs. H. Weeks all their massive, yet chaste beauty. We do not know how many plants of each the breeder grow to obtain these grand blooms in time, or how he manipulated them. We then, with the result, probably, that the breeder produces a bloom like a "Catherine Wheel," and the other shows a bud on a set high plant about Christmas; if therefore I send a short list of such as I have found to

do well under ordinary treatment (do not translate this to mean spasmodic attention), and without scientific cultural knowledge. For whites, I head the list unhesitatingly with Miss Alice Byron, then Miss Nellie Pockett, Mrs. G. Henry, and Snowdrift. UN

believe Miss Elsie Fulton will prove an amateur's friend; it is exquisite. Good yellows are President Nonin, Lord Ludlow, M. L. Remy, and Mabel Morgan. Pink or lilac: Mrs. Coombes, Mrs. Barkley, Mrs. George Mileham, and Louise. Amaranth shades: M. T. Carrington and Millieent Richardson. Of dark varieties I have tried and discarded many. W. Seward is of a good colour but weak in the stem, John Shrimpton a strong-growing variety useful for decoration. In selecting a typical amateur's bloom I look for one which does not produce quilled petals too freely, or one in which the dark colour is inside and is lost. For example, the Hon. W. F. D. Smith, unless well grown, shows so many quilled petals as to look more golden than Ormiston. So also Lady Roberts. At a local florist's last week I saw a bloom on a dwarf plant of Violet Lady Beaumont, which seems just what we want; a large reflexing bloom, well filled centre, showing all the crimson, etc. I was assured it is a good doer. Having tried W. R. Church I can strongly recommend it. It will be noted I do not mention V. Movel and its sports, as probably every collection includes these standard sorts.

The foregoing is a limited list, but I have tried them all, and know their merits. Struck sufficiently early they will break naturally. If not, I pinch in early April for second crown bud. This puzzles a beginner, and I hesitate to mention "buds," so usually advise, if there is no sign of second break end of June or early July, to pinch again then, and a bud is sure to appear during August or early September in good time. There is such a chain for some in incurred that I advise all to try a few. Mme. Ferlat, C. H. Curtis, Hanwell Glory, and Fred Palmer are a range of colours and easy to grow. In conclusion, large blooms can only be produced on well-grown plants, no matter how good the variety.

ANNIE E. WHITEHOUSE.
Baball Heath, Birmingham.

LATE CHRYSANTHEMUMS.

I SHALL be very glad if you will kindly give me the names of the best late Chrysanthemums for market?—SUSAN JERRA.
[As the number of late kinds has increased considerably during the last few years, it is rather difficult to say which are the very best. I do not, however, see how L. Canning can be dispensed with. It is not quite so vigorous as could be desired, and florists complain that the flowers do not keep well, but one can always depend upon getting a supply of good blooms through January. Mme. Ad. Chatin is much in favour with market growers just now. It is of dwarf, compact habit, and the flowers are large and finely-formed. The late white of the future is probably Tuckwood White, raised from seed saved in Australia. As regards habit of growth, quality, and quantity of bloom it appears to be almost perfection, plants in 8-inch pots producing up to fifty good blooms. It is of easy culture, does not take mildew, and the blooms are almost damp proof. It would be difficult to name a Chrysanthemum endowed with more good points than this one. Boule de Neige is an old and very useful variety for cutting in December, but it cannot be relied on after Christmas. I cannot recommend it for the London markets, the blooms are too formal and not large enough, but in the provinces, where the standard is not quite so high, I should certainly advise a few plants being grown. It produces a large quantity of blooms, very pure and

worthy Rambler, Mme. Isaac Periere, Robusta, Parity, and Mrs. Anthony Waterer; and as bushes we can recommend the following as being hardy and suitable to your locality:—Grace Darling, Caroline Testout, Clio, Captain Christy, La France, Mrs. John Laing, Dr. Andry, Dupuy-Jamain, Ulrich Brunner, Gruss an Teplitz, Marie d'Orleans, Mario Van Houtte.]

Six Roses for pots in small greenhouse.—Kindly give me names of the best six pot-Roses to grow in house, span-roof, 12 feet by 8 feet, by 7 feet high. I want those that are continuous bloomers, rather small than large blooms preferred for cutting and buttonholes, and free-flowering. As the house is small they will require to be dwarf growers? Would Liberty, R. A. Victoria, Perle des Jardins, and Niphetos be suitable? Hints as to general culture will oblige. In winter I can keep house heated to 15 degs. to 50 degs. in severe weather.—G. H. S. USARINE.

[Liberty, Perle des Jardins, and Niphetos would be excellent. Three others we should recommend are Mme. Hoste, Mme. Jules Grolez, and Papa Gontier. This would give you a range of colour—white, yellow, pink, and crimson. Kaiserin Augusta Victoria is rather a late Rose, and being so very double, somewhat difficult to expand in midwinter, unless in great heat. It is a splendid kind, but one we could hardly advise you to attempt. Although you ask for pot-Roses, it is just possible, in this small structure, that you could prepare a bed in the centre, so that plants could be planted out. If this is practicable you would

ing directly they are pruned, and when new growths are just breaking give them a good watering. After this water very carefully, the syringing being almost sufficient moisture until foliage is well developed. If you commence by giving plenty of air both at side and top, you will have very little trouble with mildew, and the syringing with cold water on every favourable occasion will still further ward off this fungus, as it has a tendency to harden the foliage. Be on the alert for the first appearance of green-fly, and immediately fumigate the house. This must be done in the evening. You will find the plants will require from twelve to fourteen weeks to get them into bloom from the time they are pruned, but when growths are well advanced the plants will bear more forcing should you require them earlier. When flower-buds are seen tie out the growths to small sticks, in order to afford ample light and air to the foliage, and they may then have weak doses of liquid manure about once a week at first, then, as buds swell, twice a week.]

Rose La France de '89 (H.T.).—A magnificent Rose, marred by its absurd name, which misleads many individuals, they mistaking it for the old La France. The colour is brilliant red, flowers of immense size, drooping, and Prunus-like in form. To see this showy Rose to perfection one should plant it against

consequently you cannot cut these back as advocated above. An alternative plan in order to make the most of the growths now upon the plants is to leave them untouched with the knife, and when they start into new growth to rub off the bottom shoots, which will have a tendency to make them break higher up. The varieties upon the south wall will be all the better if the growths are cut back to about half their present length, but you must not do this until end of February or beginning of March.]

TREES AND SHRUBS.

TREE BORDERED WALKS.

In most gardens there occur spots either bordering or within sight of frequently used paths where, although the ordinary herbaceous border would be out of place, the informal grouping of flowering and fine foliaged plants would add greatly to the effect. Strong growing subjects of both kinds are eminently adapted for such places and where only partial shade is thrown by deciduous trees flowering plants may be massed with excellent results in the open spots. Serried ranks of white Foxgloves bearing aloft tall snowy spires have a charming appearance in such a site, and groups of white Honesty (Lunaria) are also telling. Great Maheins with grey-green foliage and towering yellow flower-spikes are noble plants, and the Flag Irises will give colour in the early summer, while in the spring, before the leaves of the trees expand, the stronger of the golden trumpet Daffodils will display their glowing yellow. Solomon's Seal is a graceful plant and succeeds under trees, especially if the soil be somewhat moist, and many of the Michaelmas Daisies appreciate partial shade. Beo Balm or Bergamot (Monarda didyma) is most effective when massed in a position where it can enjoy full sunshine for some hours of the day, and provides a breadth of rich crimson; while Campanula latifolia and its white variety, Geranium pratense, Centaurea macrocephala, Scabiosa elata, Bocconia cordata, Telekia speciosa, and other strong-growing perennials are well suited by the surroundings of the semi-wild garden, provided they get a fair amount of sunshine. Of fine foliaged plants we have the Yuccas, Acanthus latifolius, Heracleum giganteum, only suitable for a wild spot, the Globe Artichoke, a plant grand in form and soft in colouring, Silphium perfoliatum, the Compass-plant, Rhubarbs, of which one of the best is Rheum Emodi, Crambe cordifolia, Angelica, Funkias, Molospermum circutarium, and many others. Where paths lead from the well kept pleasure ground to the wild garden, the planting of their verges and surroundings should be arranged so as to gradually lose the appearance of formality until it merges into the absolute freedom of natural grouping. S. W. F.



Tree bordered walks. Engraved for GARDENING ILLUSTRATED from a photograph sent by Mr. G. P. Stanton, Townham, Gindfield, Sussex.

achieve greater success. It is surprising to what vigour such plants will attain when thus planted out, but you need not fear the kinds named would grow too high. Supposing, then, that you are able to make a bed for the Roses, the first step will be to remove the old soil to a depth of 2 feet 6 inches or 3 feet. Put in the bottom 6 inches of rubble, such as broken bricks, clinkers, or large stones. Then procure some turves, and place a layer of these grass side down. Fill up the remainder of the bed with good loam, two parts, and well-decayed manure, one part, adding about a 6-inch potful of 1/2-inch bones to each barrowful of the compost. This may seem rather an elaborate preparation for a few Roses, but we can assure you it pays best to begin well. You can plant out bushes grown in the open ground, but the very best would be those grown in 8-inch pots under glass be careful, however, to procure them on the Brier, unless own root plants are obtainable. The Manetti-stock is very useful for one season, but Tea Roses grafted upon it are very short lived, although they force better for the one year. If, however, you elect to grow the plants in pots, we should advise you to obtain these extra sized established plants in 8-inch pots. The treatment in both cases would be to prune moderately next month and keep house as cool as possible, provided no frosts enters, until new growths are about an inch in length. Syringe the plants every five morn-

a wall, for it makes quite a good climber. The foliage and growth are very distinct, and clearly prove it to be a Hybrid Tea. It has been particularly good this autumn, and I can recommend the variety as being one worth growing, especially where a showy Rose is desired. It objects to the Manetti as a stock, seemingly thriving best on the De la Grifferaie. Doubtless it would be a great success on its own roots.—R. S. A.

Pruning newly-planted Roses.—I have just planted the following Roses—Maréchal Niel, Niphetos, Gruss an Teplitz, Madame Lambert, Etoile, Climbing La France—out-oh a cool greenhouse and intend bringing the roots in and training over the roof. How and when should I prune them? Also the following on the south wall of the house—Sempervivum, Climbing Crazeville-Supérieure, Caroline Pillar, Bevoisensis, Mrs. W. G. Grant, Blaul No. 2, Crimson Rambler, Yellow Rambler, and various Ayrshire Roses.—BILLE ISLE.

[The varieties planted near the greenhouse with a view to bringing them inside would be best if cut back next March to about half their present length, but we fear with such kinds as Mme. Lambert, unless you have planted extra strong plants, you would be unable to bring the growths inside the structure. Such varieties as the last-named are excellent for climbing moderate heights, but when used for the purpose you have in view it is always best to make a border inside and plant selected pot-grown plants which have growths 2 feet to 3 feet in length. Of course, such kinds as Maréchal Niel, Etoile, etc., are pruned with growths some 3 feet to 5 feet in length,

Desfontainea spinosa grafted on Privet.—I looked eagerly for the answer and am disappointed, for you have, for a wonder, altogether missed the mark. I do not want "help" about the shrub—it is growing very well. What I called attention to was the fact of a great woody shoot of Privet growing out of its root stem, just below the soil, and then the Desfontainea bearing Privet flowers (in clusters, not spikes). Surely these two things are worthy of note? They seem to me extraordinary, and naturally the former just suggested the idea of grafting, as how else could it occur? I should be pleased to see some remark or explanation such as you often give to correspondents on things not wroo peculiar. I could not send specimens of both plants. I hewed off the Privet bough and am not aware that any other has grown out, as I have not seen it very lately.—M. A. II.

[It is quite impossible for us to form any correct idea unless you send us specimens of both the plants you refer to, but we do not think that the Desfontainea is grafted on the Privet.—Ed.]

Request to readers of "Gardening."—Readers, both amateur and in the trade, will kindly remember that we are always very glad to see interesting specimens of plants or flowers to be illustrated. We will kindly send them to our office in as good a state as possible. URBANA-CHAMPAIGN

VEGETABLES.

EDIBLE-STEMMED PLANTS.

Just now a plant of exceeding value, the Celery, is being largely consumed for its blanched and delicately flavoured, crisp-eating stems. Very soon we shall be employing the blanched stems of Rhubarb in tarts, stewed or otherwise, presented at table as a pleasant sweet. So, too, will be the white stems of the leafage of Seakale, a remarkably valuable winter product, also of Asparagus, which, if but partially blanched, gives quite delicious food. Beyond these, very nice for stowing, are the solid white stems of Leeks, when well blanched, and even the equally well-blanched leaf-stems of Chicory form delightful salading. When it is remarked that some of these vegetables can be had in gardens all the year round, and all are most wholesome food, we need not be too fearful of famine. Very recently mention has been made of an Australian Rhubarb now being grown here, that changes the order of the seasons and makes its stem growth naturally in the autumn and the winter. This is just as good a variety as is any of our summer Rhubarbs, and is called the Christmas Rhubarb. It is but needful to turn over plants of it in October tubs without tops or bottoms to protect it from frosts, and later, if the winter be more severe, to pack litter or Fern round the tubs, to keep the stems naturally growing. With ordinary Rhubarbs, if it be wished to have some early forced, a few of the strongest roots may be lifted, be put close together in a warm, dark place, with soil about the roots, and well watered; growth rapidly follows. But this should be done only where there is a large stock of roots, and some smaller or divided ones are put out into fresh soil every year to keep up the supply. Where roots are few, covering them up with tubs and a thick coating of warm manure and tree-leaves is the best way to force early stem growth. Seakale, a singularly useful stem plant, is easily produced in quantity. A sowing of seed thickly in drills, 2½ inches apart, in April, on good, deep, well-marured soil, the seedlings being thinned out to 12 inches apart, will give over 150 plants to the rod. If these be lifted in the winter after the leaves have ripened they will be found to have many side roots. These should all be cut off close to the main stem and be laid one way, then the main roots and crowns laid into soil thickly, ready for use, to blanch in a dark, warm place, and in soil during the winter, as wanted. Each root will give a good head of blanched stems, and when that is cut the roots may be thrown away, fresh ones taking their places. The root pieces should be made into cuttings 5 inches long, and be laid in thickly in the ground for the winter, the tops just covered with soil. There the tops and bottoms will callus over. Then they should be planted just as advised for the seedlings in April. Asparagus is best partially blanched by causing the stems to come up through some 3 inches to 6 inches thickness of soil, only the tender tops being greened. Leeks need treating as Celery is—that is, planted out into trenches, and as they grow earthed up. Then, when well blanched, the stems stewed are delicious.

A. D.

NOTES AND REPLIES.

Twin Cucumbers.—I enclose herewith as a curiosity a photo of a twin Cucumber, which grew in my garden this summer at Wingfield House, near Trowbridge. In one photograph I took it in the frame, in the other picked and held by the gardener. —(LADY) LILY V. CAYLAND.

[Twin fruits occur occasionally in all phases of Cucurbit culture. —E.]

Lifting Rhubarb roots.—I have about a hundred good roots of Rhubarb, which I intend to lift and force, and, as a constant reader of your valuable paper, should feel greatly obliged if you would kindly inform me, in an early issue of same, how they should be kept when lifted—if left on the ground in the open, or kept in the dry before being forced?—J. P. M., Tamworth.

[Lift the roots and place them under a wall or in some sheltered position, covering up with soil and some litter, so that, in case of severe weather, you can get them when you want to put any into heat for succession.]

Globe Artichokes from seed.—In severe winters these have suffered badly, and in many cases seed sowing has been resorted to for the production of stock. It is not advisable to obtain plants from seed if it can be

helped, as the seedlings are often so poor that it pays well to obtain suckers or offsets, even if the expense is much greater. The great objection to plants from seed is their inferior quality. Those who only have room for a limited quantity and are getting short of plants would do well to carefully detach the small suckers of this year's growth before covering up the plants. These may be potted up and kept in cold frames, and will make nice plants for spring planting if a small ball of earth is taken with the roots at the time of potting. Little water will be required during the winter.

Spinach in exposed positions.—How much better this vegetable stands severe weather if not coddled in any way and kept clean and thin. For early sowing in the spring a sheltered spot may be beneficial, but for the winter supply coddling is a mistake. A well-drained quarter is much better than shelter overhead. Of course, with winter Spinach more depends upon the time of sowing than upon the variety, as nearly every kind is hardy. It is the excessive wet combined with insect attacks at the root that often injures the plant. Sowing on firm land is of great advantage, the growth being hardier, the foliage thicker, and less liable to injury.

Moss-litter-manure.—Can you advise me how to make the best use of Moss-litter-manure in the garden? I tip it into a place about 6 feet deep and it keeps hot. My gardener complains that it heats too fast for hotbeds, and then goes off. I have about three of Oak-leaves, and a few Beech leaves. Would it be a good plan to mix leaves with it in the heap?—(Col. H. JONES).

[The better way to treat the above will be to mix the manure and the Oak and other leaves in layers, and with every layer of a thickness of 4 inches well water it. A better place than the pit, unless the latter is roomy, would be any open place that is rather lower than the general surroundings, so that the entire heap could be turned at least once every ten days. The great heat and the sudden subsidence of it are due to a lack of moisture in the heap. Mixed with the leaves, thoroughly moistened and incorporated, a steady and uniform heat suitable for hot-bed could be maintained for a long time. How long depends not a little on the making of the bed and, of course, the thickness also. Moisture, however, must exist in a degree sufficient not merely to generate the required heat, but with the subsidence of this to set up a process of decomposition also. Minus moisture the heart of a manure-heap will soon become a dry mass, impervious to further decay or greater warmth.]

Celery.—This is good this year, the wet season having suited it. The crop for late spring supply ought soon to be earthed up now, as much frost plays havoc with it, especially after a wet, mild autumn like the present, with the exception of a few frosty mornings the third week in November. A fine, dry day must be chosen; in fact, several days will be necessary on heavy soil ere such work can be undertaken, and it will be prudent to scatter a little lime between the plants, as slugs are abundant. Let this be the final moulding, as the plants make very little more growth from this date, smoothing the soil with the back of the spade so that rain will quickly run off.

The mild autumn and its effect on vegetable.—I do not remember in my gardening experience of over 40 years having seen the summer vegetables hold out so late in the season. This will do much to reduce the need for using roots, etc., giving a fine store of these, should we have a severe winter. I had a continuous supply of Peas from mid-June till the close of the second week in November. This arose from growing somewhat dwarf kinds on a rich, warm border, close by the glass-house. Runner Beans were sent to the dining-room on the 18th of November, and although these were late in coming into use in summer, this was compensated for by their lateness. The late supply was obtained from a sowing made on deeply-worked land at the end of the first week in July. Some may say this was too late to sow. I am aware it would be useless in a general way, but surely a small sowing is not ruinous, and certainly it is worth trying to continue the supply of this, the best of all Beans? New Zealand Spinach, again, has been most abundant, and helps to save the autumn-sown kinds in cold comers.

It is to be regretted this is not more grown, for no Spinach is so productive, and I never hear any complaints of its flavour. Now, 29th of November, I have many good patches under handlights. Nothing could be more satisfactory than the Autumn Cauliflower and the Self-protecting Broccoli. In early summer the plants made but little progress, but when their roots got down into the bottom spit, where the food was, they made headway, and produced enormous heads. When the cold began, middle of November, I took up all that were headed in and placed them together, heeling them into the soil, and covering with mats in cold weather. From these I shall have a supply till the new year. Lettuces have been splendid, both in my own garden and several others I have visited. Hicks' Hardy Cos I grow for autumn.—J. CROOK.

Green house for Tomatoes, etc.—I am going to build a greenhouse for growing Tomatoes and forcing Rhubarb and raising flower-seeds. The house will be 20-100, 14 by 9, 7½ at the back, and 4½ at the front. The tent will be half glass and half board, and I am going to heat it, having a flow and return pipe along the front. The house will face south and will have sun early and late. Do you think I shall be successful with it, and when shall I have to start Tomatoes for profit?—ESQUERRA.

[We have not the least desire to discourage your very laudable efforts in growing these plants for profit, but the number of plants you could grow in such a house as you describe will be very small. The only possible chance for "profit" at all in these days of overwhelming competition is that of ripe fruit in May, or even earlier. To obtain this the plants are already of fair size and in their fruiting-pot. This early-fruiting batch requires a good deal of heat in winter, and this would not be forthcoming from the amount of piping you intend putting down. Ifad the house had quite twice the amount of piping the necessary heat may, with good stoking, be forthcoming. In the circumstances you will be only able to get a summer crop. For this the seed may be sown in January or early February, in rather dry soil, keeping the house as warm as you can. As the seedlings come up and attain 2 inches in length, prick them off into pots, say, four in a 3-inch pot, placing them around the inside of the pot. If you sow the seeds at 1 inch apart in shallow boxes the plants could remain much longer before potting off. This is important, and many seedlings perish in the spring of the year, especially when made too wet. In your case your best plan will be to plant one row at the front and train the plants up near the glass roof. By taking up only the main root or vine you could plant at 1 foot apart. You may also fruit a few in 9-inch pots placed on the floor, not allowing more than four bunches of fruit to each plant. No shading whatever will be required for the Tomatoes.]

Artichokee—Jerusalem and the Globe.—The former, with me, has produced very fine tubers this season, owing probably to the frequent showers during the past summer. I still cling to the old purple variety, this being preferred to the white one recently introduced. If not already done, the growths should be cut close to the ground, and after taking up a supply for a week or so, and placing in the root-store, the quarter should have 3 inches or 4 inches of partly-decayed leaf-soil scattered over as a mulch, not that this tuber is likely to get spoilt by frost, but should severe weather set in the roots can be much easier taken up than is possible when the ground is frozen hard. The Globe, on the other hand, is often much damaged, if not actually killed outright, in some of the cold northern counties unless precautions have been taken to put up a reserve stock, keeping these in a brick pit, plunging the pots in leaves or coal-ashes, and covering the glass lights during much frost, but exposing the plants to full ventilation whenever the weather is favourable. It plunged as advocated, with an inch or so placed over the pot, no water will be necessary for the next two months. In warmer localities all that is necessary is to pack straw litter, Braeken, or fresh-fallen leaves well in among the old stools, putting a few forked or branched sticks around to keep the wind from blowing such protection about the garden. This should remain until March or until severe frosts are no longer the order. Some gardeners push it aside when a spell of mild weather sets in, but it is a tricky job.

as it may be overlooked when King Frost appears in earnest, and I do not find such protection do any harm during the next three months.—J. M. B.

GARDEN WORK.

Conservatory.—A little more pressure must now be placed upon the forcing department. Bulbs must be moved into heat. Double and single Narcissi that were potted early and have filled pots with roots may have a temperature of 60 degs. and be well supplied with moisture, with liquid-manure once or twice a week. If the bulbs are allowed to get too dry the flower-buds may die and wither without opening. The Italian Hyacinths in various colours are very useful, and come in soon after the Romans, which, though called Romans, are usually grown in France. The Bleeding Heart (*Dielytra*) forces well when thoroughly established in 6-inch pots. The roots of this plant can be bought very cheaply on the Continent, and though these imported roots will not force the first season, they will flower very well in a cool-house, and if hardened off and plunged out during the summer, they may be had in bloom early the following season. This is a very useful plant for the unheated conservatory. Tree Carnations are now very sweet and nice where well done. They must have the best loam mixed with a little very old manure and enough sand to keep the soil open and sweet. I do not care much for nostrums of any kind, but a dash of soot and a little bone-meal at the last shift will be useful. Free drainage and firm potting are necessary, and a light position when coming into flower; in fact, light in abundance is at all times necessary to obtain the best results. The Orange-tree has almost disappeared from the modern conservatory. It is sometimes found in old-fashioned places in the country, and very sweet and refreshing its fragrance is, and when the plants are large one can generally have blossoms and fruit on the same tree at the same time. The Orange is not at all difficult to cultivate. To grow good Oranges there must be warmth, but for decoration an ordinary greenhouse temperature will do. I think I have read somewhere that Orange-trees from seeds are more profitable to the Orange grower than grafted trees. Under artificial conditions, though Orange-trees are very easily raised from seeds, they are a long time coming into bearing unless grafted. But what a charming background to a large conservatory seedling Oranges would make, and some day they would flower and bear fruit in abundance. They should be planted in good loam and helped after they begin to bear.

Stove.—Heat and moisture will push things forward, but in cold weather it will be better not to waste the fire in securing high temperatures. Anything over 60 degs. may be considered a high temperature when the thermometer outside registers nightly 10 degs. or 12 degs. of frost. If it were possible to use covers outside the glass at night, it would save fuel, and the plants would be benefited thereby, as the conditions of growth would be more genial. When work is at a standstill outside, use the spare hands to sponge plants and wash pots in the houses. Stakes can also be prepared, but Bamboos and wood sticks can be bought so cheaply that, unless there are plantations of Hazel available, it will be cheaper to buy sticks, and labels also can be bought more cheaply than they can be made at home. Drainage material can be prepared for potting by-and-bye. This will save time when the busy season comes round. In the management of fires, flues and chimneys should be regularly cleaned. When flues around boilers are permitted to get encrusted with soot, some of the fire must be wasted. A good deal of fuel is wasted by having boilers too small for the work, or erring in making provision for sufficient lengths of piping where forcing has to be done. Gardenias and Eucharis Lilies will be coming into bloom now where the plants have been rested sufficiently before placing in heat.

Keeping Grapes.—When the bunches of Grapes in any house are much reduced in numbers, it would be more economical to cut the few bunches remaining, and place the ends

of the shoots in bottles of water in the Graperoom. Then the Vines can be pruned and the house cleaned, inside borders renovated, and the houses used for storing bedding plants, Geraniums, etc. Alicante and Gros Colman Grapes may be left on the Vines another month yet. The best temperature for keeping Grapes is about 45 degs.

Mushroom-house.—If the temperature falls below 50 degs. the Mushroom will not grow very fast—55 degs. is a suitable temperature for production, and in a well-constructed house this temperature can be kept up, except in severe weather, without fire-heat, but, of course, during frost fires must be lighted if possible, or production will cease. There will be a demand for Rhubarb, and relays of strong roots should be placed in the Mushroom-house. They will do in any corner, or in groups on the path. Rhubarb may also be forced in any warm structure. It comes best in the dark. The same remark applies to Seakale and Chicory, or Dandelions, which are useful for winter salads, and are not much trouble to produce.

Early Tomatoes.—Sowed a few seeds very thinly in pots or boxes in a warm house on shelves near the glass. There is plenty of good kinds that will set well in heat if treated carefully. The earliest crop is best grown in pots in a mixture of good loam and a little old manure and a sprinkling of bone-meal. Pot firmly, and leave space on the top for top-dressing. We have sometimes, when growing in less than 10-inch pots, run a strip of zinc round the top of the pot to hold the rich top-dressing. The young plants should be shifted on twice before the final potting into fruiting pots:—first into 3-inch pots, and then into 5-inch pots, and when these are filled with roots the days will be getting longer, and if potted into 9-inch pots and on the floor of a span-roofed house they will set and swell the fruit.

Win low gardening.—When severe weather sets in move the plants to the centre of the room over night and cover with several thicknesses of paper. Keep everything on the side of dryness at the root during frost. Plants wintered in the spare room should be placed upon an old carpet in the centre of the room and covered with paper. They will take no harm if covered for several weeks.

Outdoor garden.—Bulb beds should now be comfortable with a mulch of Moss-litter, manure, or something that will enrich the soil and shelter the young growth coming through. Hitherto we have not had much frost, and the Carnations that were planted in October, early in the month, have got fairly established, and will to a great extent be able to resist the lifting power of the frost when it comes. An inch or so of good loam on the surface will be a great help if it is free from wireworm, and after a frost of any severity a little pressure may be brought to bear round the plants to firm them again. All recently-planted things should be examined after frost and made firm. This is a suitable time to apply top-dressing to weak lawns. Quick-acting stimulants should not be given now, as the rains may destroy their effect before they have time to work. Bone-meal and basic slag may be applied now. Wood-ashes, garden rubbish, which has been charred, passed through a sieve, may with advantage be applied to lawns where the Grass is thin and weak, and something quicker in its action given in February or March. Soot is a cheap and useful manure, and 3 lb. of nitrate of soda per square rod will be effective any time in spring. Use the roller when the surface is soft, but it is possible to use the roller too much where the Grasses are weak and thin. It is necessary, for the sake of neatness, to remove the dead tops from hardy plants in the borders, though this craving after neatness may in some cases do harm by removing Nature's covering, in case of severe weather setting in.

Fruit garden.—Though the autumn is the best season for planting fruit-trees and bushes, there are often good reasons for planting later, and any time when the weather is open hardy fruits of all kinds may be planted, Strawberries perhaps excepted, as after the middle of November we prefer to wait until

February. Of course, the rooted runners are planted in a nursery bed and making roots, and will lift with balls, and may be moved any time in spring when the land is in good condition for planting. All Strawberry plantations not yet mulched may have attention at once. The Strawberry, under ordinary circumstances, is perfectly hardy, but sometimes, during the hoeing and cleaning in autumn, some of the surface roots may be exposed, and a top-dressing of manure is very beneficial now or earlier. There is still some pruning to do in many gardens, and though perhaps it may not be desirable to prune when the thermometer falls below 20 degs., there is no reason for stopping the work when the frost is not so severe, as when the earth is stiffened by frost the work can be easily done without treading the land into a quagmire. In the midland and northern counties Figs outside should be sheltered in some simple way during severe frost. The covering may consist of overgreen branches, which while sheltering the wood will not altogether exclude all circulation. New plantations of Raspberries should be cut down to within a few inches of the ground the first year to get established and make strong canes for next season.

Vegetable garden.—In frosty weather wheel manure on to the land ready for digging in when the frost goes. Trenching may be done, even if the land is a bit frozen, though it is not wise, especially if the land is of a clayey nature, to bury snow or frozen earth far from the surface. If weeds or decaying rubbish are trenched into the land, this should be wheeled on as soon as the frost sets in, and then the trenching may proceed, even if the frost is very severe. Jerusalem Artichokes left in the ground should have a covering of littersy manure placed over them, and the roots can be lifted any time as required. There will be a great loss among Cauliflowers and early Broccoli if the precaution was not taken to lift the plants with balls and plant in deep pits or trenches. But the wise man keeps an eye on the weather office, and when news arrives of cold weather on the Continent, no time should be lost in making things safe. As a rule, the low temperature reaches Germany and France before we feel it, and we have generally two or three days to get things in order ready for the low temperature when it comes. This is the time to make preparations for forcing various crops in frames on the hot-bed system. Get a heap of stable-manure and tree-leaves shaken together ready for beds of Potatoes, Carrots, Radishes, Lettuces, etc. E. HOBDAV.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

December 2nd.—During frosty or bad weather generally, Pea-sticks are carted home and prepared for use. Bamboo canes are cheap now, and these are used to some extent, but young Hazel rods are even cheaper in country places, and are used for many plants, and in bad weather they are prepared and tied in bundles to save time in the busy season. This is a time, too, when plants in stoves and elsewhere are sponged with an insecticide to get rid of mealy-bug, if any are present, and there are not many collections of stove plants altogether free.

December 3rd.—Sowed seeds of Lobelias of several kinds. We do not altogether depend upon seedlings, but we want several thousand, and seedlings from carefully-selected plants are good enough. The seed-boxes are placed on a shelf in a warm-house. Cyclamens and Primulas are now making a good show of colour, and make pretty groups in the conservatory. We sow Cyclamen seeds early in August, thinly, in boxes, and keep the plants moving slowly in heat on shelves near the glass. Yearling plants produce the largest flowers.

December 5th.—There is always a lot of decoration to do at this season, and the demand for plants and cut-flowers is very considerable; good hardy Palms, especially Kentias, are the most useful for Christmas decorations. With a few good-sized Palms and Chrysanthemums, both of which are hardy enough to last for some time, the tender things can be kept in the houses for use at another season. Among hardy things which may be grown in pots, we

find many of the Japanese shrubs very useful. Moved bulbs, Spireas, and Rhododendrons from cold-pits to house.

December 20th.—Vaporised Cucumber-house, as a fly or two was noticed. The Cineraria-house also was vaporised at the same time. Bahay nights are selected for this work. Mixed a lot of stable-manure and leaves together in a heap, ready for making hot-beds. Cut the remainder of the Hamburg Grapes and bottled them. Pruned the Vines. Shall get the Vines washed, the house cleaned, and the borders top-dressed, as the house will be used for storing Geraniums.

December 21st.—All spare time is devoted to trenching vacant ground, preparing manure-heaps for wheeling on the land in frosty weather. Fig-trees on walls have been sheltered with Spruce branches. Night temperature in pot-Vine-house is 50 degs. at night; bulbs are swelling. Early Peach-house, 47 degs. Cucumber-house, 43 degs. No air is given now to Cucumbers, and a little warm compost is scattered over beds occasionally. Potted more French Beans, which are brought on on shelves near the glass wherever there is room in warm-houses. Mushroom-house, 53 degs.; beds are covered with hay to keep in warmth and moisture.

LAW AND CUSTOM.

Nature and conditions of tenancy (S. S. G.).—It is very difficult to give you an answer without referring to the facts, but in my opinion the usual rule does not apply, and a jury would be directed to find that you held under a yearly tenancy, without any agreement whatever except as to rent. Neither your landlord nor yourself would be bound to do the repairs (if such become necessary) to which you allude. The tenancy would be determinable at the end of any year of the tenancy by either party giving to the other half a year's notice for that purpose. In such a case as this it was most unwise to leave any of the terms or conditions of the tenancy "in abeyance," as it becomes an open question whether the proposer of the conditions, etc., did or did not actually waive or withdraw them. My opinion on the facts stated is given with considerable diffidence.—K. C. T.

Trespassing sheep.—My garden and my neighbour's garden run parallel to a Grass field occupied by a farmer, my neighbour's garden being between the field and my garden. The farmer's sheep passed through the dividing fence and entered the garden, and did much damage to my crops, but, practically speaking, did not injure my neighbour's crops. This was not the first time the sheep had been out, and when I remonstrated the farmer merely said he did not want to be troubled about the matter. On this last occasion the sheep destroyed a whole bed of Cabbage plants, which cannot be replaced, and it was about ten o'clock at night when I found them in my garden. It was useless to drive them back into the farmer's field, as they would return again to the garden, and as his premises are 15 miles distant, it was impracticable to take the sheep there at that hour, so I drove them into a private road near and left them there. The next morning my neighbour told him what had been done. He never came near me, and after a week had passed I wrote to him, telling him he ought to have come and offered me some compensation, but he replied that I should have gone to him. I then said that if we could not settle the matter I should sue him for damages. Will you tell me the proper procedure to commence an action in the county court to recover damages? What expenses will be incurred? Must I employ a solicitor? Can I recover the full value the Cabbage plants would have possessed next spring, or is my claim limited to the cost of the seed and the labour of preparing and sowing the ground? Was I bound to drive out the sheep, or should I have let them till the farmer came for them? Can he sue me for driving the sheep into this private road?—R. B.

[The first question that arises is this: To whom does the fence between your neighbour's garden and the field belong? If it belongs to the farmer, there is no question as to his liability to you. But if it belongs to your neighbour, then it is a question whether your neighbour is bound to maintain the fence against the farmer's stock? If he is so bound, your neighbour is the person responsible for the trespass of the sheep, and you should sue your neighbour. If, however, your neighbour is under no obligation to maintain a fence against the farmer's stock, the farmer is liable to you in damages. If you wish to enter an action against the farmer, you should make up your mind what sum you will claim as damages, and you may then go to the office of the registrar of the local county court and simply state that you wish to enter an action to recover damages

from the farmer. The registrar or his clerk will fill up a plaint note and give you any instructions that may be necessary. You will be charged a small sum for the entry of the plaint, the amount of the charge varying with the amount of damages claimed, and if the case goes to trial you will have to pay a further charge (poundage) when the case comes on, called the hearing fee. It is unnecessary to employ a solicitor, but it may be advisable to do so if there is any dispute about the liability to maintain the fence. The measure of damages will be the actual pecuniary loss to you plus a further sum for annoyance; it will not necessarily be the probable value of the Cabbages next spring, because you may be able to put the land to some use in the meantime, but the damages will not be confined to the cost of seed and labour. You were not obliged to remove the sheep from your garden, but you acted properly in removing them. As you know to whom the sheep belonged, you were bound not to put them in a place of peril; it seems, however, that they sustained no injury in the road, and so their owner has no cause of action against you, but the owner of this private road might sue you if he chose.—K. C. T.]

BEEES

Preparing wax from old combs (J. B.).—By the use of the wax extractor all the waste and trouble incidental to the various old-fashioned processes of preparing wax are avoided, and by the improved method the wax produced is of a good colour, and free from all impurities. The extractor consists of an outer tin cylinder, very much resembling an ordinary potato steamer, having a tin dish inside, provided with a spout. Between the dish and the outer cylinder the bottom is pierced to admit steam. A basket of perforated zinc fits over the tin dish. This basket being filled with old combs, the whole is placed over a saucepan half filled with water, and put on the fire. The steam passing through the perforated zinc, melts every particle of wax, which oozes through and drops into the dish, and through the spout into a basin or other receptacle, which has the inside oiled, and contains about 2 inches of hot water to keep the wax from adhering. If an extractor is not used the combs may be put into a clean saucepan, with as much soft water as may be necessary to prevent the wax burning. Place the saucepan over a slow fire, and stir occasionally until the combs are melted, then strain through a fine canvas bag into a tub of cold water, laying the bag upon a piece of smooth board of such a length that one end will rest at the bottom of the tub. Then compress the bag of hot wax with a wooden roller; the wax will ooze through and run down the board into the cold water, and set in thin flakes upon its surface. When all is finished collect the wax from the surface of the water, put it again into a clean saucepan, with a little water, and melt very carefully over a slow fire, taking off the scum as it rises. When sufficiently melted, pour it into wetted moulds, and let it cool slowly to avoid cracking. Still another way, where a large quantity of comb has to be melted, is to put the broken-up combs into a copper, pressing them into as small a compass as possible. Then cover a wooden hoop, the diameter of the copper, with cheese cloth, which place over the combs, keeping them down by weights. The copper being nearly filled with water and brought to boiling point, the wax separates from the refuse and rises through the cheese cloth to the top of the water. When cold it can be taken off in a solid mass, remelted, and poured into moulds.—S. S. G.

BIRDS,

The Brambling Finch (Fringilla montifringilla) (F. L. O. J.).—This handsome bird is a winter visitor to this country, being a native of the mountain districts of the northern regions of Europe. Although it seeks its food in wild districts, feeding on Beech-mast and the seeds of Grasses, in severe weather it visits the lowlands, where it may be seen in small flocks, frequently in the company of Chaffinches. The Brambling is a favourite as a cage-bird more on account of the beauty of its plumage than for its talent for song, although in the spring

it utters a pleasing warble. The male of this species in his summer plumage is a very elegant bird, the head being black, the chin and throat orange-fawn; back grey and black, beautifully scalloped; wing-coverts black, tipped with fawn, while bars of yellowish-white cross the wings; the tail black and somewhat forked. In winter its plumage is not so bright, and the black on the head is mixed with yellowish-brown. It exceeds somewhat the Chaffinch in size, being 6½ inches in length, of which the tail measures 2½ inches. The hen is somewhat smaller than the male, and is duller in the tints of her plumage, which does not vary throughout the year. The young resemble the female in plumage. Although this bird does not readily become tame in confinement, nor easily accustom to its surroundings, it will, with proper care and attention, survive many years. It will eat all kinds of seeds, but Hemp must be sparingly supplied, as this seed has a tendency to cause over-fatness. In its wild state the Brambling adds insects and berries to its diet, and in captivity will enjoy better health where a like variety of food can be supplied. These birds seldom breed with us, but on their return to their home in the far north construct their nest in the fork of a Fir or Birch—a handsome structure composed of Moss, Lichen, bark of the Fir-tree, and lined with feathers and wool. The eggs are of a greenish tint, spotted and streaked with reddish-brown, and are usually five or six in number. A good-sized cage should be provided for this bird, for, being of a restless nature, it likes plenty of exercise.—S. S. G.

POULTRY.

Ducks (L. J. G.).—It is safer not to allow more than three ducks to one drake if the eggs are required for setting. In its wild state the duck pairs with a single mate.—S. S. G.

Breeding Hamburgs for show.—There are several varieties of this family, which are known as the Pencilled, Spangled, and Black, with the sub-varieties of Gold and Silver in the two former. The Black is the largest, and produces a greater number of eggs than either of the others, although all are excellent layers, the fact of their being non-sitters allowing them more time than most breeds for egg-production. The best to breed up for show form is the Golden Pencilled. To insure success, however, it is important that the stock birds be judiciously mated by crossing a cock of a deep red-lay with hens of a rich golden lay. The male should have a short back and prominent breast, and be held in carriage. The comb should be large, even in shape, and gracefully tapering to a point at the back, and firmly fixed on the head. An important point is spotless white ear-lobe. These should be smooth, and as round in shape as possible, legs moderately long and slate-blue in colour, neck arched, and covered with an abundant lackle of a rich, deep bay colour. The tail should be full, with long, broad sickles, and carried rather upright, but gracefully, while the side tail feathers should also be arched and in keeping with the sickles. The feathers of the tail should be black, and the sickles and side feathers evenly edged with red-brown sharply defined. The head, lackle, breast, saddle-lackle, and thighs should be of a deep red-lay, without pencilling or marks of any kind. The inside web of the flight feathers should be black, and the secondaries barred with black, every separate feather having a black spot at the end. The under parts of the body should be covered with brown-red plumage, every feather being pencilled or barred with black. In the hen the lackle of the neck must be a clear golden-bay, and the whole of the remaining plumage of the same colour, but each feather evenly pencilled with black, the markings being as clear and distinct as possible, and appearing to stand out from the ground colour. The comb should be neat, firm, and small, square in front, and tapering to a spike at the back, and having the appearance of a piece of coral, with numerous small spikes throughout. The wattles should be small and well rounded. A well pencilled tail is often difficult to obtain, while the breast frequently proves very faulty in its markings. Spotted luckles are also great defects, although very common.—S. S. G.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in GARDENING free of charge if correspondents follow these rules. All communications should be clearly and concisely written on one side of the paper only, addressed to the Editor of GARDENING, 17, Furnival-street, Holborn, London, E.C. Letters on business should be sent to the PUBLISHERS. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate sheet of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens at different stages of colour and size of the same kind really assist in its determination. We have received from several correspondents single specimens of fruits, naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when above directions are observed.

PLANTS AND FLOWERS.

Cinquefoil (Potentilla) (Potentilla).—The double Potentilla are very showy, lasting in perfection, both on the pots and when cut, longer than the single sorts. There is a great number of named kinds, all of which can be obtained from any of the large hardy plant nurseries. See represent every shade of size and colour that it is possible to obtain. Potentilla luxurians in a light, deep soil and exposed position.

Propoleum tuberosum (M. H. Maurick).—This tuberous-rooted climber from Peru, with slender stems set to 12 feet high, and bearing in summer a profusion of its scarlet and yellow flowers. It should be grown in pots on the poorest of soils, allowing its branches to hang the ground, or supporting them in some way. It is not hardy in all soils; it is desirable to lift in the autumn, store in a dry place, and plant out in the spring.

Mistle for greenhouse (B.).—If your oil stove heats the plants dry, it is clear you do not manage it rightly. To have the water too high will cause a nasty all and a sooty settlement upon all the occupants. If low, you burn just as much oil, and again get an aromatic and nasty smell. Quite a small stove should do a house 5 feet by 6 feet. The question of wooden is immaterial.

Setting bulbs (J. P. T.).—It is getting very late, yet you still put up Hyacinths, Tulips, Narcissus, etc., setting them in Co-pas-beds or ashes until the pots have one well filled with roots, and placing them in heat as I want them. The temperature you give is too high, as it will draw them up and spoil them. You will find an early dealing with the culture of Narcissus in *Jardinier's* for June of May 25, 1901, which can be had of the publisher, price 13d.

The Scarlet Clematis (C. coccinea) (Woodhouse).—This is a distinct and beautiful species. Its stems grow from 6 feet to 10 feet high, and, as a rule, in a country die back to the ground in winter. It is a native of Texas, the flowers varying in colour from rose to scarlet. They are swollen at the base, but run towards the top, as it is never, the tips of the petals are recurved. These sepals are very thick and set a lethargy and catch over an inch long. We have figured it.

Twenty good standard Roses (Worcestershire).—The following are all good and proved kinds: Courard F. ter, Caroline Testout, Charles LeFebvre, Dr. Andrey, Prof. Jamain, Duke of Edinburgh, General Jacqueminot, the Duke of Devon, Grace Darling, La France, Mme. Lambert, Mme. Cochet, Marie Van Houtte, Mrs. John Laing, Mrs. G. Sherman Crawford, Souvenir de S. A. Prince, Ich Brunner, Viscountess Polkstone, White Maman hat, and William Allen Richardson.

Darguritis Carnations falling (Manzmann).—It is not the least doubt you have been keeping your plants too moist and close, not allowing sufficient air to the plants cool and free from damp. To cultivate carnations well, you must always stand them where the air circulates freely among the plants. The fruit stage of your carnations would be very suitable if you could get a great ventilation. It is a mistake to place among plants, as they are sure to damp off owing to the heat arising from other things.

Rose Xavier Oilbo (Woodhouse).—This is not all a good Rose for the novice to grow. It is of a very beautiful colour, and when seen at the Rose shows a splendid bloom, but its growth is so weak that unless it can be added annually it is not worth the trouble to cultivate. A good rich land, if budded on the Brier and allowed to remain where budded without transplanting, this and a number of other bad growers succeed fairly well for a year or two. The following are first-rate dark Roses, and can be depended on to grow well—namely, Abel Carriere, Baron de Fontenay, Charles LeFebvre, and Prince Carulle de Rohan.

Foxgloves (Rorie).—No, they will not bloom in the manner treated as you say. The seed being so small is best sown in pans or boxes under glass early in May. When the young plants are well up, they should be placed out-of-doors to get thoroughly hardened before being put to their flowering quarters. It is always advisable to sow some seed annually, and if seed is plentiful, scatter it in woods or coppes where it is wished to establish the plants. Self-sown seedlings come up everywhere in the neighbourhood of a flowering plant, and in many cases such seedlings are the best, being strong and vigorous.

Chrysanthemums on single stems in 1-inch or 7-inch pots (An Old Reader, Walthamstow).—The varieties, which we give in detail in another paper to a question of yours, may be treated as follows: Those in the first of the three series should be sown in late March, and the first buds subsequently developing should be retained. The cuttings of the plants in the second series should be inserted about

the third week in April, or a trifle earlier, and the last lot should be taken in hand during the closing days of April or the first few days in May. When once these cuttings become rooted the young plants must be handled carefully, and, when established, should be grown on with all possible vigour.

Potting Camellias (E. Jones).—Camellias are best repotted as soon as the bloom is off and new growth is pushing. They are rather impatient of root disturbance, and will do a long time in the same soil, if helped with a slight dressing of soot, or soot-water. They must be well drained, for, although enjoying abundance of water while growing, the least suspicion of stagnation is fatal to their thriving. Use a compost of fibrous or turfy loam, with a little peat. A dash of sharp sand, not too fine a compost, and firm potting are great aids. Camellias often fail through change of position and temperature. A cool and moist bottom, with plenty of overhead syringing and the avoidance of a sodden soil, are important.

Malmalson Carnations falling (G. E. T.).—A light, airy structure is very necessary for this class of Carnations, and failure to open is caused by a moist, stagnant atmosphere. The buds are so hard and massive that they often set in at this season before the flowers expand, even in structures that are built especially for their accommodation. The Malmalson section of Carnations is not naturally winter-flowering, being at their best, as a rule, in June and July, at which time the warm, summer weather assists the expansion of the blossoms. For this purpose they are layered as soon after flowering as possible, and shifted on when sufficiently strong to be wintered in their flowering pots (6 inches in diameter) in a greenhouse temperature, where there is a little fire-heat in order to keep up a circulation of air. If old plants are kept over they should, in September, be cleaned and repotted, taking away as much of the old soil as can be done without seriously disturbing the roots.

Rose Armosa (Woodhouse).—In its way there are few more beautiful autumnal Roses than this good old variety. Although grouped with the Bourbons, for all practical purposes it is a Bourbon or Monthly Rose. There is not quite the continuous blossoming we get in the old Bush Monthly, for during August the plants are almost devoid of bloom. They, however, make up for it later in the season, when every Rose is so much valued. With this Rose, as with many of the Teas, the continuity of blossoming may be assisted by cutting off the flowers with a fairly long stem as soon as the frills has developed. Some growers may even be cut back before they develop if the plant is bearing a profusion, as it should do. The colour of Armosa reminds one of the H. P. Mrs. Sherman Crawford. The form is very regular, and it is fairly double. Perhaps no Rose is more lovely when used for table decoration.

TREES AND SHRUBS.

Clipping Hollies (H. O. H.).—The best time for cutting Hollies is early in the spring, about the end of February, before they have begun to grow. Never clip them with a shears, but cut them in with a sharp knife.

Increasing Fernetyas (L. R.).—Fernetyas are easily increased by layering the roots in autumn, or by sowing the seeds in spring in sandy peat in cold-frames, or in gentle heat in pots, afterwards pricking out the seedlings carefully when well above the surface of the soil.

FRUIT.

Hedge of Gooseberries (E.).—It is not likely that you will be able to get bushes of a bearing size trained in the way you propose. There is, however, no difficulty in starting with young trees to bring them into the form you want, as any nurseryman would make a suitable selection for you. Early Sulphur will probably make the best cordou form, as the growth is stiff; but others will not be difficult if you commence training the branches while they are young.

Vines in pots (A.).—Seven-inch pots are not large enough for Vines to fruit in. If they are sown the pots should not be less than 12 inches across the top; the weaker canes would do in pots an inch less. When the canes are well ripened—say, towards the end of September—they should be stood out-of-doors at the foot of a south wall and freely supplied with water during hot and dry weather. The pots ought to be protected from frost during the winter with leaves or partly-decayed manure.

Pruning young Currant bushes (M. E. C. Moss).—Generally, with newly-planted things, bushes or otherwise, it is best to allow a few weeks to elapse from the planting until the pruning is done. That not only enables the soil to become settled and firm, but the roots to push down growth, and, in that way, become partially established in the soil. Then, when the pruning is done, and the end of February or early in March is soon enough, new growth soon follows, and root-let-down and wood growth are alike good. Your object in pruning these young bushes is to enable proper heads to be formed; hence, in cutting back the existing shoots to about one-third their present length you compel the lower buds to break into three times the number of shoots, thus laying the foundation of good bushes. Those may still following winter be cut back to one-half their length. Black Currants, later, need not be shortened—only just topped, and kept fairly thin. Old Red Currants, summer shoots, after a good bush is formed, should be quite hard cut back each year, as these bear fruit only on spurs on old wood.

VEGETABLES.

Moss-litter-manure (R. N. S.).—The value of Moss-litter is found in its capacity to absorb animal manure, which it does thoroughly, and it, after such use, it is put into a heap, turned two or three times to cause it to sweeten, but not to heat, then it answers fairly well for mulching, but it is not so valuable for digging into the ground as straw litter.

The use of Kainit (A. S. G.).—You ask "In what proportion Kainit should be mixed with (1) ordinary garden soil; (2) with manure in order to sterilise." We confess our inability to understand your meaning, and we shall be glad if you will explain. Kainit is a potassic manure of much use in various soils and for particular crops, and the proportion in which it should be used will depend on the soil and on the crop for which it is applied. But what is the object in sterilising may be well to con-

Parsley unsatisfactory (A.).—Parsley suffers from drought in poor soil, and a check sometimes leads to canker or insect attacks. Wood-ashes has a good effect in keeping Parsley free from canker at the collar, and watering with soap-suds tends to prevent attacks from insects. It is too late to sow again now, but it is possible if some of the roots were taken up, dipped in strong liquid-manure, and planted in a frame, they would start away in the fresh soil and make a lot of useful growth. If the plants are cleared where they stand of all discoloured leaves, and well soaked with soot-water, a beneficial change will be effected.

Decayed Parsnips (W. D.).—The brown spots seen on your Parsnips are the products of a fungus, usually generated in the soil by too much wet, or too rich dressings of manure. It is well not to have Parsnip soil too highly manured, as large roots not only are likely to be thus affected, but they are relatively softer and more watery than are roots rather smaller, and grown somewhat closer together. To have Parsnips good when cooked they should never be too large to boil whole, and should be merely scraped and not peeled, or cut through the centre. If your roots are still in the ground give them a thorough dense dusting with fresh slacked lime. Also another autumn give a couple of such lime dressings a month apart, hoeing in the lime between the roots. That helps to destroy the fungus and sweeten the soil.

SHORT REPLIES.

Wood Anemone.—No, Clematis indivisa is a greenhouse plant and will not do in the open air. Winterhill.—See note on "Tree-leaves" in issue of December 13th, p. 538. Ater.—Yes, cut it down and will start from the root-stock in the spring. M. H. McWilliam.—Impossible to name from specimen sent, which had fallen to pieces. Kuoiv.—Do not understand your query. Kerry.—It is very probable that the Chrysanthemums were named differently, but, unfortunately, they seem to have been all the same sort. Had you verified the colours the previous season? Does on their own roots will not behave as you say. Those grafted may do so, the stock taking the place of the graft in many cases if the suckers are not pulled off. D. S. T.—You will find an article dealing with "Raising Ferns from seed" in the issue of Dec. 13th, 1901, which can be had of the publisher, price 13d. We doubt if you can buy Fern spores in A. E. Bennett's. Yes, we believe so, but only in the case of some persons. Manzmann.—1, See reply to "L. Lambly," re "Treatment of Oleander," in our issue of Dec. 13th, p. 514. 2, Yes, plane off the surface and rub over with white-lead paint. 3, Put in the cuttings of your Chrysanthemums at once. These you will find springing up from the old stool. When you have got sufficient stock throw the old plants away. See article "Preparing for next season," in our issue of Dec. 6th, p. 538. Thomas.—The only thing you can do is to grub them up. If not, they will all spring from the bottom again. J. W. W.—See article on "The Mistletoe," with illustration, in our issue of Jan. 5th, 1901, which can be had of the publisher, price 13d. Pencil.—A warning, not in gardening, question. We have handed your query to the author of *Frame and House*. Nottingham.—We shall be glad if you will kindly give us the original query, and we will try and help you. Toby.—You ought to put on a good dressing of rotten manure, and allow the winter rains to wash the goodness from this into the soil. Weak liquid-manure in the spring, when the plants are to full growth, will do good. Standard.—See reply to "Worcestershire," re "Twenty good standard Roses," on this page.

NAMES OF PLANTS AND FRUITS.

Names of plants.—Miss F. L. Clark.—The Hoop-in-Hose Polyanthus.—Oxfordshire.—1, Phacelidium aureum; 2, Adiantum concinnum latum; 3, Petal serrulata cristata; 4, Libonia floribunda. Thanks for such fine specimens.

Names of fruits.—Geo. Goldard.—Apple Kentish Filibasket.—J. H. Marshall.—Probably Allerton.

Book received.—Official Catalogue of the National Rose Society. Fifth and revised edition.

Catalogues received.—Dicksons, Chester.—Catalogue of General Nursery Stock.—Hange and Schmidt, Erfurt.—Trade and Retail Catalogue for 1902.—Ernst Benary, Erfurt.—General Trade Catalogue of Seeds for 1902.—S. F. Richmond, Osest, Yorks.—Pisicripic Catalogue of Chrysanthemums.—Viliorin, Andreux et Cie, 4, Quaidala Bergeserie, Paris.—Catalogue of Seeds.

United Horticultural Benefit and Provident Society.—The monthly committee meeting of this society was held at the Calsonian Hotel, Adelphi-terrace, Strand, on Monday evening last. Mr. C. H. Curtis presided. Twelve members were reported on the sick fund. Seven new members were elected. Two members were granted £1 10s. each from the convalescent fund. A cheque for £79 18s. was granted to a lapsed member, being the amount standing to his credit in the ledger.

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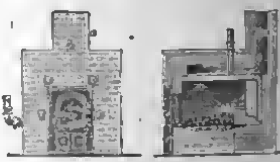
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UNIVERSITY OF ILLINOIS AT URBANA, CHAMPAIGN

GARDENING ILLUSTRATED.

No. 1,242.—Vol. XXIV.

Founded by W. Robinson, Author of "The English Flower Garden."

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PLANTS AND FLOWERS.

CHRYSANTHEMUMS.

CHRYSANTHEMUMS FOR COLD GREENHOUSE.

I would be much obliged if you would give me a selection of Japanese Chrysanthemums suitable for flowering in a cold greenhouse? I do not want to grow exhibition flowers, but bush plants with fifteen to twenty fair-sized blooms. I want good, decided colours, not washy tints. Will I be able to grow sorts like Mrs. Coombes, Mr. L. Kemp, Phœbus, Miss A. Byron, and others, or do the big exhibition sorts lend themselves to such treatment? When ought I to buy the cuttings? I have room for thirty or forty plants, but I think fifteen sorts would be enough. I have Vivand Morel, Lady Rowland, Charles Davis, President Nolin, Lady Ridgway, Source d'Or, Mme. H. Bentz, Mrs. S. C. Troby, and Mme. de Sevin, but they were not a success. I planted them out and potted them when the flowers showed colour. They were all pinched end of June, and some before that. Some have quite small buds still. Any of above you think worth growing next year, please include in your selection. They will be grown in pots next year.—*DECONATIVE, Ireland.*

[Gmowers are at last beginning to see that the real value of the flowers is determined more by the freedom of flowering of the plants than in the development of one or two exhibition blooms which, for decoration, have little to commend them. The sorts which we describe have been grown in this way, and have points of merit, in so far as regards colour and form, over many others. There is nothing like commencing in good time. To make big plants, early propagation is important. Therefore, procure cuttings as soon as possible and insert these singly into thumb-pots, using good fibrous loam and leaf-mould in equal parts, adding thereto, very freely, coarse silver-sand or clean road grit. Pinch out the points of young plants towards the latter part of March and take up three or four of the strongest shoots. During June they should each break naturally, and at this time two new shoots should be retained on each of those which were taken up subsequent to the pinching in March. From this point let the plants grow on to the terminal-buds, selecting three shoots and a bud on each one. These terminal-buds always develop blooms of beautiful colour and good form; the blooms also keep fresh for a long time, and rarely, if ever, are known to thump. The following varieties may be obtained cheaply:—

Mrs. ALICE BYRON is a pure white flower. The plant, which attains a height of about 5 feet, has a good constitution.

Mons. CH. MOLIN is of a rich yellowish-orange colour, and on terminal buds very brilliant. The plant is of easy culture, and in height slightly over 5 feet.

Mrs. C. BOWEN—This is a well-known late white Japanese kind, and one of the best for late work. Waxy-white aptly describes the colour, and the height of the plant is from 4 feet to 5 feet.

Mrs. COOMBS—One of the easiest plants to grow, developing pretty, rosy flesh-pink blooms of a pleasing kind. Height about 7 feet.

Mrs. GEORGE MILEHAM—An introduction of last spring, and a decided acquisition. Colour pleasing rose-pink, with silvery-reverse. Height about 5 feet.

Mrs. GREENFIELD—Introduced two seasons since, and an advance upon Phœbus. The colour is a deep rich shade of yellow, and the form is distinctly pretty. Good constitution. Height between 4 feet and 5 feet.

N.C.S. JEMMER—This is a Japanese introduced, and the colour is a dainty shade of silvery-mauve. The plant is of easy culture, and grows rather more than 5 feet high.

SULEH D'OCOTBRE—For late October and early November displays this canary-yellow flower should stand you in good stead. It is of easy culture, possesses a good constitution, and seldom exceeds 5 feet in height.

Bronze SULEH D'OCOTBRE—This is a lovely soft shade of bronze, and is the same in every respect but colour as the parent variety described above.

CHRIMIS SOURCE D'OR—This variety is to be preferred to the parent owing to the glorious colour of the sport. The colour may be described as rich crimson terra-cotta, paling somewhat with age. Habit good. Height about 4 feet.

LIZZIE ADLER—This is a rich yellow sport from Source d'Or, and a decided acquisition to the decorative section of these plants. Habit, constitution, and height identical with those of the last-named.

WESTERN KING—This develops lovely white blooms of good form. Good habit, free, and robust. Rather late. Height 5 feet.

VIVAND MOREL—No collection would be complete without this easily-grown plant. Grow on carefully from free-growing cuttings the plants of this variety and its sports do well. Colour silvery mauve-pink. Height rather more than 5 feet.

CHARLES DAVIS—This is a rosy-bronze sport from the last named, and requires exactly similar treatment. Height also identical.

LADY HANHAM—This variety will develop blooms of a charming golden rosy-corse, although the colour sometimes is cerise on a buff ground. This completes a charming trio, known generally as the Vivand Morel family of plants.

CHARLES LONGLEY—For its colour, which is a rich rosy-purple, this plant should be grown. It is rather tall, however, attaining a height of about 6 feet.

COMTE F. LORANI—Although this beautiful Japanese kind has been in commerce for some time, it has lost none of its charms. The colour is a very pretty rosy-pink, and the drooping form of the blooms is also most dainty. Height between 3 feet and 4 feet.

WILLIAM SEWARD—A deep rich crimson, once very popular for exhibition, but being too small for that purpose now is rarely met with. This is of easy culture, and on terminal buds is slightly above 5 feet in height.

JOHN SHIMMERON—This is a bright rich crimson Japanese, succeeding remarkably well when grown freely. Very dwarf and sturdy, seldom exceeding 4 feet in height.

YELLOW LA TRIOMPHANTE—A rich yellow and free-flowering. It is a sport from the old La Triomphante, which is still largely grown for market. Height rather less than 5 feet.

with flat and rather broad petals. Colour chestnut-bronze, with bronze reverse. Good branching habit. Height about 5 feet or rather less.

LOUISE—A pretty incurved bloom of Japanese form, and when grown freely a valuable decorative plant. Colour flesh-pink. Height about 4 feet on terminal buds.

LADY SALISBURY—The blooms of this are pretty when the plant is grown in bush form, their colour being deep yellow, freely suffused crimson. Height about 5 feet.

MISS W.M. HOMER—A plant of the easiest culture, and useful for late October displays. Colour rich crimson, tipped gold. Height about 4 feet.—*E. G.]*

CHRYSANTHEMUMS—SOME OF THE BEST EXHIBITION JAPANESE NOVELTIES.

Most of the undermentioned Japanese varieties have either received an award of merit from the Royal Horticultural Society, or a first-class certificate of the National Chrysanthemum Society. In some cases a commendation has been made in their favour. In a few instances the blooms from an exhibition standpoint are so unimpressive, that, had they been exhibited when at their best, there is little doubt they would have been recognised with an award of some sort.

GEORGE MILEHAM—This is a very large and handsome Japanese bloom, with long reflexed florets of medium width, making a spreading flower and slightly drooping. The colour is a rich glowing char-crimson with pale bronze reverse, the latter showing on the ends of the lower petals. F.C.C., N.C.S.

HENRY PERKINS—This bloom has been shown in all conditions. From an early bud selection the colour is reddish-crimson on a deep yellow ground, while that from a late second crown bud selection is a rich crimson self. The petals are very long and broad, and build up a bloom of great depth, some 8 inches, and proportionate breadth. The reverse is a golden bronze colour. This variety has been certificated in the provinces.

MISS MILDERED WARE—An English-raised seedling of great promise, certificated by the N.C.S. 27th October last. This is a seedling from Mme. Carnot, and resembles in form that superb sort. The blooms have been aptly described as a Lady Hanham-coloured Mme. Carnot, and as such should be appreciated by exhibitors. The florets are of medium size, and have a golden reverse. Grown either in the orthodox manner, or in 6-inch or 7-inch pots, the plant is a great success, coming good on all buds.

THE HON. Mrs. A. AGLAND—This is a lovely rich yellow Japanese bloom, in colour midway between Edith Tabor and the rich butter-yellow R. Hooper Pearson. The florets are fairly broad and long, incurving at the tips and building up a reflexing bloom of even form and good quality. A.M., R.H.S.

MISS OLIVE MILLER—An English-raised seedling of Japanese origin, large, full, and deep, of pleasing form, having long and fairly broad

florets and grooved, incurving and curling at the tips. The colour may be described as a distinct shade of pale rosy-pink on a silvery-white ground, and with a silvery-white reverse. When finished the blooms are quite 9 inches deep, and correspondingly broad. The plant is of easy culture, and will develop at least five handsome blooms on each plant. F.C.C., N.C.S.

F. S. VALLIS.—A large and refined Japanese bloom. This variety is of continental origin, and bids fair to take a leading position. The colour is a deep canary yellow, and the flower, which is of deep build, is of open form and drooping. Some growers say it is too near G. J. Warreu. Certificated at the Sheffield Show, November 14th last.

MISS NELLIE FULTON.—This is a splendid type of Japanese incurved, having broad petals of great length, building up a beautiful bloom of lovely form. It may be regarded as an advance upon Miss Alice Byron, which it somewhat resembles. Colour pleasing shade of creamy white. A.M., R.H.S.

MME. PAOLA RABANELLI.—This is a continental introduction of superb quality. The petals are broad and very long, slightly twisting and curling, and developing a bloom of high quality and of elegant form; colour soft pearly-pink on a cream ground with a yellowish centre. F.C.C., N.C.S.; A.M., R.H.S.

GEORGE PENFORD.—Another of the Japanese flowers of the season. A very large, heavy-looking bloom, with long and broad strap-like petals of splendid substance curling prettily at the tips, and sometimes showing the rich golden reverse. Colour deep rich crimson. F.C.C., N.C.S.

EDITH SMITH.—A very chaste, glossy, creamy-white Japanese of open form, having long, curly broad petals slightly twisted and curled, and forming a graceful and drooping bloom of good quality. Certificated at Sheffield Show.

MR. T. W. POCKETT.—In Mr. R. C. Pulling's group at the Royal Aquarium Show, on November 14th last, a vase was filled with this handsome Japanese flower. It is a very full bloom of even, drooping form and deep build, with petals of medium breadth; colour deep canary yellow. The plant has a good habit. This variety, I believe, received an award of merit last season.

DUKE OF DEVONSHIRE.—A large Japanese bloom of graceful and elegant build, having long, curling, and twisting florets, and making a charming exhibition flower. Colour yellow in the centre, paling at the edges and tinted rosy-red. The N.C.S. Committee desired to see this variety again. W. V.

How to fix a sport.—No doubt many good Chrysanthemum sports are lost because of the lack of knowledge respecting the treatment necessary to fix them. This fixing of sports is not by any means difficult, and should be carried out in the following manner: Should the plant be growing in a pot, the plant should be shaken out, and the soil slightly loosed. It should then be denuded of all shoots, except the branch on which the sport has developed. Until the bloom is spent it should be permitted to remain, but after this it is better to remove it. Retain the whole of the shoot on which the sport was produced, taking care also to retain the leaves intact. As the plant lies on its side, cover the roots, stem, and shoots with any light and gritty compost. Cocoa-nut-fibre refuse, kept just moist, answers equally well and is less disagreeable to handle than the ordinary light compost. If the plant can be plunged where a gentle bottom heat can be maintained, so much the better. The axils of the leaves, but not the leaves themselves, should be covered with the fibre, as this induces new shoots to break away at their base. Under ordinary conditions the new shoots will not be long before they make their appearance. When they have attained a length of about 2½ inches detach them, with a sharp knife, at one joint removed from the main stem. Trim off the cuttings just below a joint, and insert them in some light and gritty compost, either singly in thin pots, or else a number around

the edge of a 3-inch pot. When propagated and rooted grow on with all vigour. The succeeding season should see each of the propagated pieces bearing bloom, similar to the sport.—W. V. T.

ORCHIDS.

CYPRIPEDIUM INSIGNE HAREFIELD HALL VARIETY.

THE first public record of the existence of *Cypripedium insigne* Harefield Hall variety, so far as we can gather, was that the plant was first exhibited at the Royal Horticultural Society's meeting at the Drill Hall, on December 16th, 1897, as *C. insigne* giganteum. It was exhibited by Mr. E. Ashworth, of Harefield Hall, Cheshire. A second plant was also exhibited by the late Major Mason, from his collection at "The Firs," Warwick, which, when placed before the Orchid committee, scored at

plant being in a 5-inch pot: The dorsal sepal is 2½ inches across and about the same in length, but reflexing at the top causes it to appear shorter. The upper portion and outer margins have a broad band of white, the central area green suffused with yellow, the large blotchings on the central area deep brown, those on the white, purple, as in *C. punctatum-violaceum*. The petals are each an inch broad, greenish-yellow, heavily suffused with polished brown, the lower sepal green, suffused with yellow and spotted with brown and purple.

Like most other varieties of *C. insigne*, the conditions under which the plants are grown had considerable effect on the substance and quality of the blossoms. Many recommend that *C. insigne* and its forms should be grown in a cold-house. I do not advocate their culture in the stove, but I find they do best when they can be accommodated in a house where the normal winter conditions are maintained:



Cypripedium insigne Harefield Hall variety. From a photograph taken in Messrs. Low's nursery at Bush Hill Park, Enfield.

that time be identical. Mr. Ashworth, having considerably improved his plant, exhibited it again on December 13th, 1898, when the coveted first-class certificate was awarded to the plant, under the name of *C. insigne* "Harefield Hall variety." It is the largest of its race, and it is a pity, therefore, that the original name was not adhered to, for none more appropriate could be found. Some have given it as their opinion that this variety lacks the refinement of most other kinds among the numerous desirable varieties of *C. insigne* that have become so prominent in Orchid collections during the last few years. Let this be as it may, that like *C. insigne* Sanloro among the yellows, *C. i.* "Harefield Hall variety" holds its own among the coloured kinds cannot be denied, and notwithstanding the fact that wholesale division has been made, the plant has retained its natural vigour, and it blooms far more freely than the older kinds, flowering as the latter are found to be. To show the proportions of the flower, the following particulars are taken from a bloom before me: The

axils degs., rising to 60 degs. Where such conditions are maintained the plants are not nearly so difficult to manage; the watering may be done with far less restriction than is required with a lower degree of temperature. I have found also that the varieties of *C. insigne* are gross feeders and require repotting annually while in a small state, when grown to a large size less frequent potting will be necessary. The potting compost used must be governed by the conditions under which the plants have to be cultivated. In the neighbourhood of London and other smoky districts the compost must be of a porous nature, so that an over-abundant supply of moisture is not retained about the roots of the plants during dull or foggy weather. Peat, Sphagnum Moss, and a little leaf-soil intermixed with plenty of rough sand I have found the best material to use in unfavourable districts such as mentioned above. In more favourable surroundings, fibrous loam in liberal proportion may be added to the above compost with

advantage. The material should be pressed moderately firm about the roots of the plant, keeping the rhizome a little below the rim of the pot and mounding the compost slightly towards the centre. The pots used should be clean and filled to one-third their depth with clean broken crocks. As soon as potting is completed, thoroughly water the plants with rain water, using a moderately coarse rose on the can. The compost should be kept moist, but not wet, until the plant becomes thoroughly rooted, then more liberal watering may be afforded. The best season in which to repot the varieties of *C. insignis* as early as possible after they have flowered in the New Year. Root action generally commences as soon as the flowering period is over, and the plants are thus enabled to become established without any apparent distress. H. J. C.

Young growths on stems of Dendrobium nobile.—Would you kindly tell me what is the reason of and the cure for Dendrobium (nobile especially) putting out new small growths along the main new stems?—A. R. M.

[There are various causes which induce young growths to appear along the stems or pseudobulbs of Dendrobiums. Like many others who send us queries, you omit to mention under what conditions your plants are cultivated. We cannot, therefore, without knowledge of the system of culture, be of much assistance to you, and can only reply to you in an unsatisfactory, or at any rate an indefinite manner. We append the following causes, hoping that you may be able to ascertain where your treatment has been amiss. One of the principal causes will be found in treating the plants too kindly—that is, affording too much heat and moisture at a season when the plants should be resting. This brings about unripened wood and premature growth. A second cause is brought about by bringing plants that have been thoroughly ripened, and because they show slight indications of the flower buds from the cool conditions in which they have been resting, directly into the hot, humid conditions of the stove. The result is that the buds become too vigorous from the sudden change, and the intended flower buds are under too liberal treatment developed into growth. Another cause will be found in not taking care in applying moisture gradually when the plants are removed from their resting quarters into the warm house. The plants require little more moisture than the humid conditions of the atmosphere to sustain them in their normal conditions at the present season. If the pseudobulbs are found to be shrinking, a slight dip in tepid water soon revives them. It is never safe to water Dendrobiums flowering early in the year until the buds are sufficiently unfolded, so that the flower buds can be distinctly distinguished. After that time more liberal treatment may be afforded. It appears to us that your Dendrobiums have been too liberally treated, or they would not have their flowers sufficiently advanced to cause you anxiety at this early season. February and March are the better season.—H. J. C.]

ROSES.

GARDEN ARBOURS.

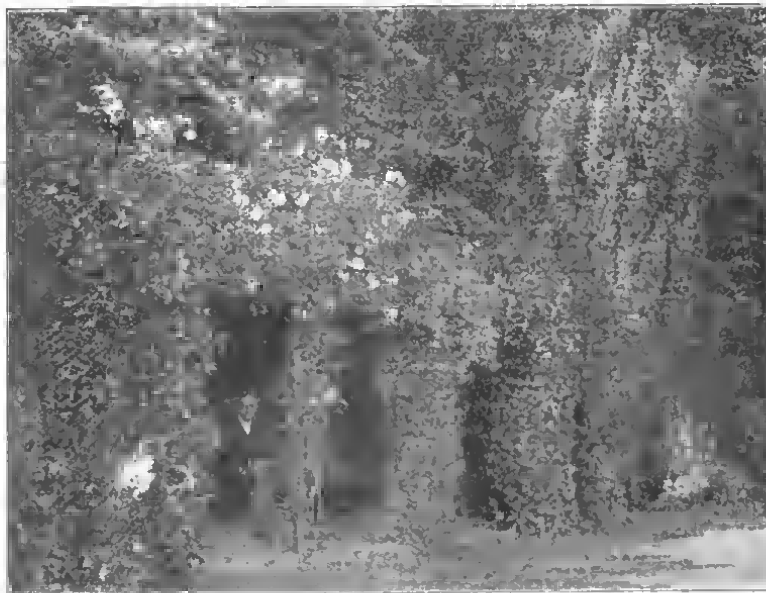
SUMMER HOUSES, gazebos, arbours, and such-like resting places, are amongst the most valuable of garden structures, since they provide retreats where shelter from the burning rays of the midsummer sun is afforded while permitting views of the lawns, flower borders, and surrounding features of the garden to be obtained by their occupants. The general effect of a garden can often be better studied by sitting quietly in an arbour than by a tour of the grounds where every fresh stand-point reveals a new prospect. Although the primary object of summer-houses is the very necessary one of affording shade in the summer, they are also useful as shelters from rain, and it is questionable if there is any sensation connected with the garden more delightful than that experienced by anyone under cover in the open air when, after long weeks of drought, the first heavy thunder-shower falls upon the parched earth. The lambent flame of sheet-lightning gleams momentarily amid the purple-black clouds, the distant mutterings of thunder—those "voices calling out of the blue"—

roll afar. The great drops fall perpendicularly in the windless air, and every leaf is vocal in the glad rain-song, while fragrances that have long slumbered in leaf and blossom awake and fill the still atmosphere with perfume. The Sweet Brier's incense steals through the dripping foliage, the damp earth exhales a grateful odour, and on the lawns "the soft rain that heals the mown, the many-wounded Grass, soothing it with the sweetness of all music, the hush that lives between music and silence," descending like a benediction, draws forth halmy scents from every freshened blade.

Arbours should be simply constructed, all needless ornamentation is to be deprecated, though where strong-growing climbers are allowed to ramble at will over the structure, imperfections of design are speedily hidden, and even an erection of corrugated iron, the most offensive material that can be imagined for garden work, has its cheap ugliness soon shrouded from view by the gracious mantle of clambering plants. Of flowering subjects for covering arbours, climbing Roses, Jasmine, Clematises of sorts, Menispermum canadense, Wistaria, Tecoma radicans, in the warmer districts, Solanum jasminoides and Physianuto albens, with the fragrant blossomed Stauntonia latifolia may be mentioned, while of climbers

up the Roses, thoroughly turns the bed over, adds fresh soil, and replants them the following day. This, of course, causes the leaves to wither, they look unhappy, and we get no late Roses. He heavily manures them in winter, prunes in spring, and waters fairly copiously with the hose in summer. Last autumn he did not lift the Roses, and last summer we had fewer Roses than ever. He has lifted them again this autumn. The soil of the garden is good, with a gravelly clay subsoil. The climate is not dry, rainfall a high average. The main characteristic is much grey sunless weather without actual rain, but a moist atmosphere. Our main enemy is strong wind. Can you tell me if this method would be advisable under any circumstances, and if so, when? Other people, whose Roses are not lifted over, seem to get quantities of bloom there.

[As you well remark, the treatment of the Roses is both unnatural and peculiar. We recommend transplanting at intervals of three or four years where the plants appear to require it, but when they grow freely we always advise our readers to let well alone. Some of our best bush plants of the Hybrid Perpetual tribe have not been transplanted since they were planted some twenty years ago. It is true we have a good deep soil and the borders were well prepared, and also receive an annual top-dressing of farmyard-manure, which benefits them considerably. It appears to us that the fault regarding the plants you mention is either in the method of pruning adopted, or in the unsuitability of the varieties,



A Rose covered arbour. From a photograph by Mr. Jas. F. Tyler, Halstead, Essex.

whose attractiveness is due to their foliage there are the Vines, of which *V. Cœnigeticæ* and *V. vitifera purpurea*, the Claret Vine, are valuable on account of their autumnal colouring, as are the Virginian Creepers, now also classed among the Vines, and although these have the demerit of being bare of leaves in the winter, this is scarcely an objection in the case of a summer-house which is untenanted in the cold weather. *Aristolochia Siphia*, the Dutchman's Pipe, is a handsome climber with enormous leaves, and the Ivies will form a perennial covering of glossy green.

S. W. F.

NOTES AND REPLIES.

Six fragrant Roses for trellis.—I shall be obliged if you will give me the names of six scented climbing Roses for training on a trellis work facing south? I want, if possible, six different colours, and to be free-blooming.—CLOTHES-DARK.

[Blairst, No. 2, Gloire de Dijon, Pink Rover, Waldman Number No. 3, Mme. Isaac Perrier, Mme. Alfred Carrière, are all good, and would grow and flower freely.]

Roses not blooming in autumn.—My father's gardener fails to produce what I consider a sufficient quantity of flower on his Hybrid Perpetual Roses. I think his method of treating them unnatural and peculiar, and would like to have your opinion. His method is as follows: He makes a bed of clay about 2 feet 6 inches below the surface, puts very good soil on top, and plants the Roses in it. In one of the beds he gave up the clay formation last year, as some of the roots rotted off. He thinks, about the beginning of November, he

or perhaps both. There are many Hybrid Perpetuals that flower very sparsely in autumn, but others, such as Mrs. John Laing, Marquise de Castellane, Alfred K. Williams, Ella Gordon, Victor Verlier, Victor Hugo, Charles Lefebvre, etc., give us at that season, and also in summer, a rich display of beautiful flowers. The correct method in pruning this tribe is to cut clean away the old wood—that is, growths three years old and more—but the one and two-year-old shoots are retained a good length, say 12 inches to 15 inches for the vigorous kinds, and the more moderate, such as Baroness Rothschild, may be cut down close to the ground, if you like, and they flower freely. The tribe certainly is partial to a clayey soil, but we do not consider the method adopted of putting a bed of clay beneath the better soil at all a good one, as it must tend to hinder the free outlet of superfluous water, the retention of which has doubtless caused the rotted roots. It would be much better if an inch or two of clay were spread on the surface each season before frost comes, and in spring, when it has become disintegrated by frost, forked in lightly with the manure. Then, again, as your district gets rather a heavy rainfall, we should advise a more regular application of water in summer. One really good soaking, if the weather be very dry, would probably suffice, the most impor-

tant item of cultivation being frequent stirring of the surface-soil, which would prevent undue evaporation of moisture. As you are anxious to obtain autumn bloom you should most certainly plant some of the freest-growing and hardiest of the Teas, such as Caroline Testout, Grace Darling, Clara Watson, Mme. Wagram, Augustine Guinoissean, Viscountess Folkestone, etc.]

ROOM AND WINDOW.

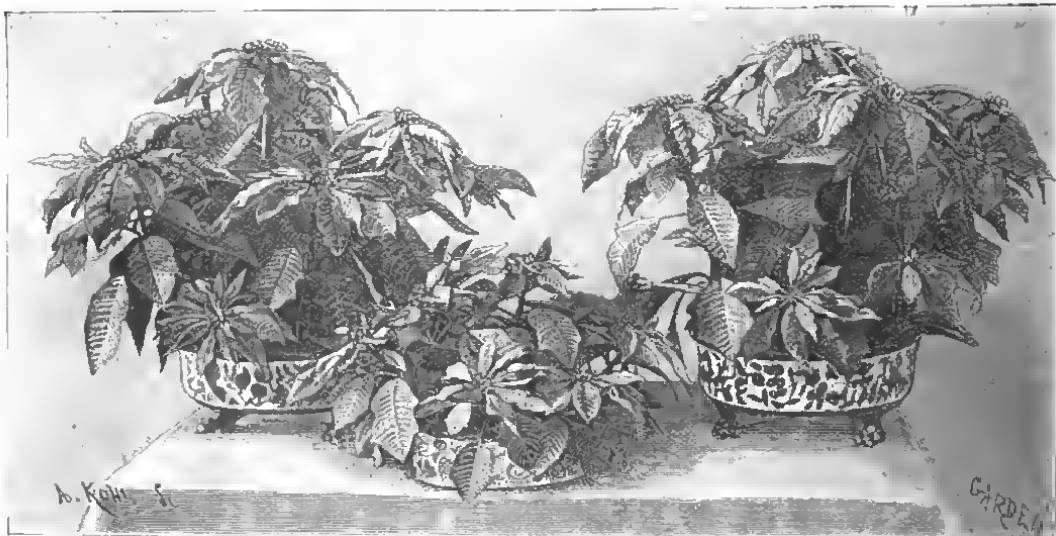
POINSETTIA PULCHERRIMA.

From November to the end of January flowers are scarce and valued accordingly. However, during this dull time the Poinsettia is to be had in perfection. The gorgeously-coloured "bracts" of the most intense scarlet are attractive above everything during the shortest days, and even a few of them are capable of brightening up stove, conservatory, or rooms in the most pleasing manner. Everyone who has a hot-bed, frame, and greenhouse should try to grow some of these. The flowers, as a rule, are over by the end of January, and from that time until the beginning of May the plants will remain dormant under the plant stage of a warm house. They will not need any water or other attention at all at this time. About the beginning of May they

bright sunshine for a few days; afterwards they will bear all the light possible. From the last potting until the middle of September they do remarkably well in a cool frame, and they should never be grown in a strong heat at any time in summer, as this causes them to make long, straggling growths, which are neither ornamental nor useful. Dwarf, sturdy shoots always produce the finest heads, and short plants are always more valuable than long ones. Another way of securing serviceable plants is to cut the old stems down to about a foot from the bottom, and allow all the side shoots which sprout out to grow. In this way some of them may have six, eight, ten, or twelve shoots, and as each of these will produce a showy head, very attractive plants are the result. When they are treated in this way it is best to repot the old plants as soon as the young shoots are a few inches long, and they may be potted again when growth is more advanced. As a rule, these branching specimen flower well in 8-inch and 10-inch pots, and apart from allowing the shoots to remain on instead of taking them as cuttings, and the putting them into pots, these plants are subject to just the same treatment as those raised from cuttings. In the autumn they are taken into a warmer and drier atmosphere, and here they soon develop their brilliant heads. Throughout all

three and in single flowers had been worked in as rosettes; similar rosettes were then stuck on at the corners. This tendency to overcrowding is generally rampant at flower shows. Again and again have I seen the most chaste decorations absolutely spoiled because decorators did not know when to stop. Not only is

TOO MUCH MATERIAL USED, but the material is too much mixed. Nothing tends to produce monotony so effectually as the employment of all kinds of plants and flowers at once. It is hardly too much to say that each decoration should consist of one or a few plants only. Not that only one flower may be used, though that often produces the most satisfactory results, but the flowers, foliage, and plants employed in any given decoration should harmonise. Many flowers, however, are strong enough to stand alone, such, for example, as Roses, Camellias, Lilacs, Valley Lilies, Lilies, Cyclamens, Lapagerias, Stephanotis, Passion-flowers, Gardenias, and hosts of other plants. With abundance of their own foliage and a few Ferns or Palms for extra greenery the most exquisite table decorations may be formed. With abundance of verdure it is astonishing how effective even white flowers may appear on a dinner table, especially as they may readily be fringed with bright Coleus, Iresine, Alternanthera, or other leaves. What better table decoration for Christmas than



Poinsettias in vases.

are brought out from beneath the stages, watered thoroughly, and then placed in a frame or house where the temperature is about 65 degs. Here they will speedily begin to grow, and emit young shoots all up the stems. When these are about 2 inches in length they are taken off as cuttings; each one is detached with a "heel"—i.e., a very little piece of the old wood attached—and they should then be inserted into the smallest-sized 2½-inch pots, filled with a half-and-half mixture of leaf-soil and sand. They are then plugged up to the rim of the pot in Cocoa-fibre in a hot-bed or Cucumber-house, where the bottom-heat is about 70 degs. Here they are not allowed to suffer from want of water, although they do not require much of this until the roots are formed, and they are also shaded from bright sunshine. Roots are soon made, and they are then withdrawn from the bottom-heat and placed on a shelf in the pit, and in a week or so after this shifted into larger-sized pots. From 2½-inch pots they are generally put into 3-inch ones, and from the latter into 6-inch or 7-inch ones, and in this size they are allowed to bloom the first year. In

POTTING, use a rough mixture of turfy loam, sand, and leaf-soil. Proper drainage is of the utmost importance, and firm potting aids to success in culture. Poinsettias lose much sap when injured, and this, having a weakening tendency, must be avoided as much as possible. After potting, keep close and shaded from

the period of their growth the greatest attention should be given to watering Poinsettias at the roots, as allowing them to become dry in any way causes the leaves to fall prematurely, and then the heads are poor.

TABLE DECORATION FOR CHRISTMAS.

HAVING long been an advocate for simplicity and lightness in table decoration, I would venture to offer a few remarks on the subject. There seems a natural tendency to run to excess in this matter. Many think that the greater the quantity of beautiful plants, flowers, or leaves on a table, the better the decoration. There can hardly be a greater mistake. As an illustration, I once saw a decoration in progress. Three light glasses occupied the centre of the table; they were tastefully and sparingly filled with a light hand, and fringed with light Fern fronds. Springing out from these towards the finger-glasses, which were filled with choice flowers, were light, delicate sprigs of Ivy, so thin as to end in mere points of verdure. These were sparsely used, and the effect was charming—a perfect blending of lightness and simplicity. Strolling in an hour or two later, the decorators were still at work finishing—i.e., utterly spoiling their work. At the points where the graceful twiglets of Ivy vanished towards the finger-glasses a stiff continuous double line of Coleus leaves had been laid on the cloth; and all among the Ivy, Chrysanthemum blooms in

thickly-burred sprays of Holly and Mistletoe, supported with small bunches of leaves and sprays of Ivy of different colours? For rosettes on the table Christmas Roses and Camellias might alternate.

It is the taste in the arrangement, not the cost nor the mass of material employed, that tells in Christmas and other decorations; and it may be added that the higher and purer the taste, the more sparing of material, and *vice versa*. A few touches of the pencil suffice the painter with genius, but the mere dabbler's brush is ever in motion between the palette and the canvas. It is very much so with table decoration. A few bold touches please, while a multiplicity of intricate details leads to confusion and disappointment.

And what is true of dinner tables and rooms is even more so of churches. The amount of "love's labour" absolutely lost on these at the festive season is appalling. Destined to be viewed chiefly from a distance, the greater part of the labour involved is seen imperfectly or not at all. Simple designs executed in durable material are by far the most suitable. Holly, Ivy, Mistletoe, Yew, Box, should form the staple, the warp of them all; while more perishable or scarce materials, such as flowers and berries, may be used more sparingly as the wool to show up prominently in inscriptions or designs. For the furnishing of fonts, &c., there is no more useful plant than the Ethiopian Lily in flower, used with abundance of its fine

leaves. It also has the merit of bearing the cold and draught of churches better than almost any other plant. Plants in pots, as Yews, Hollies, Cupressus, Retinosporus, Laurustinus, Euonymus, Box, Bays, Myrtles, Acacias, Gum-trees, &c., are also invaluable, as well as the more hardy Palms, Yuccas, Aloes, Ferns, &c. In warmer churches, Azaleas, Camellias, forced Rhododendrons, Lilacs, and any other greenhouse or stove plants may be used. Few plants are more effective than good specimens of Heath and Erica; while Chinese Primroses, Bouvardias, Cyclamens, forced Hyacinths, Tulips, Narcissi, and Crocuses furnish any amount of colour that may be needed. But to mix all these in one church arrangement would be to invite failure. Chrysanthemums are not named, as though several of the later Japanese and other varieties may still be in flower at Christmas, they seem to suggest a dead past rather than a joyous present or a hopeful future. This may be a

OUTDOOR PLANTS.

NYMPHAEA TUBEROSA AND ITS VARIETIES.

THE pure whitotuberosus Water Lily from North America is one of the most beautiful of the wild species known to cultivation. The plant possesses many good qualities that should commend it to all lovers of aquatic plants. It is hardy and free growing, succeeding well in open water in many parts of the British Isles, and produces its large white blossoms during the latter part of July, and from this time onward into the early autumn months. While perhaps it may be said to be less rampant than some of the newer hybrid kinds, it is yet a vigorous growing plant, and produces handsome leaves, each 12 inches across, or possibly more than this. The plant has not the thick strong fleshy rhizome or stem peculiar to a large number of Nymphaeas, but in place thereof

N. T. RICHARDSONI, a variety with very handsome pure white and very double flowers. The white of the petals is very beautiful, and not less so the globe-like symmetry of form. This is produced by the inclination to droop of the outer sepals and petals, while the way the flowers are held just out of the water renders it at once conspicuous. This latter kind appears in the illustration, and is not merely a novelty but a decided acquisition.

These tuberous forms of the Water Lilies may be increased by division, which in the case of plants of any size can be done at any time when the plants are dormant. Indeed, in this these aquatics are not very exacting, and we have taken them in full leafage and divided them when occasion demanded. All the same, there is some possible danger to the foliage at such a time, and for this reason the work is best performed when no such risk is likely. A depth of two feet of water is often found ample for the requirements of a large number, and



Nymphaea tuberosa richardsoni

mere fancy, and it must be admitted that Chrysanthemums last long and are showy in Christmas or other decorations. But a decoration of leaves and berries only is far preferable to one in which flowers already partially faded form any part. D.

Montbretias.—These corms, hailing from the Cape, are exceedingly useful for furnishing quantities of cut-bloom for table decoration, and, as they come into flower at the end of the summer and are not expensive, one is justified in planting them freely. They are best grown on a warm, well-drained south border—mine have done best in a similar position—they are sun-loving and not shade-loving plants, as some appear to think, from the numerous inquiries one hears of them. The corms are best taken up in autumn, when the foliage has dried, and re-planted in March, as, if left too long they become entangled and do not bloom so well. I do not suggest that they will not stand the winter, as, slightly mulched, they take little harm.—TOWNSMAN.

a rather dense mass of tuberous roots. Happily the plant is obtainable at a cheap rate, so there is little reason why it may not figure in all collections. Small plants of it are suited to growing in tanks or fountain basins, and in these latter are very pleasing when in flower. Including the typical species there are only about four kinds, but all of these are worth growing.

N. TUBEROSA has large white flowers some 4 inches or 6 inches across, the sepal and petal arrangement being much the same as in the common large white Water Lily and others. There is a delicate scent to the flowers which gracefully float amid the leafage and just clear of the water.

N. T. ROSEA, as the name implies, has flowers of an exquisite soft rose shade, large and handsome withal. This is a beautiful variety, worthy of a place in the most select assortment.

N. T. FLAVESCENS is a pale yellow variety, and is itself distinct by reason of the colour. But the gem of the group perhaps is

these among them. Loam of a heavy nature is the best, and with the root-fibres fastening on to the rich mud deposited at the bottom, a period of greater vigour and freedom of flowering is assured. E. J.

HARDY FLOWERING PLANTS FOR SHADY POSITIONS.

(REPLY TO R. J. CLEMENTS.)

THERE are many spots in gardens which, owing to their being in partial shade during the summer, are left in a state of neglect through the want of knowledge on the part of the owners as to what will succeed in such positions. The following list, which is based on actual experience, may therefore be helpful to such, as from among the plants to be enumerated a selection can be made, if there is not room to grow the whole of them, which will flower from May till the end of October. There are more subjects suitable for this purpose than many imagine, and there is no reason why odd corners, shaded portions of borders,

and the like, should not be made to look bright instead of leaving them bare and uncare for. The majority of the plants that will be mentioned, once they are established, may remain in position for several seasons, and, in short, they should be treated in much the same manner as are other herbaceous plants. Foremost of these are Aquilegias, which blossom as freely in semi-shade as out in the open, and from a packet of seed many beautiful and various coloured varieties may be had. The handsome *Doronicus* or *Leopard's Bane* also succeed well in partial shade, two good varieties being *D. plantagineum excelsum* and *D. caucasicum*. In a moist position a selection of *Trollius* or *Globe-flowers* may be planted. These are very handsome and flower early, good kinds being *T. asiaticus*, *T. europaeus*, *T. aurantiacus*, and *T. caucasicus*. A group of the *Lenten Rose* or *Helleborus orientalis* in variety, if planted where they will not be too much overshadowed in summer, will prove interesting in the latter end of April and early in May. There are some beautiful varieties among them, the colour of the flowers ranging from the pure white of *H. Professor Schleier* and *Willy Schmidt*, to the rosy-purple of *H. Inspector Hartwig* and *H. Gretchen Heinemann*. Spiraeas of such varieties as *S. japonica*, *S. astilloides*, *S. Aruncus*, *S. palmata*, *S. palmata elegans*, and *S. Umaria* (the *Meadow Sweet*) should also be grown, selecting a spot for all where the soil is inclined to be moist rather than the reverse. The *Canterbury Bells* of all colours make a fine show while in bloom, and each colour should be planted in masses. These must, of course, be treated as biennials, and a fresh stock planted where they are to bloom every autumn. Other species of *Bellflowers* which succeed in shade are *C. grandis*, *C. alliarifolia*, *C. glomerata*, *C. g. alba*, *C. g. dahurica*, *C. heticolor*, *C. persicifolia alba*, and *C. pyramidalis*. These are most effective when planted in clumps, and last a long time in flower. *Centranthus ruber* and its white variety are fine subjects for massing, and flower most freely, even when subjected to a considerable amount of shade, as will also the *Plantain Lilies*, or *Funkias*. The colour of the flowers of the latter are either white, blue, or purple, and there are a good many varieties to select from, but all of them may be employed for the purpose under consideration. A fine, stately-looking subject when in flower is *Crambe cordifolia*, and it does not mind partial shade. This, when in flower, reaches a height of 3 feet, the colour of the flowers being a pale creamy-white. *Telexia speciosa* is another tall-growing subject suitable for shady places, and so is the *Rosinweed* (*Silphium perfoliatum*), which also has light yellow flowers, and grows about 3 feet high. The *Day Lilies* (*Heimerlilis*) of such varieties as *H. flava*, *H. aurantiaca major*, and *H. Kwanso fl. pl.* may also be employed. To afford relief to so many of the yellow and orange-tinted flowers, *Lythraums*, in variety, will be found useful.

The *Willow Herb* (*Epilobium angustifolium*) will afford a mass of purple when in flower. This also needs a moist position. *Saponaria officinalis* (the *Soapwort*), and *Eupatorium purpureum* (the *Hemp Agrimony*), both afford purplish coloured flowers, and neither is particular as to soil and situation. The *Monks-hood* (*Aconitum Napellus*, *A. autumnale*, *A. pyramidalis*, and *A. japonicum*), all afford flowers varying from lavender-blue to purple; while *A. ochroleucum* has yellow, and *A. Napellus* almost white flowers. These are exceedingly fine subjects for semi-shade and remain in flower for a considerable period. Other suitable plants that may be mentioned are *Poxgloves*, *Liatris*, very handsome; *Aetna* (*Baneberry*), very pretty when in fruit; the *Mulleins* (*Verbascum*), particularly *V. thaxii* and *V. phlomoides*, *Tritoma Uvaria* (*Red-hot Poker*), *Monilactias* in variety; *Phytolacca decandens* (the *Virginian Pokewort*), very handsome when in fruit; *Göhlen Rods* (*Solidago*) and *(E)nothem Lamarekianum*. When room can be found for them *Polygonum*s (*Knotweed*) of such varieties as *sachalinense* and *amplexicaule*, the former giving white and the latter red flowers in autumn, should be employed. The different varieties of *Helianthus* and *Harpalum* should be accommodated if there is ample space at command, and in a few of the least shady spots some of

the more robust growing of the *Starworts* or *Michaelmas Daisies* may be planted. Lastly, there are *Cimicifuga racemosa*, with white feathery flowers, the three following varieties of *Helonium* (the *Sneeze-weed*), *H. mucronatum*, *H. grandicephalum*, and *H. striatum*, and *Chrysanthemum uliginosum*. A. W.

HOLLYHOCKS.

The Hollyhock needs a plentiful supply of rich food and deep soil to grow in, and it is well to trench the ground in time to allow of its being well exposed to the frosts of winter. Give a good dressing of rich manure, and if the ground has grown Hollyhocks previously, it should be freshened up by the addition of some good loam. A grower of my acquaintance used to trench the ground about 2 feet deep in November or December; a layer of manure was placed in the bottom of the trench and another layer 9 inches or a foot below the surface, but with the top layer was placed a good thick layer of loam from decayed turves, and at planting time in the spring some of this loam with the addition of a little manure was placed around the ball of roots and gave the plants a good start.

There are two classes of plants—*i.e.*, those raised from eyes or cuttings taken from the growing plants in the summer, and those from the flowers are expanded, and cuttings taken from the old plants in the early spring. An old stool will produce from three or four to a dozen growths or even more, and these if taken off with a heel attached in the spring will usually root well if planted in small flower-pots singly, plunging the pot in a gentle bottom-heat in the forcing house. The summer propagated plants are usually wintered in cold-frames and they are always well ahead of the spring-struck ones. The latter also bloom later; usually two or three weeks between their time of flowering. This is important when the object is to obtain good single blooms or spikes for exhibition, for if the lower flowers are gone, they cannot do much good on the exhibition table. In order to obtain good cuttings in spring, the old stools must now be taken up and potted. Eight-inch and 9-inch flower-pots are quite large enough. The plants are placed on a shelf not far removed from the glass roof of ainery or Peach-house. The frost is merely excluded by a fire during sharp frosts. The disease if it is amongst the leaves does not spread much in winter, not until the cuttings are placed in heat, when it spreads rapidly. The single-flowered Hollyhock is not much admired, but we saw during the past season some fine plants in a cottage garden; the spikes tall and well flowered and producing an excellent effect. The florist goes in for the largest, fullest flowers he can get and would not grow the single-flowered varieties. The single-flowered *Dahlia* is now very popular, so also are *Roses* with single flowers. One day single-flowered Hollyhocks may become popular, but we may admire both without favouring too much the one or the other.

THE BEARDED PENTSTEMON (P. BARBATUS).

This lovely species is much more beautiful than many of the named and so-called improved florists' varieties of *Pentstemon*s of the present day. If its merits were better known it would certainly be much more extensively grown. In July, and through the greater part of August, it produces an effect that is brilliant but refined, the graceful beauty of the plant being not the least of its charms. It does not make a bushy plant like the *Pentstemon*s that most people are familiar with, but its shoots cluster in a tuft upon the ground. The flower-spikes reach a height of from 2 feet to 4 feet, but nevertheless are strong and self-supporting. The flowers are from 1 inch to 2 inches in length, of a pretty coral-red colour, and most profuse upon the spike. Success with the plant, however, depends upon the observance of certain details of culture. It must not be planted and left to take care of itself, as many hardy plants are. The probability in such a case is that the old plants will get weak and die. On the other hand, it resents disturbance at the root. The plan is, when the plants go out of flower, early in September, to pull away some of the sides

shoots, some of which have roots attached, but this is immaterial, and pot them singly into small pots, and place them in a cold-frame. Here they remain all the winter, and by spring they have plenty of roots, and can then be planted out at a convenient time and in any desired spot. It also ripens seed freely, and can be raised easily. There is a variety of it named *Torreya* which has taller flower spikes, and the flowers are of a deeper red colour. This plant is also known as *Chelone barbata*—in fact, in nurserymen's catalogues it appears more frequently under this last name than that of *Pentstemon*. It is called the *Bearded Pentstemon* in consequence of several hair-like growths upon the petals near the mouth of the flower.

NOTES AND REPLIES.

Sowing Grass seed.—In preparing a new lawn the seeds have not been sown sufficiently thick. Would you sow additional Grass seeds in the spring, and what would you put on to enrich the soil?—R. J. CLARKE.

(In the month of April dress the lawn with a mixture of lime, wood-ashes, and some rotten manure put through a sieve to clear out all the rough matter, and then sow some Grass seed on it. Take care that the seed is not from a hay loft. If birds are troublesome, you should protect in some way.)

New Zealand Flax (*Phormium tenax*)—Have very fine plant in my garden here, 12 feet to 14 feet high. It was planted some ten years ago, and has never to my knowledge been sheltered at all. *Camellias* flower freely here, I may add.—Col. A. COLLINS, G.R., *Hughes Island*.

—In New Zealand this flourishes in a mean temperature of about 61 degs. on black humus in swamps or sandy loam or loam. In England it stands the winter well in southerly aspect, at *Haying Island* and *Weymouth* it should be protected when exposed thermometer reaches 22 degs. or 21 degs. At Falmouth it has a climate the most suitable, but lacking sunshine for blooming.—J. L. *South Haying*.

The herbaceous border in winter.

—Where many herbaceous plants are grown, the autumn is regarded as the best time, generally speaking, to tidy up and cut away any superfluous stalks, etc., also to make divisions where necessary. Those who could not do what they wished at that time will be best advised to leave the matter until spring, when plants are beginning to grow. It is a practice to be deprecated just to folk over such borders in winter, for, in the absence of tallies, one is almost sure to disturb something that ought not to be meddled with unless one is blessed with a particularly good memory; but, beyond mulching the borders now, any further work should be left until spring.—LEAUFEST.

Grasses.—Ornamental Grasses do not, as a general rule, play a very important part in gardens. We are rather more inclined to view Grasses of any description as intruders, and pull them up before they can flower, but some of the more delicate kinds, when used in the make-up of *Sweet Peas*, *Poppies*, etc., impart a gracefulness to the arrangement, especially sorts like *Agrostis nelulosa* (the *Clond Grass*), *Briza gracilis* (the common *Quaking Grass*), found in meadows, or the larger form *B. maxima*. But quite apart from their value in summer, they are useful for winter decoration, and to grow a bed, say of about 4 square yards or 5 square yards, one may get a collection that will serve a useful purpose from November onwards. Here are a few *Stipa pinnata* (long white Feathery Grass), *Hordium jubatum* (*Squirrel-tail*), *Eragrostis* (*Love Grass*), *Coix lacryma* (*Job's-tears*), are a few that deserve to be grown. Seed should be sown in April for blooming and gathering for the following year, and the stalks should be cut their full length when ripe, and not allowed to remain longer, drying them in the sun.—TOWNSEMAN.

Rhodanthe Manglesi.—It is impossible to over-estimate the value of this useful annual to the amateur with a small greenhouse in spring, where a moderately warm temperature can be kept up. *Rhodanthes* are easy to grow, and if seed is sown in February in shallow boxes or pans of loam and leaf-mould in which some coarse silver-sand is mixed, kept in the propagator, or near the pipes, germination will soon take place. Subsequently they will need potting off into pots of a handy size—say 3-inch—each containing fifteen to eighteen seedlings; these, as they grow, will need some slight support to prevent the stems swaying over, and cut two or three twigs to each pot, around which

allia may be entwined, will keep them in position. *Rhodanthe Manglesi*, the pink form, seems the more popular, but I think the white blossoms of *R. alba* are quite as effective. Both should be cultivated where graceful blooms are wanted for window or table.—TOWNSEMAN.

A FINE CACTUS DAHLIA—IDA.

Of the variety we figure to-day we have a deeper and purer yellow than in Mrs. Edward Lawley and Mrs. J. J. Crowe. It also comes into bloom before these. The flower is of true

parts of New Zealand which I have seen, and, I believe, flourishes (though it is more stunted) in the higher and colder regions among the mountains and fairly near the snowline. It grows to a considerable size; I should think the flower stalk often reaches 6 feet or 8 feet in height.—A. H. HORDHOUSE, *Rubiford*.

Scillas.—The frequency with which *Scilla sibirica* is referred to as the early *Scilla* almost leads one to suppose that *S. bifolia* is entirely overlooked as one of our first flowering bulbs; indeed, oftener than not it may be seen blooming in advance of *sibirica*, and should be

INDOOR PLANTS,

HYACINTHS IN POTS AND GLASSES.

A GENTLEMAN having kindly undertaken to furnish the bulbs, I was the other day invited by the committee of an adult school in Kingston to give to the members amongst whom the bulbs were to be distributed a brief address on the proper treatment of Hyacinths in glasses and in pots for domestic culture and decoration. The suggestion was a particularly pleasing one, and the large attendance showed



A new yellow Cactus Dahlia—Ida. From a flower sent by Messrs. Barrell & Co., Cambridge.

of cactus shape, the plant of good habit and very free blooming, reaching a height of about 3 feet. It is an acquisition to the yellow blooming varieties. It was raised by Messrs. Barrell & Co., of Cambridge.

Phormium tenax (p. 538).—This plant will stand a great deal of cold. It delights in a damp situation and deep, rich soil; in fact, it is a swamp plant. There is plenty of frost and cold in parts of New Zealand, but the country has much more sun and warmth on the whole than England has, so that plant life has a longer period of growth and absorption than in England. *Phormium tenax* flourishes in all

planted in the wild garden, and under trees—indeed, any place where it is not likely to be disturbed. This obtains in a large measure with many members of the *Scilla* family, but in particular *bifolia* does best when left to itself. Some years ago I planted bulbs of the common Wood Hyacinth (*S. nutans*) amongst Ferns in a corner of my garden, and as they have not been shifted more than once or twice, quite a colony of them blooms in May. The Spanish *Scilla* (*S. hispanica*) is also a favourite of many, and this, like the previous sort, is a May-blooming one, fitted for woodland walks, carriage drives, and places where once planting suffices.—E. L. YASSER.

how much interest the subject had aroused. Specially was interest abled because the results of the distribution, the culture, and the address were to be seen next spring in the form of a Hyacinth competition.

IN GLASSES.—For glass culture I took with me both the old tubular and the broad dwarf glasses, greatly preferring the latter as best and also as cheap, seeing that they can be purchased at from 2s. 6d. to 3s. per dozen. These broad glasses are in no danger of toppling over, and can be used as flower vases when not utilised for Hyacinth culture. With these was also an example of the brass wire support with a spring bow, so admirable for the pur-

THE HOLLY.

I suppose that Holly is chiefly associated in the minds of most English people with the interior of our houses and churches at Christmas time, when the bright scarlet berries, contrasting with the deep green of the prickly leaf, form such an agreeable feature in the decorations. As an ornamental shrub it is seen in gardens and parks, and it makes a very useful hedge, standing the shears well. Its straight shoots are cut from hedges and other places, and are unrivalled for making carriage whips, the branches, when trimmed off, leaving knots to vary the monotony of the long handle. Such is the Holly and its uses where the soil is rich. But where we come to light, sand, soil, in favourable situations, the Holly grows to a height of 50 feet or more, and is a worthy companion of the Oak in the forest. The timber it produces is very valuable; it is white, close grained, and hard, and of special use to the cabinet-maker, particularly for inlaid work. It is sometimes used for wood-engraving in place of Box; it also forms excellent handles for tools. Bird-lime is made from the bark. Within a mile from my house in South Hampshire are several fine Holly trees, some of great age. The girth of the largest is 4 feet 10 inches at the height of a man's chest. The tree, which is growing on a northern slope has a fine head. I find its height by measurement with the sextant, to be, to the summit of the crown, about 40 feet, and to the top of the bole, or timber-cylinder, 18 feet. The tree, however, if cut down, would be of little use as timber; there is a hole in the lower part of the trunk—the result of defective pruning, whether by nature or the hand of man—by which the rain enters, and I thrust my stick into a mass of black rot inside the tree. This rot must discolour the wood of the trunk, and in time will render the tree liable to be broken off by the wind when the Oak surrounding it have been cut down.

The habit of Holly trees to spring from all trunks is very noticeable in this neighbourhood, and the Holly stations, as I may call them, with light sandy soil on a slope where the sun does not get up to the roots, are no doubt of great antiquity, the trees on them being remnants of the primeval forest. The Holly, though omitted from some books on forestry, is nevertheless a true forest tree. It is storm firm, and I do not remember ever having seen a Holly that the wind had torn up by the roots. It is a misfortune that in many places this beautiful tree is ruthlessly mutilated for decoration. One word as to the cultivation of the Holly. Let its own leaves lie to rot on the ground and help to form a mould suitable for its growth. Evelyn says, "not dunging, which it abhors."—G. A. DAUBENY. *Tuckton, Christ Church, Hunts.* in "Nature Notes."

Desfontainea spinosa grafted on Privet.—This, which is alluded to by your correspondent "M. A. H.," is, if correct, most extraordinary, but my idea is that it admits of a simple explanation. I do not think it is the *Desfontainea* at all, but *Osmanthus ilicifolia*, a Holly-like shrub which belongs to the same natural order (Oleaceae) as the Privet, and at one time used to be often propagated by grafting on to its commoner relative. I have frequently seen the *Osmanthus* with shoots of Privet at the base, but the *Desfontainea* (which belongs to a totally different natural order) never. Again, the flowers of the *Osmanthus* are borne in the autumn, and are well described by your correspondent as being like those of the Privet, but in clusters, not spikes. True, the clusters are small, but the flowers themselves are sweetly scented. I do not know your correspondent's locality, but while the *Osmanthus* is quite hardy in England the *Desfontainea* is tender, except in particularly favoured spots, and it succeeds best near the sea. This, I hope, will serve to dissipate the mystery surrounding "M. A. H.'s" plant, but if any further elucidation of the matter is needed, a small spray of the prickly-leaved plant sent to the Editor of GARDENING ILLUSTRATED will be forwarded to me, and I can then at once determine the correctness or otherwise of my theory.—W. T.

pose required. A few pieces of charcoal, some water, and the bulbs, completed all that was needful for the glass demonstration. Bulbs in glasses should have the water taken from a main, or be very fresh rain-water, which should just touch their bases when placed in position. A small piece of charcoal in each glass does good. Stand the glasses now in a dark place where there is ample air until plenty of roots are made, then place them in the light as advised for the pot-bulbs. For

For culture I had one clean and one dirty 5-inch pot—the latter to show in what condition pots should not be used—also some compost, one half turfy loam the rest good decayed leaf-soil, old hotbed manure, some sharp white sand, and some crocks.

In showing how to pot Hyacinths, it was needful to make clear the nature of the drainage required, which need not be much when it is covered with portions of the coarser parts of the compost. The soil should not be too firmly pressed beneath the bulbs, as when throwing down roots if these do not freely penetrate the soil they partially lift the bulbs. The tops of the bulbs should just be visible above the soil. When the soil is moderately moist, as it should be, but by no means wet, it is unnecessary to give the newly-potted bulbs water. The best course now is to stand the pots on slates or boards beneath a wall or fence, and to cover them some 3 inches thick with either sifted coal-ashes from the house grates, or with Cocoa-nut-fibre refuse. This is done to exclude light for a time, as then root-action is all the quicker, and precedes leaf-growth materially. That is a matter of first importance. Where many bulbs are potted it is possible to take a few at a time from outdoors into a greenhouse or frame, and thus push some into bloom earlier than others. It is best to put them into a cold frame or greenhouse for a week at first, then shift them into moderate warmth. A sudden transference from a cold position to a warm one is often harmful. When Hyacinths in pots are to be flowered in a room window, the change from outdoors after the pots have become fairly full of roots into an ordinary room is trifling. In such places it is needful to stand the pots quite near a light south window, when they can have air, but not be exposed to cold draughts. A. D.

NOTES AND REPLIES.

Pelargoniums falling.—A disease has lately attacked by Geraniums, and my gardener cannot understand to what the cause is due. The cuttings, which were struck this autumn and seemed very healthy a week ago, are now looking in a very poor condition, all the leaves turning yellow and then falling off. The plants have been kept during the last six weeks in a lean-to house, newly built. The house has been heated with hot-water pipes, the temperature being between 45 degs. and 60 degs., but usually 50 degs. Fahr. I should feel very much obliged if you could inform me cause of disease and remedies that should be employed? There are about 2,000 plants in the house.—W. A. W.

[According to your note, the Pelargoniums seem to have been given suitable treatment, but, judging by the specimen sent, a better circulation of air would be an advantage. There does not, however, appear to be anything very serious the matter, as in many districts Pelargoniums of this class invariably lose all, or nearly all, of their leaves during the winter months. This is especially noticeable in the London district, as the sulphury fogs play havoc with the leaves, particularly if they are at all tender through having been kept rather too close or moist. We saw a house of plants the other day (it is true, in a less favourable neighbourhood than yours) which was simply a mass of bare stems, yet no uneasiness was experienced as to matters being righted with the return of spring. We observe that the bark of yours is in good condition, and have no doubt that before the month of March is over you will have no ground to complain. Give only enough water to keep the soil slightly moist during the winter, but fresh air should be admitted whenever possible.]

Lily of the Valley falling.—I enclose two specimens of forced Lilies of the Valley, and should be very grateful if you would kindly tell me the reason that so many of the bells have failed? The Lilies were lifted from the garden about three weeks ago, and have been brought on in heat in the usual way—i.e., in pots sunk in a hot-bed in a hothouse. I shall be very grateful for any information you can give me on the subject.—E. M. G.

[The reason of your Lilies of the Valley going blind, as per enclosed specimens, is that they

have been brought on too rapidly; indeed, it is very difficult to get home-grown crowns in flower by Christmas. The crowns that are so generally employed for early forcing are grown principally in the neighbourhood of Berlin, where they ripen earlier than with us, and consequently are less difficult to start into growth. This custom has been followed for a long time, but within the last few years the forcing of the Lily of the Valley has been completely revolutionised, and the splendid examples which are now so numerous in all the florists' shops of London are the product of retarded crowns—that is to say, those which, in the ordinary course of nature, should have flowered last spring, but, being kept frozen in large refrigerators, they remained dormant till they were removed therefrom and brought on in gentle heat, to which they readily respond. The advantage of using retarded crowns for flowering about Christmas time is that they do not require so much heat as the others, and, consequently, the blooms remain fresh for a longer period than those which have been hard forced, while the foliage makes its appearance simultaneously with the flowers; but in the case of the non-retarded ones, the flowers push up before any of the leaves. Of course, the retarded crowns are somewhat dearer than the others, as the erection of huge refrigerators and necessary machinery involves a considerable outlay.]

Heating apparatus.—I have a warm-water apparatus for my small greenhouse, consisting of boiler and 3-inch pipes, 6 feet and return, all made of zinc or tin. It is intended to be heated by a lamp burning petroleum, but it is inadequate and makes a great smell of gas besides occasionally filling the place with soot. All the apparatus is inside the greenhouse, and there is no chimney. Would it do to heat by gas with a "water boiler"—i.e., small gas-jet used for boiling water? I am aware that gas is supposed to be bad for plants, but the moisture from the water might mitigate the ill effects of the dry heat of the gas.—S. EDWARDS.

[We are of opinion that the best petroleum is less harmful than gas would be. From your remarks as to soot, etc., it would appear you have been using a cheap kind. This, however, would have little to do with its inadequate powers, to rectify which a stronger flame, or a number of them, would be requisite. This would be even so with the gas, and such drawbacks are ever present when the whole of the heating apparatus is within the house. Is there no possibility of altering this? For we see in any case, whether gas or oil, a larger flame power is necessary, and in this there is a greater possible danger than now. If you can place the heater outside the whole inconvenience is dispensed with at once; if you cannot, the only assistance in mitigating the ill effects will be by a shallow water pan on the heater itself, in any position, near enough to generate a little steam. This, and the keeping of floor and other parts fairly damp, are, we think, the most you can do. The purest oil may help you in the matter, and, as you are aware, the quality of this as well as the gas is extremely variable, and bad gas would, in its increased quantity, be quite as injurious as the oil. Our advice is first try the best oil procurable, and exercise care with wick and burner that these be kept clean.]

Campanula isophylla.—There is no better window plant in cultivation than this *Campanula*. It only requires ordinary care to bring it to perfection. The beginner in plant culture cannot do better than take it in hand, for it will yield a great amount of pleasure for a small amount of labour. This species is classed among hardy flowers, but it is only under certain conditions that it is satisfactory in the open ground. It must be sheltered from cold winds. The soil must be very free, the drainage perfect, and even then in a time of very hard frost the crowns should have some protection. This *Campanula* is easily increased by division, but on no account should the plants be divided before the young growths push from the crowns. If divided in a state of rest they are apt to die off.—J. C., Ryholt.

Request to readers of "Gardening."—Readers, both amateur and in the trade, will kindly remember that we are always very glad to see interesting specimens of plants or flowers to illustrate, if they will kindly send them to our office in as good a state as possible.

FRUIT.

APPLE LANE'S PRINCE ALBERT.

This is a grand Apple, and pretty well known to-day as a most prolific cropper, and requiring a free hand in thinning most seasons. In fact, unless this is carried out the growth would soon be unsatisfactory, consequently the variety is not much grown as a standard, but is found in most gardens as a bush or pyramid. I have heard some good gardeners condemn this as poor in flavour when cooked, but such is not my opinion. It is an exhibition fruit of no mean order when well cultivated.

DEVONIAN.

NOTES AND REPLIES.

Raspberries.—I have noted your many instructions with regard to Raspberries, but am perplexed as to the treatment of mine. I have two rows, put in singly last autumn. These bore well, but are still single canes, so that I cannot thin them as you advise. Should I cut them back or top them—they are about 4 feet high—and, if so, should I do it now or in the spring? I have others (old,

number of early kinds. I should not object to having two or more of good varieties. Would Cherries or Plums succeed on either wall as upright cordons, and if so, what kinds?—HURTE.

[The following varieties of Apples should succeed on the wall with a north-west aspect, and would give a succession of fruit well into midsummer. We do not quite gather what you mean by oblique upright cordons? Possibly your intention is to train cordons in an oblique or slanting position, so as to make the most of the wall space at your command. For late dessert plant at 18 inches apart 6 Cox's Orange Pippin, 3 Hubbard's Pearmain, 2 Allington Pippin, 1 Egremont Russet, 1 Claygate Pearmain, 2 Scarlet Nonpareil, 1 Lord Burleigh, 1 Fearns' Pippin, and 1 Sturmer Pippin. Cooking: 2 Beauty of Kent, 2 Lane's Prince Albert, 2 Bow Hill Pippin, 1 Mère de Ménage, 4 Newton Wonder, 1 Bramley's Seedling, 1 Alliston, 1 Old Winter Nonpareil, 1 Chelmsford Wonder, 2 Humbling's Seedling, and 1 Rymer 3i trees in all. Or if double cordons, half that number of trees. For the south-east wall

universal standard be adopted. Those conversant with Covent Garden understand sieves, half-sieves, bushels, and other terms, but in the country each district seems to have a method of its own. Here, in the west, it is very difficult to get purchasers to understand how many they are to have for a bushel, and if you use the word peck, then they want to know how much the Apples are to weigh. Only a few days ago a gardener, when purchasing from me, said, "I must have 14 lb. to the peck, or 56 lb. to the bushel." Before I agreed to this I put several kinds into the scales, and found that some would only go 12 lb. to the peck, while others weighed 14 lb. Large, soft kinds are light compared to medium-sized, hard kinds such as Ribston, Sturmer, etc. Personally I would rather Apples were sold by weight. This method is used by the men with the barrows in the London streets, and this is undoubtedly the fairest way. —J. CROOK.

Pruning wall fruit-trees.—I have some good Peach, Nectarine, and Plum-trees on walls, also Apple on espaliers in garden borders. My garden has not pruned or trained them in any way this year, and there are long shoots on all the trees, some on the Plums quite 4 feet above the wall. I should be grateful for advice as to present and future treatment?—CASA.

[As some of your fruit-trees have made shoots 4 feet long above the wall, it is evident that the roots are making far too strong growth consonant with the limited area your wall gives to the heads. Your best course is to have all these strong growths hard cut back, and then have trenches, 2 feet wide and deep, opened round in front of the roots of each tree, 4 feet from the stem, cutting clean off all roots there, and also grubbing under the roots with a sharp spade or broad, sharp chisel on a long handle, and cutting off all roots that grow downwards. That will check sap flow so far that the trees will not again throw coarse shoots, but will begin to form fruit-buds or spurs, and thus, a year later, become fruitful. This may seem to you to be drastic treatment, but it is absolutely needful if you wish the trees to be kept to their present wall areas. No doubt your gardener has realised that constant hard pruning yearly only leads to the production of fresh, strong wood shoots, and little or no fruit. If you will not take the course advised, then you must be content to thin out the shoots a little, and to just top those left, then let the trees grow out from the walls or trellises and become rather bushes than trained trees. Where roots are very strong, heads must have ample room. Gardeners who well understand the treatment of wall-trees as of others, constantly have to root-prune those which make too robust wood growth, sometimes in the way advised, and sometimes by unailing the trees from the walls, lifting them, pruning the roots, and replanting them. That process checks rank sap flow, and also helps to bring the trees into a bearing condition.]

Pear trees enkered.—Though I have annually root-pruned three Pear-trees that I have on Pear-stock, and applied the chemical dressing recommended by Mr. Rivers, they still continue to ranker. One bears a few Pears and the others do not. The trees are Napoleon Sarazin, Beurré Bachelier and Hardy (I am not sure which), and Marie Louise d'Orléans. Is there anything further that can be done to them?—HURTE.

[If root-pruning has not improved matters, we would advise you to lift the trees entirely, unless too large or old, and cut away all diseased wood and scrub with a brush, using soft-soap for the purpose. If you lift them see what the sub-soil is like—probably not well drained, a sure forerunner of canker. In that case it would pay to put broken brick-bats to the depth of 6 inches, allowing 2 feet to 2½ feet of soil for replanting the trees again, first putting some grassy turves over the drainage. The trees ought not to require to be root-pruned as often as you say. Are you feeling them too much, do you think, causing them to make far too much gross wood, and this, perhaps, does not get ripened well enough to form blossom-buds? We rather think this may be the fault of your trees. In that case do not enrich the soil when replanting. A little wood-ashes or lime rubble mixed with it would do no harm, and avoid too deep planting, keeping the roots as near the surface as possible, making the soil very firm and mulching with long strawy litter, and using the knife a little less for a year or two. Do not carry out this work when wet or frosty, but the sooner it is done the better for the tree.]



A good late Apple—Lane's Prince Albert.

but by ones), which the gardener has thinned to three or four canes to each stool, and cut back to about 3 feet in height, and tied to stakes. He has done this this week. Should it not have been done earlier or left till spring, lest the rain and snow enter the canes and split them? Kindly advise me.—PRINCE RASPBERRIES.

[Your gardener has done quite right. If your Raspberries, planted in the autumn of 1901, had done properly, there should have been a number of canes from the stools to take the place of those which fruited. Do you understand you to mean that the only canes are those which bore the fruit, and that no young ones have grown to take their place? You must understand that all the canes which bore fruit must be cut out. This is always best done immediately the crop has been gathered, so as to get the next year's bearing canes properly ripened.]

Cordons for walls.—I have a wall with a north-west aspect in my garden measuring 54 feet, on which I wish to train some cordon trees. I do not think Pears would succeed on this aspect. What dessert and cooking Apples would you recommend for this wall as cordons? I mean oblique upright cordons. Also what Pears would you recommend as oblique single cordons for a south-east wall 42 feet in length? I should prefer late kinds in each case, as I desire to have a

plant the following Pears, the distance apart is given above: 1 Doyenné du Comice, 2 Knight's Monarch, 4 Winter Nelis, 2 Easter Beurré, 2 Nouvelle Fulvie, 3 Josephine de Malines, 2 Marie Benoist, 1 Olivier de Serres, 2 Passe Crassane, 1 Doyenné de Alençon, 1 Président Barabe. Plums, also Cherries, would thrive on either wall, especially Plums on the north-west wall. Any of the cooking varieties should do well there, and probably Golden Drop dessert Plum if not too far north. Cherries are not much grown as cordons, but we see no reason why they should not succeed on the south-east aspect, choosing the sweet kinds that bear principally on the spur. The Mirelle is not suitable if heavy crops are looked for, as it is only by laying in young wood each year that this can be achieved, and with cordons this is impossible.]

Weighing v. measuring Apples.—Those who have to market Apples in different parts of the country have found how varied are the conditions under which they are bought and sold. I often think what a great improvement it would be could some

VEGETABLES.

AILSA CRAIG ONION.

The illustration which accompanies this note is that of a very fine lot of bulbs of Ailsa Craig Onion, averaging 1½ lb. each, sent me a year since, and which I got photographed. No doubt the bulbs lose something in size in the photograph because standing on a soft cushion. These splendid samples were the product first of carefully saved seed from other fine bulbs, specially selected to show deep globular form, solidity, weight, and brightness, then of a sowing made early in January in shallow pans, that were stood in a greenhouse near the light, and where there was gentle warmth. The seedlings some six weeks later were carefully lifted and dibbled out into shallow boxes filled with good soil, at 2 inches apart, then grown on in ample light and air to keep them sturdy, later got into a cool frame to harden, and then at the end of April planted out wide apart in well trenched and enriched soil, where finally these splendid bulbs resulted. A. D.

FORCING RHUBARB.

GARDENERS consider it pretty good work if produce can be gathered by Christmas day.

put to keep it dark and the wind from lowering the temperature. A pot of water and the syringe should be kept inside to damp the crowns each morning, and I may add there is no better place to force Seakale than here. It is an inexpensive shed, but will require a little repair most years probably as the boards soon decay. In May all the leaves should be cleared away from the boards; this, worked back in autumn along with straw stable-manure, will make an excellent heap of stuff to dig into the ground after being turned a couple of times. Rhubarb may also be brought forward by covering the crowns with boxes or pots made for the purpose and surrounding the same with heating material, made up of three parts leaves and one part stable-manure, throwing them into a heap for ten days before covering the crowns. The heating material should extend from 9 inches to 12 inches outside the pot and the same above, and test sticks should be stuck in and tried occasionally, for if it gets too hot the crowns would get burnt. Should the test sticks prove uncomfortable to the hand when withdrawn from the bed, the material must be pulled away from the crowns for a day or two, at any rate the top covering, replacing as soon as the rank heat has escaped. It is also a good plan to place a bit of wood an inch thick under the lid or covering of the pots for the heat to escape in

excellent flavour when cooked. Ideal is a Marrowfat, the pods borne in pairs and well filled, the Peas being of a dark green colour and deliciously flavoured when cooked. It is a fine cropper, and what is still more in its favour is its early maturing, as it is ready for use quite ten days in advance of William I. The next variety to claim attention is Duchess of York, and this came into use a week later than Ideal, and two or three days in advance of William I, both being sown on the same date. Duchess of York is a very heavy cropper, the pod long, well filled, and yielding from eight to nine dark green Peas which, when well cooked, proved to be infinitely superior to any of the round-seeded varieties for flavour. It has very distinct broad foliage, and grows to about 4 feet in height. It also gained an award of merit in 1901. The next, though not by any means a new variety, is an improved form of that old favourite main crop Pea, Dr. McLean. Several sowings of this were made, and a heavy crop of highly-flavoured Peas was secured in each case. The improvement on the old form of this Pea is in the slightly larger pod. This variety, as is well known, grows about 3 feet in height, and for superior table qualities no Pea can surpass it in its season. The next and last on my list is Autocrat, and this has now become such an universal favourite, that it is



Onion Ailsa Craig.

It can be had sooner, but it is generally of a spindly nature, and of little substance. For the earliest supplies it is best to raise the roots, and introduce into a temperature of 60 degs. to 65 degs. Rhubarb enjoys a fair amount of moisture, being kept quite dark for the produce to be blanched. Good crowns should be relied on for early work, placing some light soil over the fleshy roots, and if forwarded under staging in heated houses, large pots or tubs should be put over the crowns. Those having a properly constructed Mushroom house will have little difficulty in forwarding the crops, but where such a convenience is not at hand, a good plan will be found in having a little hut about 15 feet long, 5 feet high, 9 feet wide, using 1½ posts 7 inches square, 4 either side, and 4 in the centre, nailing rough 2 inch slabs around, except an opening on the south side to get in and out with a door, and over the top allowing a space of from 2 inches to 3 inches between each, so that when packed around with fresh leaves 3 feet thick the heat may penetrate where the roots are. On the top place some straw litter first to keep the leaves from falling in, and about the same quantity of leaves, treading all very firm, and over this a thick covering of reeds or wheaten straw to carry off heavy rains, while where the little door is a couple of bundles of straw should be

raised it gets a trifle too warm. Four to six weeks must elapse ere produce can be gathered under the latter method, it depending a good deal on the weather: the colder it is the longer before any can be pulled. When taking the stalks see that the centre growth is not broken off, or the supply will be lessened.

EAST DEVON.

THE BEST PEAS IN 1902.

AMONG the dozen varieties of Peas grown by me during the past season there were a few that were so satisfactory that a note thereon may be acceptable to many, particularly as the time for making out seed orders is drawing nigh. Beginning with the first earlies, or such as come into use early in the season, a first-rate dwarf variety named Harbinger, and a taller one, growing to between 2½ feet and 3½ feet in height, and named Ideal, are worthy of special commendation. Both are new, and received the distinction of an award of merit from the R.H.S. in 1901. Harbinger is somewhat like American Wonder in appearance, but superior to it in every respect, and is a wonderful cropper. As seen by me, when on trial at Chiswick, the haulm was literally loaded with pods, and it bore in the same satisfactory manner with me last spring. The pods are well filled, and the Peas are of

unnecessary to enlarge upon its merits here. This Pea, since its introduction, has been thoroughly tested: for it has had varying climatic conditions to contend with, both as to drought and the reverse, and through all has maintained its character as being one of the best late-cropping Peas ever introduced.

A. W.

NOTES AND REPLIES.

Savoy Cabbage and frost.—According to past experience, we may reasonably expect severe frost after this rainy spell. If so, many green crops will suffer. These may be preserved for a long time by selecting a dry day and taking them up carefully, not allowing them to get dirty, and laying them in so that they hardly touch each other, and so that they can be covered in severe cold with mats or anything loose to keep out severe frost.—J. CROSS.

Asparagus-beds in winter.—“Clean and manure beds of Asparagus in winter, silt in spring,” was the advice of an old grower, and if the former operation has not already been done, no time should be lost. This will mean the cutting away of the old stalks almost down to the crowns, or, at least, just leaving sufficient to denote the whereabouts of the plants, then give the bed a layer of good fat stable-manure. I say fat, as the winter rains will wash the nutriment to the roots. It will

not matter if over all some strawy material is placed, as in spring, when cutting commences, one may get about the bed and cut the heads much cleaner. This practice I have seen adopted in the Evesham district.—W. W. EASTWICK.

Turnip White Gem.—As a variety that quickly becomes fit for use this can be highly recommended. Sown on a south border the first week in February, roots were ready for pulling quite early in May. It is of oblong shape and excellent in quality when served at the table. White Gem is also admirably adapted for growing in a frame or brick pit on a mild hot-bed for earliest supply.—A. W.

Sutton's Globe Beet.—This is a first-rate Beet to grow for summer and autumn use, and obviates the necessity for growing and storing such a large quantity of the long-rooted kinds, as it can be had ready for table quite early in the summer. The Globe is a vast improvement on the older Egyptian or Turnip-rooted Beet in every way, and by making two sowings a supply of useful-sized roots can be had in first-rate condition from early summer till end of November.—A. W.

Garden refuse.—There are gardens in which, from October to March, apparently little or no interest is taken, and where vegetable refuse is left to decay, and useless matter remains about until seed-sowing time comes round again. That it is undesirable to neglect a garden entirely in this way many will admit, and where such as Cabbage-stumps, Potato-tops, etc., with weeds, which may have run riot, exist, it will be wise to clear the ground at once, putting the *chbris* into a heap with a quantity of unslaked lime, covering the whole with soil, and thus aiding speedy decomposition. This will be found useful for digging into the ground next spring preparatory to planting or sowing vegetables. All vacant ground will benefit by being turned over without further delay.—LEAFHUNT.

The Yam as a vegetable.—During the period of stress which our sugar-growing Colonies in the West Indies are passing through, pending the abolition of the foreign sugar bounties, the attention of the planters has naturally been given to other produce. In Barbados great success has been achieved in the cultivation of Sweet Potatoes and Yams of the very best quality, and an endeavour is now being made to introduce these into this country. The Sweet Potato is a cheap and palatable vegetable, but a good Yam is a positive luxury. During a long residence in London I imported several barrels every year for my own use, and out of the numerous guests who tasted them at my table, there was not one who did not highly appreciate them. I may add that here the flavour is even more delicious than in the West Indies, as butter, which is a vital ingredient to a well-cooked Yam, is so much better. I am returning to Barbados almost immediately, but any information on this subject will be given by Messrs. W. Pink and Sons, of Portsmouth, who are importing regular supplies. Receipts for various ways of cooking both Sweet Potatoes and Yams are sent out with every parcel.—HON. F. M. ALLENBYNE (Member of the Legislative Council of Barbados).

Big Brussels Sprouts are a mistake, and this year this has been forcibly brought to my notice. In a large patch of many names, some of sorts sent for trial are a delusion from the fact of their being more like small Savoy Cabbages. Although we have had scarcely any frost, these monsters are rotten in the centre. When gathering, I cut several open and found them in this condition, while the close, bullet-like types are perfectly sound. Added to this, these giants have no flavour compared with that of the smaller ones. Only recently I sent samples of both to a leading seed merchant asking him to try them, and he wrote me a few days since confirming my opinion. Some may say they fill the bush, but this is a lame argument. If the sprouts are taken from a stem of each type and weighed, it will be found that often the small hard ones are the heavier. Those who have to purchase them have to do so by weight generally, except in places like Bath, where they pull up and market the stems entire, a plan that I consider wasteful in several ways.—J. C.

GARDEN WORK.

Conservatory.—There must be a liberality of flowers at Christmas, and on to the New Year there should be plenty of Chrysanthemums. Growing these flowers for decoration is something like growing Apples for market. We do not want very many varieties, but we want them suitable for the purpose. It is never wise to discard an old kind till something better in the same colour and habit of growth has been obtained and proved. It will be wise also to look upon many of the new introductions with suspicion till they have been thoroughly tested. Many of the new varieties are destined to disappear in a year or two, and with very few exceptions the exhibition flowers are of no use for decorative work, and, of course, for conservatory work and cutting. We need not begin the propagation yet. February, or even March, will be time enough to take cuttings, but the strongest only should be selected. Whites, yellows, and bronzes are the colours most in demand. Begonias just now are very bright, and, here again, one or two of the old kinds are useful. *Fuchsioides* and *insignis* are useful hardy kinds. Of course there is always room for a good batch of *Gloire de Lorraine*. Its habit is graceful and free, and the flowers last well. The fragrance of *Mignonette* is delightful. Violets also, and Roman Hyacinths make sweet groups mixed with small Ferns. Now that the crowns of Lily of the Valley are rotting, the forcing becomes an easy matter, and one does not want to begin with the present season's crowns immediately they come to hand from Germany. Poinsettias, both the scarlet and the white, are useful, and are not difficult to produce where there is a good stove. The forcing business has been a great success with the Trumpet Lilies, and the same may be said of the herbaceous *Spiraea*, which does not appear to suffer for having been held back. Some of the newer forms of *Heliotropes* are flowering freely. Cuttings struck in spring and grown up quietly through the summer, pinched a time or two, are now very sweet, and look like lasting some time. Of course, the plants are in small pots, but are sturdy, and on a shell or stage near the glass. Cyclamens, Primulas, and Cinerarias are good amateurs' plants, and may now, when sown early enough, be nicely in flower. Then, besides these, which are usually grown in quantity, there are odds and ends of things which are not so common, but which always attract attention. A good specimen of the old *Cytisus thipes* is specially interesting, and the yellow-flowered *Genista fragrans* is now plentiful.

Stove.—Those who grow a few Orchids of the commoner types will probably have a few flowers now. Some *Dendrobium*s, including *D. nobile*, may be had in flower. *Cypripedium*, *Odontoglossum*, *Lycaste*, *Phajus*, and others will be coming on without much heat. Among other flowers not difficult to manage are *Thyracanthus rutilans*, several *Epiphyllum*s, *Justicia*, *Begonias*, *Plumbago rosea*, *Poinsettias*, and *Euphorbias*. The brightness or otherwise of many of the above and others depends upon their treatment, both as regards growth and ripening. I remember seeing *Thyracanthus rutilans* planted out in a small stove some years ago, and trained up a rafter, and when in flower during the winter the bright blossoms at the end of the thread-like stems had a very quaint but pleasing effect. The flowers were of no use for cutting, and that is probably the reason why it is so seldom met with. The amount of water required at this season will depend upon the fire-heat used. Plants in pots standing near hot-water pipes will dry very fast, and must be watched daily. There is no necessity for high temperatures now; 60° degs. at night will be quite high enough, and if the sun shines in the morning the fires should be banked up with ashes early. If the syringe is much used be careful about the purity of the water, or confine the syringe to the walls and stages.

Forcing-house.—Where early flowers and French Beans are required, this house will be full now of things coming on. Most interesting is the young growth at this early season of shrubs and flowering plants. Among the things which may be started now, if well established in pots, are *Azaleas*, *Rhododendrons*,

Spiraeas, *Deutzias*, *Roses*, *Lalacs*, *Diclytras*, *Lily of the Valley*, *Solomon's Seal*, *Laburnums*. Thorns the two last should be brought on quietly in a Peach house. The various forms of Ribes force well. Weigelas also are very useful and are nice for cutting, but should not be rushed. Honeysuckles of the common type force very easily and are very sweet. As I have often said, all these things require a season's preparation, except, perhaps, the *Rhododendron*. These are usually planted back in the beds after flowering, and others potted up which are showing plenty of buds.

Cucumbers in winter.—To keep these growing through the dull days requires care. The roots are the most important things to consider, and a good bottom-heat must be kept up. Seventy-five degs. to 85 degs. will give a good range, and between these figures no harm can come, and if the roots are healthy and vigorous, there will be fruit showing in plenty; but do not permit too many to develop if the plants are to pass safely through February. When the days begin to lengthen, Cucumbers which have been bearing fruit all the winter begin to feel the strain, and if the plants have been run out too much, nothing can save them, and under any circumstances young plants should be in readiness either to plant another house or to replant the same house. But where Cucumbers must be had in winter there should be at least two houses, or one planted early in September and the other planted towards the end of the year, to be prepared for all eventualities. For winter Cucumbers I should prefer two or three small houses. Top-dressings will be specially valuable now.

Pines.—Successions which are expected to start fruit early in the New Year should be kept on the side of dryness at the root now, not so dry, of course, as to injure the colour, but the growth should be staid by a partial withholding of water. All water used now, and, in fact, at all times, should be of the same temperature as the house. Plants in fruit should be kept separate from the successions, as they will require more heat, and liquid-manure can be given from time to time as required. Night temperature for fruiting-houses, 65 degs. to 70 degs.; successions, 60 degs. to 65 degs. A stock of good loam should be carted in ready for potting in spring.

Window gardening.—Very pretty are some of the hardy foliage plants, especially the gold and silver *Euonymus*es. In good-sized bushes they are useful for Christmas decorations. The silver and golden *Troscartes* are charming, and there is a golden *Periwinkle*, named *Viola elegantissima*, which is very useful when large enough to use for a basket or to droop from a bracket, and the best of those variegated shrubs, *Ivies*, *Vincas*, etc., they are hardy, and if the foliage fails, we can move them back to the cold-frame and bring in others without cost.

Outdoor garden.—Roll haws and wall- after frost. Common hardy Evergreens, such as Yews and Laurels, may be pruned if necessary, but where cutting down is necessary it will be safer to leave the work till March. The best Laurel for forming undergrowth in shrubberies and for planting on banks is the round-leaved variety, named in catalogues *rotundifolia*. It is much hardier than the common forms. The broad-leaved kind is also hardier and better than the common sort. In spite of the objection which has been taken to Laurels there is still a large demand for them, chiefly owing, I suppose, to their cheapness. For winter effect the best shrubs are Hollies. It used to be considered that the best time to plant Hollies was in spring, but I have moved Hollies at all seasons, and when well grown and kept regularly transplanted they move better than many other things. A group of golden leaved Hollies in the lawn in winter, either with or without berries, is always effective. *Aucubas*, when well berried, are effective and bright. To ensure plenty of berries we must, of course, plant the male as well as the female varieties. There are both variegated and green males, as well as females, with green and variegated foliage. Another race of *Aucubas* which is invaluable for winter effects is the *Tricolor*. There is a good deal of variety among these now, and the gold

and silver forms are very useful ornaments in pots for the cool conservatory. See that all standard Rosos are securely staked.

Fruit garden.—If there are any fruit-trees of an inferior kind, either in garden or orchard, of sufficient vigour to carry a new head the old heads may be sawn off soon, and left till spring for re-grafting. A vigorous old tree which has plenty of life in it may, when grafted with a good kind, have another long period of usefulness tacked on to it. The fruit-grower who wants to renovate his orchard and garden must be firm and resolute. Many an able, worthless tree is left to cumber the ground because of the conservative instincts of the nation. I believe in keeping all that is good and useful, but when a thing—tree or anything else—fails to pay for its keep, cut it down and re-graft, or grub up and re-plant. There is any amount of this kind of work to do before fruit-growing will be a satisfactory business, either for market or home use. This is a matter which concerns everybody. The Japanese Wincherry is no longer a novelty. It has proved a very useful fruit, and is quite hardy. The same may be said of the Logan Berry, which is not quite so well known, but is destined to become popular. Both are free of growth and will require some kind of support. The pruning consists in cutting out some of the old growths to make room for the young stems which are annually made. There is some pruning to do, which should have attention.

Vegetable garden.—The frost, though for the early season severe, did not last long enough to do much harm, but still, when the greens are in a very sappy condition, 20 degs. of frost cannot last long without inflicting injury. Personally, I do not want to see an old-fashioned winter; a long winter means terrible suffering, not only to the vegetables, but to human beings, especially those who never lay by anything for a rainy day. I never remember a time when so many men were out of work as now. This is doubtless owing to the men coming home from South Africa who have not yet found settled employment. With so much land only half-cultivated and so many men idle, the remedy seems to be in getting the men back to the land—but there is the difficulty. The deepening of the soil by trenching is work for the wintry weather, but if the soil is clayey do not bury snow or frozen earth where the frost has penetrated deeply. But the frost is a good pulveriser, and a rough surface, even if one has to break it up with a pick, has a beneficial effect. Seed potatoes for early planting should be sorted, and good sets placed in shallow trays or boxes that will just hold one layer when placed crown upwards. If the sides of the trays are made of lath to admit light the trays may be placed several deep, to economise space, or if studs are inserted in each corner of the tray 2 inches or so above the sides, the same object will be attained. E. HOMBY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

December 29th.—We make it a rule to thoroughly clean with soap and warm water all painted surfaces inside all plant and fruit houses at least once a year when the houses are not repaired. This is usually done during bad weather in winter. If a house requires to be repainted inside our own hands usually do the work when the house can be cleared. No great amount of skill is required to paint inside wood in glass-houses in working establishments where the principal object is to preserve the wood and clear out insects. Bulbs and other plants intended for forcing are now continually moving on from the cool-house to the conservatory, through the forcing houses.

December 30th.—Chrysanthemums which have done flowering have been cut down and moved to cool pit, to produce cuttings for later propagation. Of course, all strong cuttings are taken from time to time as they appear on the varieties required. We shall grow fewer of the big blooms and more of those useful sized flowers which are required for decoration.

and though from force of habit we never like to miss a good cutting, the bulk of our stock will not be inserted before the end of January and later.

December 1st.—In open weather we are busy training wall-trees. We like to see wall trees trained correctly. It is no more trouble and does not take any more time to train at equal distances apart and in the right direction than to nail the shoots in without any regard to system, and correct training equalises the flow of sap. Whenever the branches of a tree are crowded in the centre and the bottom of the wall badly furnished, the trainer does not understand his business, and should be turned loose with a spade.

January 1st.—We have made rough plans of kitchen garden and flower garden where bedding-out is carried out. In the kitchen garden each plot is marked out for a particular crop, and in the manuring and cultivating operations this plan will be under observation. Plans of flower gardens, with each bed marked with the name of the plant intended for it, help the propagator during the spring when providing stock, and we want to economise labour and yet have enough plants for each design. This season we have a better stock than usual of most things, and with the spring propagation the stock can be easily increased.

January 3rd.—Several old Apple and Pear-trees of inferior kinds have been headed for re-grafting. The Apricots on our south wall had become too crowded. One old tree was condemned and the others opened out, so that each might have more space to fill, as I dislike having to keep stalling back leading shoots. All Peach-trees have been unnailed, with the exception of enough shreds on the main branches to keep them in position. All Peaches are loosened from the walls and re-trained annually. This makes clean work, as every branch is washed before retraining.

January 5th.—We have been busy in the shrubbery with a part of our staff. Laurels used for undergrowth are kept low by annual pruning where the trees are large. We like to see the trunks rising out of the dark green foliage, and so the Laurels are kept low. Groups of Cedars with an undergrowth of Berberis Aquifolium are very effective. The Berberis is pruned every season after flowering, and this keeps it in condition, and it blossoms freely, and the young bronze-coloured leafage during the spring and summer is charming.

LAW AND CUSTOM.

Nuisance from ashes.—A heap of clean ashes is placed on private property on the roadside within the boundary of a town, and the inspector of nuisances has requested its removal. Similar heaps have stood there for over sixty years, and my neighbours raise no objection. Is the heap a nuisance? Can I be compelled to remove it?—*THIS.*

[A heap of ashes that contains neither night-soil nor any other refuse, and is perfectly clean and free from organic matter or dust, will not be a nuisance to health; but apparently the heap is in an urban district, and the bye-laws may provide for its enforced removal, whether it be a nuisance or not. I therefore advise you to comply with the notice. As the heap is apparently placed at the side of a highway, the highway authority may deal with it, irrespective to nuisances to health.—K. C. T.]

Agreement for tenancy of nursery ground. (*R. B. H.*).—The agreement you sent is a very informal document—apparently it is only signed by yourself and is unstamped, and it does not even mention the rent. It is practically worthless. As the place is heavily mortgaged, I should say your position is most precarious, and I advise you to consult a solicitor with the view of obtaining a proper agreement with option of lease for a term, and you should get the mortgagee to join in the agreement. If the solicitor cannot obtain such for you, your best plan will be to quit the place on July 31st next.—K. C. T.

Income tax.—Acting on your suggestion in your issue of November 22nd, I wrote to the surveyor of taxes, and I enclose you copy of his reply.—*NORTHWOOD.*

[In that reply the surveyor says that from your letter you appear to be the "statutory occupier" of the land, and he points out that you pay the local rates upon it, and that it is not a garden as commonly supposed.

not agree with him that you are the statutory occupier; but your payment of the rates evidently raises his suspicions. As the surveyor declines to correct the assessment your best course is to pay the tax when it becomes due, and to appeal to the Commissioners next year. You ought to have appealed this year, but it will pretty certainly be now too late in your district.—K. C. T.]

Compensation for glasshouses erected in market garden.—Last spring I took about 1½ acres of market garden on a lease for five years, and paid the outgoing tenant by valuation for Strawberry plants, fruit-trees, etc. If I erect some glasshouses in the garden, could I claim compensation for them when I quit? Or should I have to remove them?—E. R.

[If in your lease the holding is described as a market garden, or if it is stated therein that the holding is let to you as a market garden, or that it may be treated or cultivated as a market garden, you will on quitting be able to claim compensation for any glasshouses, etc., that you have erected. Your claim will have to be made under the Agricultural Holdings Act of 1900.—K. C. T.]

BIRDS.

Canary troubled with insect pests.—I have a canary which pecks itself till raw, and now has a large bare place on the back. At first I could see nothing, but with the help of a magnifying glass, see there are many insects, some red and some black. I have tried rubbing on a little ointment, which seems to give slight relief, but was afraid to use much from fear of poisoning the bird. Neither does it seem possible to rub it in properly on account of the feathers. I give a little green food and little or no tinned, the principal diet being Canary seed. I have put the bird into a fresh cage, and he often has a bath. I have not had him long. I shall be much obliged if you can tell me of a cure?—F. S. KNOX.

[An old or neglected wood cage is often infested with parasites, which cause distress and irritation to the inmate. You must scald the cage with boiling water, well scrubbing with strong soda and soap, and then rinsing with clear fresh water. When quite dry carefully paint every crack and crevice with Fir-tree oil. The mites upon the bird can be destroyed by dusting it with Pyrethrum powder. Paraffin may be used, and will do no harm. The bird must be gently but firmly held in one hand, and with a small camel-hair brush dipped in the oil touch it here and there whilst blowing up the feathers, using only a small quantity of paraffin, so as not to soil the feathers. If the cage is not very valuable it would be well to destroy it and put your bird into a new one.]

Canary (Wellingtons).—This bird must have taken a severe chill, resulting in inflammation of the lungs. At this season of the year cage-birds require great care in guarding them as much as possible from cold draughts and sudden changes of temperature. It is well to cover cages at night, allowing, at the same time, free ventilation without draught; to avoid hanging cages in windows, and to take care that a bird is quickly dried after bathing; to insure this its cage may be placed near a fire for a time. The bath should not be given more than twice a week during the winter, and the water should be made luke-warm, and removed soon from the cage to prevent the bird from wetting its plumage too much. In this case there was also inflammation of the bowels, which may be, likewise, the result of a chill, but sometimes it arises from partaking of diet of too stimulating a character. It would be well to put your other birds on plain diet, and supply them with a little freshly made bread-and-milk occasionally.—S. S. G.

Keeping tortoise through the winter. (*J. M. Young*).—On the approach of cold weather tortoises become very sluggish, search out a soft corner in the garden, bury themselves for the winter, and remain dormant, sometimes till the return of spring, although should there be a spell of mild weather, they revive, and take a little food. Unless the soil of the garden is very light and dry it would be well to put your tortoise in a hamper or box filled with hay or dry Moss, and let it pass the winter in a cool room, feeding it with a little bread-and-milk whenever it awakes from its winter's sleep. These little creatures are very fond of Lettuce and Dandelion leaves, and, being vegetarians, do not feed upon the slugs in the garden as commonly supposed.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in Gardening Free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of Gardening, 17, Farnival-street, Holborn, London, E.C. Letters on business should be sent to the Publisher. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that as Gardening has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens of different stages of colour and size of the same kind really assist in its determination. We have received from several correspondents single specimens of fruits in naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when above directions are observed.

PLANTS AND FLOWERS.

Improving a lawn (A. L.).—Lure all the weeds and bushes removed from the lawn in March, then topdress with a rich, light soil put on 1/2 inch in thickness. Sprinkle to a good seedhouse, stating the size of the lawn, state of soil, position, &c. On receipt of order a renora seed mixture will be sent, arranged in suitable quantities of Grasses and Clovers, which, if sown thickly, will make a good lawn for prospect in the summer.

Cestrum aurantiacum (C. A. R.).—For training pillars or rafters of a greenhouse this fine climber is exceedingly well adapted. It is an autumn-flowering plant, and one of the simplest culture. It should be started out in a bed of soil, well drained, and be cut back in spring. Thus treated, it will not fail to produce every autumn a profusion of rich golden blossoms long, drooping terminal bunches, which contrast finely with the deep green foliage.

Agrostis pulchella (C.).—This very pretty Grass is annual, and grows from 3 inches to 1 foot high. Sow in March at the end of May in small clumps on the borders or lower border, and, covered slightly with soil, it will grow freely and be very acceptable for cutting at a time when the beauty of many things outside is fading. It requires no more care than white growing as keeping free from weeds, and a few small stakes and netting placed round the clumps to prevent the soil from blowing it to the ground.

Plants falling (Cheriot).—We take it the failure of a Aspidium and other Ferns is due to the condition of the verandah, and particularly through not giving sufficient light from above. It can not be responsible for lack of light. As we read your letter we are not sure whether the root of the verandah is of iron. If so, the failure cannot be as stated, and must be due to some other and local cause—either too much or little water. The normal heat given should suffice in times of frost, but if the plants were very wet they may suffer materially. It is difficult to assign the true cause of loss without any material to guide us in such a case.

Potting newly-imported Azaleas (Amateur).—Many newly-imported Azaleas, after having been potted, and often placed in a cold house till wanted to bloom, and on cold and inattention to watering they lose their roots. Did you take the precaution, before potting, to cut the balls of soil were thoroughly moist? If not, it is at once explain the cause of failure. You may also green the plants thoroughly, soaking after potting and setting them in a warm, moist house, gently syringing them once a day until the roots began to work in the new soil, and taking care that the soil, by overwatering, does not get too wet.

Plants for forcing (Cheriot).—The lilies you mention would be quite rare now if placed in the greenhouse, but in the temperature named there would not be much forcing. Some Tree Carnations, and Tea Roses (liable would be of the first: Winter Cheer, scarlet; Scott, rose-pink; Hayleark, delicate pink; Utah, blue, crimson; Middle, Carl, white; Mrs. S. J. Brooks, blue; General Maceo, dark crimson; Mrs. Tho. Lawson, sea-magenta; Governor Roosevelt, crimson. Of Roses suitable, Souvenir d'un Ami, pink; Nipheles, white; Aberdeen Mornet, soft pink; Terrible Jardin, yellow; Liberty, scarlet, are all good. The Illinois candy firm may be left in the warm, moist house, but L. auratum could be potted out for examination. This should be done even if required only for flowering in the ordinary course.

Pampas Grass (Gynerium argenteum) (Henry E. Jones).—This plant varies from seeds, and is also variable in reason of the sexes, which are separated, one sex, either male or female, only on each plant. It is doubtful whether you would be able to obtain them in this way, but you may inquire of the best nurseryman. We have no knowledge of any firm keeping them as described. The variation of which you speak is no doubt due to the sexes, and it is the female which is the more handsome of the two, and likewise the more lasting. There are one or two varieties, as G. a. roseum, and G. a. aureum. G. variety with purple plumes. Apart from these, G. a. glaberrimum is a fine new species with silvery-rose plumes. Taking all in all, however, it is doubtful if a better all-round plant exists than the typical species in its best form.

Plants in frame (Cheriot).—Your frame is generally too hot for the things named, and for Violets, Cyclamen, Fuchsias, and Hydrangea. The Fuchsias may be shortened back if ungainly, but pruning generally should be deferred for a few weeks. The Hydrangeas must not be cut down, the points of the shoots are those giving the flower-trusses in due course. The temperature is right for bulbs if well-rooted, it not, it is too high, and 50 degs. to 55 degs. would be more

safer. In any case give plenty of water to the roots of all bulbous plants that are in a forcing temperature. In the position indicated you could ventilate day and night, and should do so if you are not able to modify the heat, as stated. The temperature you name would be quite right for bulbs potted in September, but not for those in November.

Scale on Rose-trees (F. G.).—The pest you find on your Roses is male (Coccus rose). To destroy it, spray or syringe with paraffin emulsion or Quassia extract, and soil-soap; or, better, sponge the wool with any of the above. In the course of a few days wash over again to make sure of killing any that may have escaped the first application.

Coke versus coal (J.).—Whether coke or coal be the best article of combustion in furnaces depends very much on the nature of the furnace and the heat that may be required. All growers or market gardeners have a range of houses, many of which are for forcing, and who have large, low furnaces, use Anthracite hard steam coal in preference to coke, as giving greater heat. For upright boilers, no doubt, well-broken coke is best, because it is less liable to bake or clog. If you want to keep up a greenhouse temperature only, we should advise well-broken coke, but if you want greater heat at night, then some well-broken hard coal may be added with great advantage. Coal gives the quicker and fiercer heat, needing rather more attention in stoking. Coke is rather slower and more enduring. So much depends, too, on the setting of boilers, and whether they are active or sluggish. That is as much as we can determine the matter for you.

Tuberous-rooted Nasturtium (A. Grover).—Tuberous-rooted flowers well against a wall, with either south-west or south-east aspect. In light, well-drained soil, where it should have an occasional watering in very dry weather. It will run up to over 8 feet high. Its tubers increase rapidly in the ground, but care should be taken to lift them before the frost has penetrated the soil. It should be planted out in the open ground, near a wall, and support should be afforded it for climbing. Protect it from wind, let it have plenty of sun, and encourage it to run up the wall through other climbing plants, or over rabbit-netting, and it will look well, with its orange and yellow flowers, through the autumn. The only difficulty in its culture is with respect to the preservation of the tubers through the winter, as they are inclined to damp rot in places where other roots, such as Dahlias, Gladioli, Begonias, etc., keep well.

TREES AND SHRUBS.

White Jasmine not blooming (F. L.).—This often occurs through overpruning. Nothing has been said as to how the plant has been growing, but if fresh, and it has been hard pruned, therein lies the cause. Pruning such as is necessary should be performed at any time during the winter months, but it should only consist of cutting out the weaker and unbranched shoots. The strong shoots should be left unshortened, or bare only their tips taken off, and then they will produce flowers the following season. If they are cut back they will be sure to break into vigorous growth again. Plants which are most neglected as regards pruning, such as those upon roadside cottages, flower the most freely.

Propagation of Hollies and Yews (Anon).—Cuttings of these strike only with difficulty, the usual method of propagating them being by seeds for the common kinds, and the others are budded or grafted thereon. Holly-berries should be gathered when ripe and mixed with a little sand in a cool, moist place in order to separate the seeds from the pulp. They may be sown in the spring in a sheltered spot out-of-doors. Most of the seeds will germinate the second year. When the plants are about the thickness of a lead pencil, they may in July be budded near the ground with the choicer varieties. The common Yew may be raised in much the same way. Cuttings of the Yew are not so difficult to strike as those of the Holly, the best way being to mix some sand with the soil of a sheltered border, press it down firmly, dibble the cuttings therein, and then cover with a hand-lid.

FRUIT.

Blenheim Orange Apple (M. J.).—No doubt your Blenheim Orange Apple-tree is old, and its roots have gone deep and wild. If you care to take so much trouble you can help it greatly by peeling a trench 2 feet wide and 20 inches deep all round the tree, 7 feet from the stem. Into that put some quite fresh, good soil from the vegetable quarters, mixing with it some half-decayed manure and a sprinkling of bone-meal. That will create new and active root-action at once. It also you would strip off 8 inches of the surface soil within the trench, give a good dressing of animal-manure and bone-dust sprinkled in with it, then re-cover with fresh soil, the effect in a couple of years should be very great in creating a crop of fine fruit. Moderately thin the head of the tree before doing anything to the roots. Also later well coat the stems and branches with hot lime-wash.

Putting in Vine-eyes (L. C. S.).—The beginning of February is as good a time as any to put in the eyes. Having selected your wood, cut the eyes or buds to about an inch or a little more in length—that is to say, about half an inch on each side of the eye. The best way is to put each eye singly into small 3-inch pots, which should have some broken crocks at the bottom, and then filled up with soil composed of one-half fresh turfy loam and one-half leaf-mould, not too rotten, and plenty of sand. When the pot is full, taking care not to press down the soil too firmly, make a hole in the soil, which should be filled with silver-sand. Place the eye on this, pressing it down until the top of the bud is level with the top of the soil. Plant in a hot-bed having a bottom temperature of about 55 degs. to 70 degs. The soil should be gently watered after putting in the eyes, and be kept moist, taking care that it does not become sodden.

Planting fruit-trees and Roses (Annual Subscriber).—It is not wise to plant fruit-trees or Roses when the soil is very wet, as if trodden down then it later bakes hard, and is bad for the roots. It is far better to do the work when soil is pleasantly workable, as it should be at this time of the year in open, mild weather. If the soil be very dry, then water should be given freely after planting is done, but it should be allowed to percolate through the soil gently, and not be at all trodden into. When the soil is dry it is a good plan to soak them well

in a tub of water or a pond before planting. When soil is very wet it is sticky, and, of course, moves in lumps. When it is moderately wet it will work freely, and will lie light and fine about the roots. Even in spring planting it is wise to allow the soil to settle gradually, especially if the roots have been well soaked before giving a soaking of water.

VEGETABLES.

Renovating clay soil (F. Cheriff).—As a rule, coal-ashes are the poorest possible material to put into garden soil. When coal of inferior quality burns to a white ash, it that be run through a sieve and worked into the ground some good may be done to such a stiff soil as yours in helping to keep it a little friable, otherwise it has little or no fertility. As you say your ground is full of wire-worm, we advise that you get gas-lime, spread it over the ground at the rate of three-fourths of a bushel per rod, break it well to pieces, let it lie for three weeks, then die it in. That should do great good. So, too, will a heavy dressing of soot dug in at once. Your soil rather needs gritty matter to help keep it open or porous, such as street-sweepings, which include plenty of horse-droppings. Ditch or roadside trimmings mixed with lime and put into a heap to decay are good. So, too, is straw-manure from a stable, rotted leaves, or decayed garden refuse. In spite of the thinness of the soil, break up the bottom soil and leave it there to improve.

Cucumbers (M.).—It was wrong to plant four Cucumbers into a frame 6 feet by 5 1/2 feet. Two plants would have been ample, and even these would have needed a lot of thinning, especially taking out non-fruitful shoots. You seem to have had rather too many fruits on the plants. Ten or a dozen set at a time on one plant would have been ample. To take off the lights in the middle of the day and water was wrong. It would have been better to have kept them on during the day, giving a little shade if needful, and water when required about five o'clock, shutting down close, as that generates a moist air, which the plants like. So much depends, however, on the nature of the soil employed, the character of the water, etc., that either of these causes might have led to the failure of your plants.

Planting Asparagus roots (Cheriot).—It is well that you have lifted your 2 1/2 feet deep trenches, on which you propose to plant Asparagus, with so much soft decaying material this early, as now it can settle well down before planting time. That should be with you early in April. If the material in the trenches has sunk, add some soil to the trenches before you plant. Whether the roots be two years or three years from seed matters little if they be strong, but if you find the three-year-old ones extra strong, then get those and plant them. Put in one row to a trench only, placing roots fully 18 inches to 20 inches apart in broad furrows from 4 inches to 5 inches deep. You must not rot that year of planting, and only very moderately the following year. The soil is usually some 5 inches thick over the roots, and the stems, when about an inch or two through the ground, should be cut carefully as low down as possible. For six people a handle of fifty good heads should be sufficient.

SHORT REPLIES.

Belle Isle.—You had better consult our advertisement columns.—T. Wroe.—Any seedman would procure for you White Elephant Potato.—R. M. D.—Of course, if the soil is dry you must water in the trees, but no need to do so if the soil is fairly moist. Never plant when the ground is wet and stinks.—Constant Reader.—In all probability there is not sufficient rise in the flow pipe to cause the water to circulate. If the pipes are dead level all the way round the house there will be no circulation.—M. M. McWilliam.—See reply under "Short Replies." In our issue of Dec. 24, p. 528.—J. L.—Apply to Messrs. W. and J. Birkenhead, Fern Nursery, Sale, nr. Manchester.—William Foster.—Sorry we know of no such places in the districts you mention.—Mrs. Hodgson.—See reply to "Suffolk" in our issue of Nov. 15, re "Raising Gorse." Apply to Miss Althorpe at C. 4, Quai de la Megisserie, Paris.—W. F. J. Burke.—Your plants are being spoiled by the fumes of the oil-ovens.—T. J. Goodlake.—We have had the same thing in our own ponds, and we do not find it unusual in Water Lilies. It disappears entirely in some seasons. We have had none of it this year.—Rugby Amateur.—You cannot do better than get a good plain saddle boiler, which, if well set, is both economical and efficient.—A. C. Riverhead.—Impossible to advise unless you can give us the name of the plant you refer to.

NAMES OF PLANTS AND FRUITS.

* Any communications respecting plants or fruits sent to name should always accompany the parcel, which should be addressed to the Editor of Gardening Illustrated, 17, Farnival-street, Holborn, London, E.C. A number should also be affixed to each specimen of flowers or fruit sent for naming. No more than four kinds of fruits or flowers for naming should be sent at one time.

Names of plants.—Thoa. Norway.—Skimmia japonica.—Mrs. J. M. Scarfe.—Leave very much dried up. Evidently a Fig, but impossible to decide without fruit.—O. Donnell at Bos.—1, Eucomyia japonica aureo maculata; 2, Betinospora pulchra; 3, Butcher's Broom (Ruscus aculeatus).—Mrs. L. C. Marshall.—Trichomanes reniforme.—R. Greenleaf.—Cotoneaster trigida.

Names of fruits.—C. E. Hill.—Apples: 1, Probably Norfolk Brauflo, specimens very poor; 2, Specimens insufficient.

Catalogues received.—Barr and Sons, 12 and 13, King-street, Covent Garden, W.C.—Annual Cash Clearance Sale of Bulbs and Cheap Offer of Hardy Perennials.—Sutton and Sons, Reading.—Amateur's Guide in Horticulture for 1903.—J. Veitch and Sons.—Catalogue of Seeds, Choice of 10000 of Chrysanthemums, and List of Carnations.

PHOTOGRAPHIC COMPETITION, 1902.

PRIZE AWARDS.

Class 1—SMALL GARDENS.

1st Prize—5 GUINEAS to Mrs. WARD, Chappars' Court, Parkbury.
2nd Prize—3 GUINEAS to Mrs. DUMAS, Rochdale, Waltham-on-Thames

Class 2—FLOWERS AND SHRUBS OF THE YEAR AND.

1st Prize—5 GUINEAS to Mr. S. W. FITZHERBERT, Byngdon, King's-road, S. Devon.
2nd Prize—3 GUINEAS to Mr. S. WALLACE, Lough Eske, Co. Donegal, Ireland.

EXTRA PRIZES.

Miss Stocks, care of Rev. J. Herriman, 117, Ditchling-road, Brighton.—Olearia Gunniana; Allthea frutex; Solanum jasminoides.

Mr. A. G. Lawson, 32, Ashley-road, Crouch hill, N.—Spray of Clematis montana; Rose Gustave Regis; Border of Astors.

Mrs. Kount Wero, Cotlands, Sidmouth, Devon.—Border of Michaelmas Daisies; Corner in Hanley Garden; Bamboos at Cotlands.

Miss Chichester, Arlington Court, Barnstaple. Snowdrops; A Fern-hank.

E. L. Bland, Woodbank, White Abbey, Co. Antrim.—Choisya ternata; Acanthus latifolius.

Mr. Thomas Taylor, Crowsley Park, Henley-on-Thames.—Spiraea arifolia; Rose W. A. Richardson.

Mrs. Leslie Williams, Swanwick Cottage, Bath.—Doronicums under Pear trees.

Class 3—INDOOR FLOWERS AND PLANTS.

1st Prize—5 GUINEAS to Mr. G. E. LOW, Clonway Hill, Dublin.
2nd Prize—Not awarded.

EXTRA PRIZES.

Miss Chichester, Arlington Court, Barnstaple.—Bougainvillea glabra; Streptocarpus; Pancratiums.

Miss Violet Barnard, 23, Portland-place, London, W.—Hibiscus radiatus; Stephanotis floribunda.

Mrs. E. L. Bland, Woodbank, White Abbey, Co. Antrim.—Zephyranthes carinata.

Class 4—FRUITS AND VEGETABLES.

Photographs not of sufficient merit to justify awards of first and second prizes.

EXTRA PRIZES.

Miss L. Hamilton, Clakthorpe, Wimplesmere. Raspberries; Dwarf French Beans.
Miss M. Bernard, 23, Portland place, London, W.—Plum Golden Gage; Dwarf Beans.

Class 5—GENERAL SUBJECTS.

PRIZE OF 5 GUINEAS to Miss Myra Nurse Dickens, Newells Cottages, Horsham, Sussex.

EXTRA PRIZES.

Mr. Thomas Taylor, Crowsley Park, Henley-on-Thames.—Clematis montana; Peonies in the Grass; View in the Wild Garden.

Mr. J. Hummel, 88, Salecot-road, Wandsworth Common.—Vase of Plumbago capensis; Vase of Godetia.

Mrs. Streetfield, care of Miss Newcome, Thurston Lodge, Thurston, Bury St. Edmunds.—A Mixed Border.

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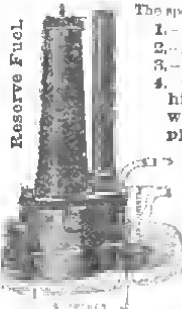
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GARDENING ILLUSTRATED.

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Founded by W. Robinson, Author of "The English Flower Garden."

JANUARY 3, 1903.

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FRUIT.

SOME FRUIT NOTES.

That all fruit from garden and orchard has been harvested, there is time to reflect on the past season and its influence on the fruit crops. Never was there such a full and abundant promise of fruit as just prior to the time of flowering. Hopes were uttered, however, when, following the extremely cold spring weather, the embryo fruits fell thickly to the ground. Some districts and gardens fared much better than others, but, on the whole, there is a general air of affecting Apples, and this was also the case of Plums. Pears were more fully cropped indeed, so far as I can gather, there was a very good average crop everywhere, there being little to choose between one variety and another in their cropping. The Apple crop was a most variable one, some trees being thickly laden, while others were almost or quite bare of fruit. In our garden there was a very marked instance of the uncertainty of these fruit-bearing trees. The tree of Court Pendu Plat, called by some the "Wise Apple," by reason of its lateness in bearing, has a branch of the variety Wealthy grafted upon it. Though the tree is in the best of condition, the "Wise Apple" was entirely barren, while the single cordon of Wealthy was so well laden with bright and handsome fruit that it needed support. Cox's Orange, Ribston Pippin, Blenheim, Claygate, Armain, Roinette du Canada, Peasgood's Nonch, and Fearn's Pippin are some that with a bare very sparingly. Ecklinville, a most useful Apple for home use, maintained its character for regular cropping. This with me was not failed to give an annual crop for the last ten years, and often it has been heavy rather than light. Observation confirmed the opinion formed long since that the early kinds were more regular in their bearing than late kinds, because the crop is gathered in time for the tree to prepare itself for another year. With the fruit all gathered in, the opportunity, both with Apples and Pears, is now afforded, the grower of comparing individual varieties. Pears, more than Apples, are so variable in quality that no one garden can be found to suit all and every kind. In the fruit-tree qualities can be compared and notes made for future guidance. An important point in fruit growing is that both trees and fruit ought to be kept strictly under name. Unfortunately, however, this is a rule frequently violated. I have been in many gardens, and small ones in particular, where no effort is made to keep the trees true to name, and it invariably happens that inquiries are made among friends or visitors for names of fruits, when the blame attaches to the growers for allowing the names to be lost at the time of or just after they are received from the nursery. Many allow the nursery label to remain until the name is obliterated, and then when autumn comes round fruit is despatched to the Editor with the hope of its being named. In the bewildering number of sorts of almost all kinds of fruits, how is it possible for the Editor to be

able to correctly identify them? There are certain kinds that have distinct characteristics which can easily be recognised. There are others that even the most expert pomologist stumbles over, simply because differing soils, stocks, and treatment produce characters not in universal harmony. Quite recently I looked into the fruit-room of a friend, and found Pears much confused in storing. No less than three lots, kept carefully separate, were found to be one variety instead of three, and none bore a label to identify them. My plan is to keep a book wherein are written the name and number of every tree bordering the garden paths and on the walls. If I did not do this, how could I accurately keep the names of several hundreds of trees in my mind the year round for I find it quite as necessary to know the trees in their winter nakedness as in their summer dress. Recording the names by number in a book is much more simple and reliable than using labels, except metallic ones of large size. Wood labels soon perish, and small zinc or metallic ones are difficult to find when the trees are in leaf. W. S., *Trombridge*.

ROOT PRUNING FRUIT-TREES.

GARDEN trees, through the restraint brought to bear upon them by the annual course of branch pruning, are much given to grossness and its subsequent ally, barrenness. When the summer shoots are vigorous there is usually a corresponding strength of thong-like roots, and these two forces are strictly opposed to fruit bearing. Apples and Pears are those most given to these undesirable traits, and give the most trouble. This invariably comes from deep burrowing roots, which go down into the subsoil instead of remaining near the surface. While tree planting is still in progress, it may be useful to relate how effective is a barrowload of lime-rubble at the base of an Apple or a Pear-tree, placed at a depth sufficient to allow 18 inches or 2 feet of soil for the roots to move into. The dry lime-rubble prevents the roots striking downward. This was discovered in quite an accidental manner, and the one who provided a dry lime base did so not with the object which it proved afterwards to serve. Trees so treated never required root pruning, because the growth was never of so gross a nature as to call for it, and so long as this moderate summer growth continued, so long was a crop of Pears of good quality forthcoming. Lime-rubble is sometimes to be had easily enough, and many fail to realise its value. Lately I have procured several loads from some old demolished cottages quite six miles away. For mixing with the soil about fruit-trees and Vines this is far more valuable than fresh lime, direct from the kiln, because it is more lasting and slower in its action.

Root-pruning is laborious work, especially when the soil is very wet or heavy, but when well done there is no doubt about its value. Trees once well and carefully root-pruned last some time in a healthy state before a repetition of such work is needed. Often the most offending root is one that strikes down straight from the bole of the tree, and unless

this is cut through the severance of all other roots avails nothing, for the growth of the tree will be maintained with almost the same vigour so long as this root is permitted to proceed unchecked. As large a ball of soil as is possible should be retained with all available fibrous roots preserved. The more of these present, the better are the chances of an early crop. Large trees having but a few thong-roots to support them suffer badly when these are all severed, especially should the summer following be a dry, hot one. In any and every case it is advantageous to provide a mulch of some kind around the base of trees thus operated on as a means of conserving moisture, and a surfacing of manure about the tree stems helps to keep the roots active and fibrous. Should the state of the summer call for such aid, it is well to remember to give an occasional soaking with clear water, and the presence of a manure mulch will economise this in every way. Root-pruning I have found capital work for frosty mornings when it is too cold for light work needing less exertion. I have found that from trees with their roots deep in the subsoil, even if they fruit freely, neither Apples nor Pears satisfy, because disease spots develop in the fruit when they are on the verge of ripening, if not before, rendering them of no value, because decay so quickly sets in. To have good fruit, either of Apples or Pears, the roots of the trees must be active surface, fibrous ones, otherwise the crop will be much reduced in value. Some sorts are greater offenders than others, it is true, but even the best can be readily spoiled if the conditions are not right. This year great losses have been found in the Pear-room, due to the sunless summer, aggravated, no doubt, by the depth at which the roots have been working.

When dealing with trees in clayey soil, some additions calculated to make it lighter and more easily drained ought, if possible, to be provided. Lime-rubble, burnt ballast, leaf-mould, or even house cinders will each help to correct this when mixed with the staple soil about the roots. If some of the clay can be wheeled away and replaced with surface soil, so much the better, and in any case the soil replaced beneath the ball of roots should be made firm, so that when settled no fissures are encouraged. Poor soil, too, would repay a little well-rotted manure, bone-meal, or artificially compounded manure incorporated with it, and soil long occupied with tree-roots must naturally become impoverished. In this, however, moderation must be the rule. S.

NOTES AND REPLIES.

Pruning three-year-old Apple-trees.—I send photographs of three of my Apple-trees planted three years ago. They have not been pruned since they were planted. Would you advise their being done now?—*IN DOCK*.

[It is unfortunate that your standard Apple-trees were not pruned soon after being planted. The photos sent show how much of the branches left unpruned is now bare. Cox's Orange Pippin needs a taller, stout stake to draw the stem upright; then have three or four of the larger branches cut back one third their

length, to give the head something of a foundation. Henceforth it will only need thinning. Mank's Codliu needs a few weak branches cut clean out, and the rest cut back, strong ones one-third, weak ones one-half. The Duchess of Oldenburg will be better to have the shoots just tipped, and if you could insert a wooden hoop into the head to cause the branches to spread it would be better.]

Pruning Vines.—As soon as the major portion of the foliage has fallen the pruning should be done, as this reduces the chances of bleeding when the Vines start into growth in the spring. Supposing the Vines are trained on single rods up the roof, all side shoots or laterals should be cut back to one or two good buds. Sometimes the first bud nearest the main rod is small; if so, cut to the next bud, which, as a rule, is large and good and produces the finest bunches. If the side shoots have been too crowded, some of the weaker and worst placed may be cut clean away; 1 foot to 18 inches apart is a nice distance for the spurs or side shoots. If the Vines are

it was full of fruit, and I was told by the grower it never failed to give a big crop. Certainly it had one on it at the time of my visit. I could hardly have thought it would have made so fine a standard. The wood was short and produced the fruit-buds on long spurs. It never received any pruning, the free cropping keeping the growth in check. What astonished me most was to see so fine a tree growing in such a poor, hungry soil.—J. CROOK.

PLANTS AND FLOWERS.

ROOM AND WINDOW.

SOLOMON'S SEAL FORCED.

The refinement and delicacy both of form and colouring of this plant make it very suitable for the decoration of rooms. No plant is more easily forced or gives so much beauty for a little trouble. Six or eight crowns should be put into a 6 inch pot in October and kept in a cold-

gata) is one of the best of all room plants, and stands first in my selection. The reason is that the leaves are leathery, and practically impervious to dust. The flowers are very curious, not attractive, and produced on the surface of the soil. Loam mixed with peat is a good soil, and provide good drainage. After potting stand the plants in the greenhouse if possible to assist them to become more quickly established. A great fault is constantly repotting plants, which is not required. As a rule, in the case of such things as these, the less they are disturbed at the roots the better. A great check is imposed by this constant disturbance, and they never increase properly. It is essential to sponge the leaves frequently with tepid water to remove dust and dirt from the surface. Once a week at least this should be done.

INDIA-RUBBER PLANT (*Ficus elastica*) is the next best room plant for winter. It is not so useful nor so vigorous as the *Aspidistra*, as there is a certain objectionable stiffness about it, but it often thrives where it is impossible to grow flowers. A good loam and peat soil and a moderate amount of drainage must be given. But the most important thing, as in the case of the *Aspidistra*, is to sponge the leaves at frequent intervals to remove dust and dirt. When the foliage begins to turn yellow a little soot-water will be beneficial, but there is really little attention required, simply not to overpot or repot too often, and water very carefully during the winter months.

THE OPHIOPOGON is another good window or room plant, though usually kept in a greenhouse or conservatory. But it may be brought into the room, and its wealth of narrow green and creamy-white variegated leafage is very attractive, especially when set off by spikes of sapphire-blue flowers. It grows freely in an ordinary loamy soil, and when used in the greenhouse is very pleasing in a terra-cotta vase or window-box, so to say, on a greenhouse shelf.

THREE EXCELLENT FERNS for rooms are *Pteris cretica*, its variety *albo-lineata*, and *P. tremula*. I do not think it is possible to get a more useful trio, all being so vigorous, and not like the majority of Ferns, averse to cultivation in rooms. They succeed in ordinary peaty soil and greatly dislike an over-supply of water.

DRACENA INDIVISA is another useful plant hard to kill, and always fresh in aspect when the foliage is kept properly sponged, and in this small selection may be added the *Dave Palm*, *Corypha nustralis*, *Grevillea robusta*, the *Norfolk Island Pine* (*Araucaria excelsa*), very pretty when small and distinct in aspect, and the *Sedge* (*Cyperus alternifolius*) and its variegated variety, which require more moisture than any of the other plants mentioned. It is graceful, free growing, and pretty when stood on a small table so that its fanciful growth is in no way cramped. All the foregoing kinds I have grown for years in rooms, and during the winter especially they succeed better than anything else I have tried. F.



Solomon's Seal forced.

young, the leading shoot forming the main rod must be cut back according to the strength of the rod. When the growth is weak it will strengthen the Vine if only about a foot of young wood is left; but if strong, about 3 feet may remain, always cutting back to a bold, well-placed bud. When there are several rods attached to one Vine, each one should be 3 feet apart and treated as described above.

Pear Jargonelle as a standard.—That is an interesting note by "T." at page 503, and should be helpful to those who have failed in obtaining good crops from this, undoubtedly the finest early summer Pear. I am glad to see "T." pointing out the error many make in pruning it so severely. When I came here I found some old trees that had been very severely pruned. I let them have their way and all is well now. I have seen many fine trees pruned in this way, and because the Jargonelle is usually seen on a wall growers are apt to think it must have the knife. The finest tree I ever have seen is growing as a standard in the open garden at Weston Grange, Bournemouth. This is about 20 feet high and 15 feet across, and in the best of health. When I saw it some two years ago

frame till wanted for forcing. With a good supply of crowns batches may be brought on in a greenhouse temperature, so as to flower from the New Year onwards. With glass protection the leaves are more tender in colour and the stems rather slighter than when seen outdoors. It seems strange that such a graceful habited plant, which, with well-developed crowns, lends itself so well to hard forcing, should be so seldom seen. All who have plants of this in their gardens and can spare a few strong crowns should try it. If potted at once the plants will come into flower by the end of February or early in March. T.

GOOD ROOM PLANTS FOR WINTER.

AMATEURS are always inquiring the names of a few good room and window plants, particularly for the winter, when flowering ones from a greenhouse seem to quickly fade. One reason of so many failures is that they are bought from barrows, and these plants are forced in heat to make them sell. They look in the perfection of health, but, so to say, possess no stamina, and the change from the hot house to the dwelling-room is too great.

THE PARLOUR PALM (*Aspidistra lurida*) are

Achimenes.—For a warm-house, when one desires to make a display with hanging baskets, some of them should be planted with *Achimenes*. One of the prettiest basket arrangements I saw last year was in a Cucumber-house, where a home-made wicker basket had been planted with those showy and charming blossoms. They looked extremely healthy, and, perhaps, one reason was that the frequent syringings the Cucumbers had to bring about a moist atmosphere suited the *Achimenes* to perfection. —WOODBASTWICK.

Growing Spiraea in pots.—Who is there who cannot admire a well-grown plant of *Spiraea*, say *japonica* or *astilboidea floribunda*, carrying numerous spikes of bloom in spring? Those who would have their light and charming flowers in April and May need not at this distant date give up the idea, for clumps procured now, potted, and brought into heat six weeks hence, will come in useful. For table and window decoration it is questionable whether amongst white flowers there are any that command a larger sale than *Spiraea*. When growing freely they require an abundance of water, but until growth has commenced water should be sparingly administered. —LILBURST.

INDOOR PLANTS.

PELARGONIUM DAUMIER.

This which we figure to-day was raised by Mons. Lemoine, of Nancy, and is said to be one

better habit and a much more profuse bloomer. Its beautiful bell-shaped flowers of a bright yellow colour are produced from the axils of the leaves at nearly all times of the year. Abutilons are easily propagated from cuttings, which root freely at almost all seasons, although

furnished plants in 4 1/2 inch pots, which during the winter greatly assist in the decoration of the greenhouse and conservatory. The shoots from plants which have been cut back soon after they have done flowering form the best cuttings, which should be inserted in a sandy compost and kept in a close propagating frame, where they root readily, after which they should be potted singly in a mixture of fibrous loam, partly decayed leaf-mould, and silver sand in equal parts. To ensure free growth it is advisable to add a small quantity of some fertiliser to the above-named compost. When rooted, and until they are fairly well established in the pots in which they are to flower, the young plants benefit by being kept in an intermediate temperature, while in autumn a position in a low frame to which plenty of air and sun can be admitted is best, as it is necessary to ripen the last-made wood to favour the formation of the flower-buds. During their growing season the plants must be frequently pinched to ensure their growing into a compact shape. The last pinching, however, should take place not later than the end of July, or there is a danger of not allowing sufficient time for the formation of the flower-buds, especially if it should happen to be a rainy season. A temperature of 50 degs. to 55 degs. is that in which the flowers open best and are least likely to damp off. On account of its being subject to red-spider, Linum trigynum must be frequently syringed, and care should be taken that the water reaches the under part of the foliage. During the hot weather, from July to September, when the plants are best stood outside altogether, it is advisable to give them three or even four syringings a day, preference being given to rain water whenever procurable. After flowering the plants may be cut back and subjected to similar treatment, but it is preferable to propagate and grow fresh plants every year. If not pinched, Linum trigynum forms a straggling, unshapely bush, varying from 2 feet to 3 feet in height.



Spotted Pelargonium Daumier.

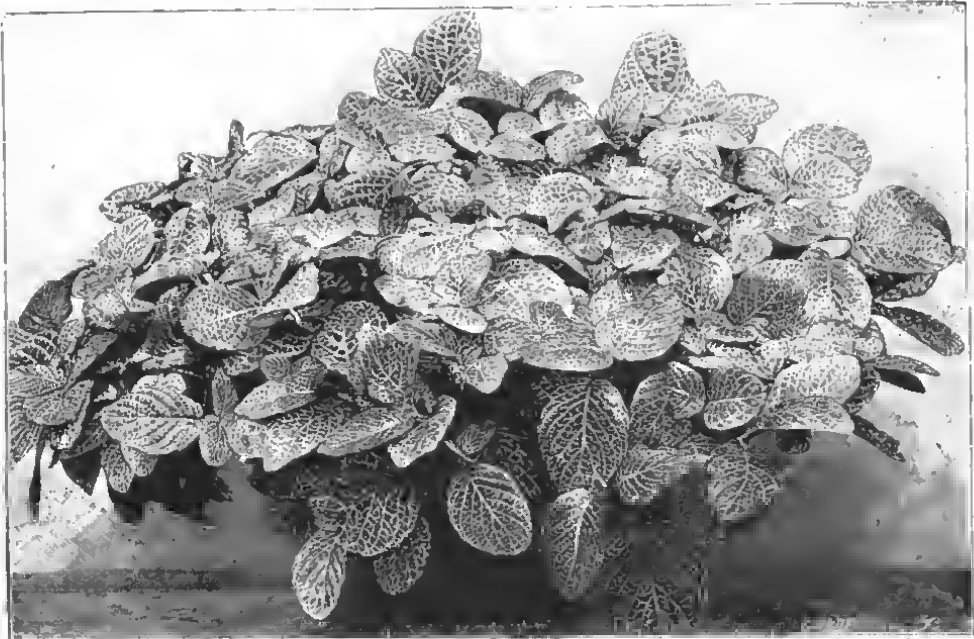
Linum tetragynum is another beautiful yellow flowering plant of shrubby habit, but it must be grown in a warm house all the year round. If we only judge by the outward appearance, we find that it has a great affinity

those struck in early spring are the best. They may also be considered clean plants, the only insect to which they are subject being the green-fly, which is readily destroyed either by fumigating or by syringing the plants, especially the underside of the foliage, where the vermin generally collects, with a weak decoction of Quassia chips, which leaves no unpleasant smell and is very effective.

Linum trigynum is the popular name for Reinwardtia trigyna, a neat-flowering plant of shrubby habit, native of the mountainous parts of the East India. Although of equally easy culture, this plant requires a little more attention than the foregoing, but at this time of the

FITTONIAS.

Fittonias are stove plants and in the heat found therein, they may grow in the greenhouse during the greater part of the summer and autumn, and bear in mind that they are extremely beautiful in appearance, having prettily veined and veined foliage, are dwarf and most useful for growing in pans and baskets, or in pots for the various stages, one sometimes asks the question as to whether they are known as much as they ought to be. Light loam and leaf-mould are the compost they need, the warmest part of the house, and a moist, gently shaded atmosphere. They strike very freely, and those who grow Coleuses or Begonias can grow these Fittonias as they are fine foliageed plants. LEAHERST.



Fittonia argentea.

THREE GOOD WINTER YELLOW-FLOWERING PLANTS.

Yellow flowers are not plentiful at this time of the year; anyone having an ordinary greenhouse or a cool conservatory may without difficulty have a grand display of Abutilon Golden Queen and Linum trigynum, wherever the temperature of a house can be kept at a minimum of 60 degs. During the winter, a third plant, the lovely Linum tetragynum, may with advantage be added to the list. Little need be said here about the Abutilon, as other varieties with flowers white, pink, and of various tints are well known and found in nearly every private garden where yellow flowers are in demand during the winter. Therefore, under a generous treatment and planted out in the border of a greenhouse or of the conservatory, either against a wall or as pillar plants, they produce in great abundance their lovely flowers, which are so well adapted for bouquets and table decoration.

year its flowers, of a rich orange-yellow colour, amply repay the cultivator for any extra care bestowed upon it. Linum trigynum is essentially a greenhouse plant, and does best in pots. It is easily increased from cuttings made in March or April, and these if properly treated form in the course of the season bushy, well

with the plant just described; indeed, the differences are mostly botanical, inasmuch as its flowers, as the specific name tetragynum implies, are four-styled; whereas those of L. trigynum are three-styled. As a decorative plant for winter it is of as great value as the other yellow-flowered plants produced in

Abutilon Golden Queen is a great improvement on the better-known Boule d'Or, being of

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greater abundance, are disposed in large fascicle-like racemes at the summit of the branches and branchlets; they are of a very pleasing pale primrose-yellow colour, and often 1 inch in diameter. The plant is sometimes liberally covered with its delicate Convolvulus-like flowers. The propagation of

check. If you have sufficient head-room we should advise limiting the pruning to the removal of any exhausted shoots, as it is the main ones to which you must look for flowers. The blossoms of this *Passiflora* are about 3 inches across, and of a pleasing violet-purple hue, the crown of threads in the centre being very conspicuous, and in colour, violet banded with white.]

Scarlet Salvia.—Would it be possible for me to grow Scarlet Salvia for greenhouse decoration next year? I think I said before that our climate is cold, damp, and smoky, and the greenhouse slightly shaded by trees and shrubs contains a mixed collection. What would the treatment for Salvia be, and how and when should we begin?—MANNMAN.

[If you have any old plants place in a good, light position in the greenhouse—that is to say, a structure whose minimum temperature is about 45 degs. Give sufficient water to keep the soil slightly moist, but no more; indeed, the object is to maintain the plants in a quiet state till the spring, when young shoots will be pushed out freely. These shoots will strike without difficulty if taken off at a length of about 3 inches, dibbled into pots of sandy soil, and placed in a close propagating case in the

warmest part of the greenhouse. Of course, these cuttings must be shaded from the sun till rooted. When potted off pinch out the growing points in order to encourage a bushy habit, and, directly the roots take hold of the new soil, give plenty of air. Pot on as may be necessary, and grow in the open air during the summer, bringing them into the greenhouse in the autumn where they will come into flower. One thing to be particularly careful about during the early stages of this Salvia under glass is to see that the foliage does not get affected by red-spider, as it soon causes a good deal of damage. Too dry an atmosphere is especially favourable to the development of this pest.]

Brugmansia suaveolens.—I have a plant of above growing at back of greenhouse in narrow border, minimum night temperature 45 degs. with hot-water-pipes. The above plant is still in bloom to a small extent, but is losing its leaves. What I want to know is, when should it be cut back for encouraging young growth for blooming next year? And, further, does it matter how severely I cut it back? The "Encyclopedia of Gardening," page 98, says, "Cut or prune September—October."—ELAN WILLIAMS.

[The Brugmansia should be kept fairly dry throughout the winter in order to thoroughly ripen the wood. This will result in all the

old and exhausted wood, and cut back the vigorous shoots to within one or two eyes from their base, always, of course, bearing in mind that one object of pruning is to ensure as symmetrical a shaped plant as possible. With the return of spring more water may be given, and on bright days a syringing will be beneficial.]

OUTDOOR PLANTS.

GARDEN EDGINGS.

In large grounds where borders and flower beds are cut in a wide expanse of turf but few edgings are needed, but in the average garden they are a very important feature, though so frequently neglected. In the majority, particularly in the country, a Grass verge is employed. Anything more unsuitable, trouble some, and generally inartistic it would be difficult to find. It is usually from 1 foot to 2 feet wide, the width being largely regulated by the blades of the mowing machine. The unsuitableness of this Grass verge lies in the fact that, owing to the constant necessity for mowing, rolling, and trimming the edges, a flowering plants must be kept nearly 6 inches away from the edges of the beds, so forming a hard line; also the Grass gets soiled during gardening operations in the winter, and in summer it is often brown and worn from being walked on, unless the plan of putting hoops *à la* public gardens is adopted, a veritable cause of stumbling to the unwary. If there were Grass verges to the law, narrow beds that form my Rose garden, there would be a little over a mile of Grass edging to mow and trim every fortnight. Certainly no one can claim any beauty in a narrow strip of more or less ragged turf as flat between a flower-bed and a gravel path. Even where the turf is beautifully kept, close as velvet and with edges true, it is at least out of all proportion to the resulting effect. Of course, some of these drawbacks apply to beds cut in turf, but here the effect is better, besides which, when it is all Grass, people do not walk in one place, so that it is not worn, and one presumes a large enough staff to keep it in order and to see that the edges are not "broken down" by being trodden on. Whilst speaking of this most unsightly result of treading on the edge whilst soft, it is not every gardener who knows how to repair the quickly and well. Instead of cutting out the crushed section and adding mould under it, lift the edge, without cutting the turf, with a sharp spade slipped under flat, and insert a wedge of any old piece of turf cut to the size required. A pat or two with the spade will settle everything in place again, and there is no fear of sinking, like there is with loose earth, and, more important still, the edge is a firm turf. Box edging has nothing to recommend it, save "ancient use;" it is very troublesome some to keep in order, as it shows a great inclination to die out in patches, and it cost



A stone edging.

Linum tetragynum is not limited to cuttings only, as this pretty species produces underground suckers, by which it may also readily be increased.

NOTES AND REPLIES.

Abutilon Savitzki.—Abutilons increase readily if cuttings of half-ripened wood are placed in a bed of sand, beneath which hot-water-pipes run, or if dibbled into pots of sandy loam in February and kept under a bell-glass in a warm house. The one under notice is a charming variegated sort, very useful for grouping amongst plants in a conservatory, or for window and table decoration.—LEAHMIST.

Primula obconica.—I have a dozen *Primula obconica* in their flowering pots. The leaves all seem to turn yellow or have yellow blotches, and some of them decay right off. My greenhouse is only heated with an oil-stove, and is damp generally. I do air well when there is a chance. All the other plants do very well. Any information will be thankfully received.—F. R. COOPER.

[You are evidently keeping your plants too cool and damp. An intermediate temperature of about 50 degs. with just enough fire-heat to dispel the damp suits this *Primula* best.]

Greenhouse.—What should the autumn, winter, and spring (i.e., when we have fire) temperature of a mixed greenhouse be? It contains common Ferns, Maiden-hair, Oleanders, Geraniums, Azaleas, Rose, Heliotrope, Camellia, and in it we strike cuttings. It is divided in the middle. Should air be always admitted? I gather from a previous answer that it has been too damp and close for Marguerite Carnations.—MANNMAN.

[Maintain a temperature of about 45 degs., and when the weather is mild admit air. We conclude that your house is heated.]

Begonia Gloire de Lorraine.—Mr. Mayo grows this *Begonia* in quantity at Bilton, and I lately noted some fine plants of it. Many of these were from 18 inches to 2 feet across, and growing in 6-inch pots. Those in 48-size pots were equally good. The colour was good and the plants sturdy, and a mass of bloom. It is impossible to over-estimate the value of this *Begonia* for winter blooming.—J. C.

Passiflora triloba.—I have a plant of this in small hot-house with night temperature now minimum 60 degs. My plant has never blossomed, yet is about two years old, and trained close to glass on wires. I am keeping same almost dry now. Is this correct treatment, and do blooms come from it, or young wood? When should I prune, and how, to get bloom next summer? And should the plant be repotted, and when? It has now filled a pot 14 inches in diameter full of roots.—ELAN WILLIAMS.

[We should not advise you to repot it, as being now somewhat pot-bound it is more likely to flower next summer than if repotted, as this would probably lead to fresh growth instead of flowers. The soil should be kept moderately dry during the winter, but not enough to injure the roots, as this is done the plant takes some time to recover from the



An edging of Ivy.

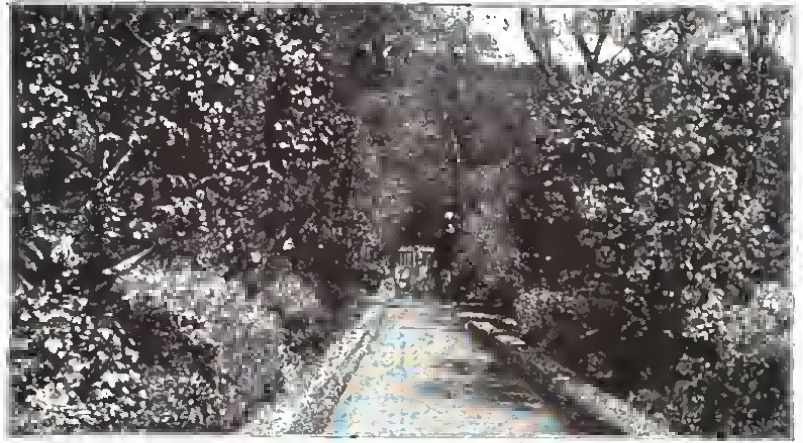
leaves falling, but you need not concern yourself about that. Then, in the latter part of February or early in March the plant should be pruned. In carrying this out cut away any

grows bare at the base. Besides being a fine harbour for vermin, it is a nursery for weeds, particularly for Couch Grass. It also is a robber of the soil, and practically hides all

low-growing things behind it, and is stiff and formal. It was only in its place when Italian gardening was in vogue. Ornamental tiles are impossible, besides not fulfilling the prime necessity of being permanent, as they are easily broken, and the frost causes them to crumble. The only ornamental, useful, and cheap edging is formed by evergreen creeping plants growing over a stone edging that, once set, is no more trouble. Any stone will do. "The stone of the district," say the few writers on the subject, "sandstone blocks for choice, but on no account use flints, bricks, or clinkers." No one would who could get sandstone, but the question of expense rules the garden even more than elsewhere, and in a chalk district flints are the only stones available. These soon lose the raw, new look, and though they do not absorb water, they, at any rate, do not crumble. Bricks are bad for this reason, still they have the great advantage of taking up moisture like a sponge; a 4½ lb. brick, put into a pail of water for some hours, will weigh 9 lb. In a hot, dry position this is an advantage, as all moisture is absorbed, to be returned to the plants during heat. Clinkers are the last choice, but even these can be made possible by dipping them into a mixture of colour-wash with some sand in it. A dull red—the tone of red sandstone—is the best. If the edging is properly planted and well looked after there should be but little of the stone showing in from six to twelve months, so, if either of the last two must be used, the unsightliness will be but for a short time. Where well-shaped blocks of sandstone can be used, of course no one would try and quite cover them; but not so with "makeshifts."

which will push their roots down amongst the deep-laid earth under the stones, finding there, in even the hottest, driest weather, coolness and moisture; and as so many creeping plants

mean they go steadily on, flowering all the summer, but, when the cool rains come in September, they throw up 15-inch to 18-inch stems with six to twelve flowers. On



A box-wood edging.

throw out roots from their branches, if they get amongst ground that they like, it will be found that they will root into the fine gravel very freely, so keeping themselves secure over the stones.

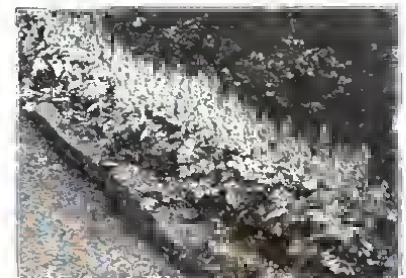


An edging of white Pinks.

Whatever is chosen, or used, must be used with a real knowledge of "why." Quite two-thirds of the stone should be sunk in the ground. The reason for this is not so much firmness as to make a cool root-run during hot, dry weather, and a protection against frost and excessive moisture in winter. Sandstone makes an ideal stone for rock-plants, as it holds a great deal of moisture, drawing it from the ground even in summer. The Sandworts are quite independent of soil, if there is any sandstone for them to grow on; the lesser Saxifragas are the same. The best time to set the stone is when the bed is made, but if this is *in situ*, dig a narrow trench between it and the path, rather deeper than the stones are to go. Put in the bottom 2 inches to 4 inches of good gritty earth, setting the stones on to this, letting them vary in height from 2 inches to 6 inches above the level of the bed. At this time they should touch, or, failing this, a small bit of stone must be wedged at the back, otherwise the mould will wash through during heavy rains. Well ram some more of the gritty earth round the stones at the back, and some fine gravel in the front, or path side, even though there has to be a gutter, this care being taken because of the plants,

The plants that are suitable must of necessity be regulated by considerations of soil, climate, and position, besides the all-important one of expense. Where dressed blocks of sandstone are used, "border gardening" becomes a pleasure, second only to good "wall gardening," and is more than enough to occupy "the leisure" of even an energetic amateur, for in a large garden these edgings are measured by the mile, my before-quoted Rose garden having over half a mile, yet I count it small. To the much-to-be-envied owner of such stone edgings all things are possible. To the best of encrusted Saxifragas, fragile mountain Pinks, rare Primulas, colonies of *Ramondia pyrenaica alba*, lovely drifts of *Phlox*, there is no limit. There is no necessity for covering up all the "stone." Foremost come Pinks. Their soft grey-green foliage looks like bloom during the winter, and their flowers are ever welcome. Somehow I have become possessed of a Pink that is really marvellous. The "grass" is nearly as strong as in Carnations. In May the wide belt is white with big flowers like a perfectly-grown Mrs. Sinkins, a tinge of green at their heart. June transforms them into a white flower with faint red markings, but October finds them Carnations! I

October 20 I gathered a handful of perfect blooms. I simply dibble in the cuttings 2 inches apart, about September, as close to my flint border as I can. A year after the stone is hidden by a 12-inch wide belt. I have a run of 150 feet of this Pink. All of the *Dianthus* family are beautiful. Nearly all of the *Saxifragas* are good, but the Mossy and London Pride sections are the most useful. Of the former, *S. trifurcata* (the Stag's-horn *Saxifraga*) is, perhaps, the best, the old London Pride being hard to beat. Where a wide border is wanted, the giant-leaved *Saxifraga* (*S. crassifolia*) is unrivalled, as anyone who has seen it at Mentone will agree. Double Primroses, *Aubrietias*, *Auriculas*, *Primula denticulata*, *Violas* (the American vars., such as *V. pedata* and *V. cornuta*), Tafted Pansies, *Veronica rupestris*, the double white *Arabis*, *Lithospermum prostratum*, *Phlox*, *Hepatica*, *Sedums*, *Sempervivum* in variety, and *Gentians* are a few of the best. Not everyone has seen the Violet "California" as an edging miles in length. I saw it once, and have never forgotten it—an enormous Orange "grove" a couple of miles above Nice, the trees planted in large oblong beds, each with a foot wide border of this Violet in full bloom. Where a wider border is needed for shrubberies, the various *Ivies*, gold and silver-leaved as well as the plain, are good, particularly for cool borders, when *Snowdrops* are beautiful planted amongst the *Ivy*. Where a little trouble is not objected to, various half-hardy or deciduous species can be used. As an illustration, large pink *Oxalis* for the summer, with *Myosotis dissitiflora* for winter and spring, or *Anemone* and dwarf *Nasturtiums*. Dwarf bulbs make good edgings. All the *Scillas*, *Chionodoxas*,



Foam-flower (*Tiarella cordifolia*) as an edging.

Crocus, "species" *Hyacinths*, and the *Muscari*, *Triteleias*, *Sparaxis*, *Sternbergias*, and Autumn *Crocuses* are a few. A good edging for a sunny shrubbery is yellow *Alyssum*, with either *Parrot Tulips* or *Spanish Irises* planted

amongst it. Thrifts and Sweet Williams are good. For a fruit garden Alpine Strawberries and Violets are among the best, and the Thymes for the kitchen garden.

Darlish, S. Devon.

A. BAYLTON.

PANCRATIUM MARITIMUM.

As a constant reader of your valuable and helpful paper, GARDENING ILLUSTRATED, I venture to ask whether you or any of your readers can kindly give me any information concerning *Pancretium maritimum*? Early this spring a friend sent me some seeds, supposed to be the above. They came from Ajaccio, but were live or six years old. However, the gardener sowed them in heat and they all came up, he then put them in a cold-house, and in the summer placed the pans out-of-doors, thinking that the leaves would die down. This they did not do, so in the autumn he pricked them into larger pans, and now has them in a cold-house. The leaves are narrow, something like lawn Grass, but are thick, about 3 inches long, and in colour rather bright green. Can you kindly tell me how they ought to be treated; whether they will do out-of-doors, and at what age the seedlings may be expected to blossom? I shall be very grateful for any information, as I do not know the Lily at all, or of what shape, size, or colour the flowers generally are, or at what time of year the plants bloom?—A. E. K.

[As the seedlings are now pricked off, you had better leave them in the larger pans and transplant them again in early spring, when you should select the warmest site you possess, and there place a temporary frame wherein to plant the seedlings. Well planted they will be safe enough till at least three years old, or even four years old. Let your frame be about 1 foot deep, and give the light a sharp pitch to south or south-west. Make up the soil of the frame 6 inches above outside level, using old potting-mould, if no better material is available, and abundance of sand or grit intermixed. Make this firm and plant the small bulbs in shallow drills at a short distance asunder. Keep the small bulbs quite close to the surface, with what roots they have in a straight-cut trench. From your description of the seedlings you have the true plant; with age, however, the leaves will lengthen to 12 inches or 15 inches, and nearly 1½ inches broad. If you consider you are quite favoured in respect to climate it is possible this species may do in the open, with certain modifications. The bulbs should be buried 3 inches deep, and planted in a sunny bed of well-drained loam and plenty of sand; for example, a narrow border against a warm wall, though even here a glass-frame would be infinitely better for them. This species is less hardy generally than *P. illyricum* or even *P. equestre*. Both of these grow and flower in certain parts of England in the open, but *P. maritimum* less so.

What is needed in the case of *P. maritimum* even more than the others, we believe, is an absolute rest in summer, say from May to August, when growth appears, as a rule. The growing and resting periods are controlled chiefly by the treatment accorded. This also will be responsible for the bulbs arriving quickly or the reverse at the flowering stage. It is not likely, however, they will flower to less than eight years. Meanwhile, grow the bulbs as well as possible. Keep them in growth so long as the leaves remain green, and keep them without water entirely when the foliage is ripened off. And not merely without water, but airy and dry withal above. In brief, these very definite periods are the best means of cultivating these plants known at the present time. The time of flowering is generally early summer or late summer. We have had bulbs in bloom in the same frame, and therefore receiving the same treatment at both seasons. In positions where the bulbs receive water more or less continuously the plants remain evergreen, or nearly so, and may go on indefinitely without any attempt to flower, this being brought about best by the artificial method above stated. The species is by no means free or certain in its flowering, however.

The flowers are white and extremely fragrant. From nearly the centre of the bulb the flower stem issues and attains 15 inches in length or so, and at this level are a number of flower buds arranged in an erect umbel. The individual blossoms are composed of a long tube. At the end of this tube the blossoms open out after the manner of a single Tuberosa, much longer and larger, however, and more elegant in form.]

VIOLET CULTURE.

I HAVE seen various notes as to growing and watering Violets in gardening and other journals. My method of culture for both single and double varieties is as follows:—I take the young rooted runners that have not flowered from the old plants that have done blooming in April or first week in May, divide them into a border facing east or west, 9 inches apart each way, water them in well, and continue the watering throughout the summer. Never let them want for water at any time in their growing period. Keep them hood, not too deeply, and pinch all the longest runners from them. Syringe them in the afternoon of hot, dry days with clear rain-water, and occasionally mix a little soot-water with the rain-water; also, once every three weeks, use a little farmyard-manure-water with the clear water. If they are planted in some good garden soil, which has been given a dressing of cow-manure and soot, you will be rewarded with some good clumps by the end of September. At this time make your beds up for them in frames, using good loam, leaf-soil, burnt earth, soot, and a little bone-meal; mix well up together. Place in frame to a height that will allow about 2 inches space clear from the lights. Plant the Violets in this mixture 9 inches apart each way, water them in thoroughly, keep the lights off them night and day, excepting in wet weather; then run the lights over them, lifting them sideways, which will admit air top and bottom of frame. Mat them over to keep frost out, pick all dead, damped leaves from them, stir the surface with a label to keep Moss down; then I think the Violets will reward you with their sweet blossoms from October to April.

GIEL MANN.

East Hill Gardens, Portlamb, Brighton.

NOTES AND REPLIES.

Carnations.—I have some beds of Carnations planted out last spring from layers taken the previous autumn. They flowered very badly, but made plenty of healthy looking grass. Hoping they will flower better next year I am leaving them as they are. Should a top-dressing be applied? If so, when, and of what? Carnations usually do well here. Can the soil have been too rich?—MEXMAN.

[The only thing you can do is to sprinkle some fine soil among the layers, and if very thick thin them out slightly. You ought to have propagated a fresh stock from layers, as young plants are always far more reliable than old stools.]

A pretty aquatic.—Since my remarks on the Cape Pond Weed appeared in your paper I have received two or three requests for further information respecting this plant, and perhaps some of your readers may like to know that we have in many of our brooks and streams an indigenous aquatic well worth growing in tubs in our gardens. I allude to the purple Loosestrife (*Lythrum Salicarin*). In a tub I have had it throwing up fifty of its pretty racemes of flowers, about 2 feet high, and much admired by many who were not familiar with it in its wild state, and the autumnal foliage, of a reddish-brown shade, is also beautiful. Small yellow seeds are produced in abundance. Blue tits seem fond of these, and are often seen climbing up the sproys searching for them. The Loosestrife is perennial and requires no care in growing beyond seeing that the tub is well supplied with water, and the roots spread till they soon quite fill the receptacle.—A. B. HERBERT, Morden, Surrey.

The Peach-leaved Bellflower.—Amongst the many beautiful Campanulas, none are more popular than *C. persicifolia*, the Peach-leaved Bellflower, and for beds and borders it is largely grown, having a prominent place in not a few country gardens where hardy plants are specialised. This variety is often to be seen planted in rows, or grouped together as "second line" subjects, backed up in many instances by tall-growing Delphiniums, etc., and in June and July such gardens are always effective. The blue variety is possibly the least grown, inasmuch as the white sort is in greater demand where cut flowers are wanted, but both have their place in borders where hardy flowers are cared for. All Campanulas love a sunny situation, good soil well manured in the autumn, and need division about every two years. Some that I neglected to divide for several years became

weak in the centre of the clumps and died off in the winter, whilst plants in small groups from a biennial division bloomed much better. Many who grow Campanulas seem to think that they will do with any kind of treatment, hence one sometimes finds them planted in out-of-the-way corners, under trees, etc., but to get the best results from them they must have a sunny aspect, and, as stated, a rich soil. Old stools should be pulled to pieces in March, replanted in fresh positions, as, by so doing, one will get much stronger bloom spikes. We often forget how useful Campanulas are for pots, and for cool-houses they should be borne in mind. WINDHASTWICK.

New Zealand Flax.—I have just come across a query in your issue of 13th ult. concerning the growing of the New Zealand Flax (*Phormium tenax*) in the open air. As I have had some little experience with this plant, especially with the variegated variety, I beg to say that I have found that it may be safely planted out in this climate (Eastcliff, Bourne-mouth) if a little protection of litter or Bracken is given to it during the first winter. The leaves sometimes shrivel and turn black with frost, but recover again. It is very effective on a lawn. The common green "Phormium" is still hardier.—H. MORDEN BENNETT.

LILIES IN THE GARDEN.

THESE noble garden flowers have only within recent years been planted largely in the best possible way, and that is among shrubs. At one time they were considered suitable for pots only; but under these conditions the finest growth and bloom were never obtained. Planted in the open, however, among Rhododendrons they are thoroughly at home. We were once much struck by the appearance of *L. elegans*, or *L. Thunbergianum*, as it is more often called, planted among dwarf, dark-leaved shrubs, *Kalmias*, &c. The contrast of leafage and flower was rich and telling. We may make use of almost every Lily in this way, even *L. longiflorum*, which is often supposed to succeed only in a pot in the greenhouse.

L. ELEGANS is a splendid early Lily, while there are many varieties differing widely in habit and colour of the flowers. The tallest should be planted among the shrubs, and in large spreading masses there are always openings through which can ascend the stately spikes of brilliantly-coloured flowers, reserving the dwarf kinds, those that grow only from 1 foot to 18 inches in height, for the outside. Such varieties as the apricot-coloured *alutaceum atro-sanguineum* (deep crimson, height 1½ feet), *Van Houttei*, *fulgens*, *Prince of Orange* (orange), and *croceum* (crimson), are all of dwarf growth, and adapted for edging peaty beds filled with shrubs. In growing the Lily in this form there is very little trouble. The soil that suits such shrubs as the Rhododendron also agrees with the Lily, and the growth protects the tender rising stems in early spring, when, except for this protection, they would suffer from frosts. A top-dressing of manure each year will keep both shrubs and Lilies in vigour, but it must not be dug in.

LILIEUM TESTACEUM (Nankeen Lily), figured on p. 581, is a distinct and fine Lily that does well in the soil that will suit Rhododendrons. The best Lily, however, for planting in this fashion is *L. auratum*. The large masses of Rhododendrons on either side of the main walk are generally a picture of colour in autumn at Kew Gardens, the bold spikes of this Japanese Lily appearing in profusion, the flowers large, numerous, and finely-coloured, finer far than anything we can obtain in pots. It is under these conditions that the full beauty of the variously coloured flowers is obtained. The bulbs are in the soil that suits them, and the growth is screened from heavy rains, cold winds, and late frosts. Those who have no large clumps of shrubs to plant it in should choose a sheltered situation, not exposed to the full glare of the midday sun, and where the soil is rich and well drained. It will succeed in ordinary garden material, if this is well manured, but it likes best an admixture of peat and loam. The finest results with *Lilium auratum* have been obtained by planting it among Rhododendrons,

and when once established amongst them there is no need to disturb the roots for several years. Varieties of *Lilium auratum* are many. Rhododendros, or clumps of some kind, abound in every garden, but present a monotonous effect when their season of flowering is over, unless relieved by a rich display of bloom, as here advised. It relieves the scenery of tameness, and gives colour in the autumn. Some thought is now given to the autumn season of the year, and rich effects are gained by the free use of Michaelmas Daisies and Lilies. Writing of *Liliums* reminds us that the common

L. CANDIDUM seems to have recovered in part from the disease that threatened to obliterate it, and the finest results have been obtained through massing the clumps together. In one test of England garden that we remember, placed on the side of a hill and fully exposed, there were large colonies presenting a sheet of pure white, and very beautiful on a cool July day. Such an effect should be repeated in large places where there are ample scope and opportunity for bold breaks of colour. It is a common and miserable plan to dot the Lily row and there in borders. A single spike

gives little notion of the full beauty of several together; and if it is not possible to plant them among shrubs in distinct groups of some in large beds at the house. Two or three years ago we saw masses of the Swamp Lily (*L. superbum*, a truly North American species), and this was sightful. It is very tall in growth, fully 6 feet or more; the stems are purple in colour, in contrast to the gay flowers, borne in a terminal cluster. This Lily may be grown among shrubs, enjoys a peaty soil, and is charming itself.

THE CANADIAN LILY (*L. canadense*).—Orange and brown spotted flowers of this, borne on slender stems, are welcome in late summer, especially when appearing from amongst an overgrowth of shrubs. It succeeds well in shade, and should be made use of in parks and open places, which require colour in the declining days of summer. The Orange Lily, *L. auricum* and *L.*

ledeborianum are good garden Lilies, but the latter is best seen in northern counties or Alaska, where it is common in cottage gardens, and of finer growth than in more southern districts. Few Lilies thrive more fully than *L. Martagon*, the variety *dalmaticum* in particular. It is an exceedingly beautiful form, very telling when allowed to form a large clump, or establish itself in the wider parts of the garden. *L. M. album* is a valuable companion to it, and, like all the forms of the *Martagon* Lily, quite hardy, very free in growth and bloom, preferring shade, but not refusing to grow in the sunlight. There are a few groups that should be considered when planting Lilies in the open. Among these may be mentioned *L. pardalinum* (the Panther Lily), with stems rising to a height of 8 feet, and seen to best advantage with shrubs as a groundwork. *L. pomponium*, too, must not be forgotten, as also the forms of *lanceifolium*. The autumn is the season for these. They remain longer in bloom than any other Lily, commencing in September and lasting many weeks in full beauty. A gay succession is kept up by the forms of *L. riantum*, the earliest of which begin to flower in August, the latest lasting till the end of October.

ROSES.

SOME GOOD NEW ROSES FOR POTS.

PROBABLY old-established kinds, such as Catherine Mermet, Bridesmaid, The Bride, Perle des Jardins, will not be superseded as forcing Roses in our time, but the years 1901 and 1902 have given us some particularly good novelties that are steadily making their way to the front. One of the very best of recent novelties is

FRAU KARL DRUSCHKI, so well illustrated in GARDENING of Dec. 6. I should not so much recommend it for hard forcing, believing it to be a variety that will be seen at its best in a gentle temperature. One of the grandest blossoms we had last season was upon a specimen of this fine Rose. For market it will prove invaluable, especially where the American style of long-stemmed blooms is in request. It really seems as though Dean Hole would see what he prophesied when he referred to "our children's children plucking their snow-white Marie Baumann—pure as sunshine dancing on a white dove's wings." The form, perhaps, is scarcely so regular as in Marie Baumann, but

Mme. Hoste to be one of its first sports. The sturdy habit of all three should ensure them a place in the most select collection of pot-Roses.

MILDRED GRANT is a magnificent Rose, grand in petal and upright in habit.

PAULINE BERSEZ and PRINCE DE BELGIQUE are two fine additions to the Hybrid Teas, the one after the style of Mme. Cadcau Ramey, only flatter, and the other resembling Souvenir du President Carnot. They both come from a raiser who has given us some of the best Hybrid Teas in cultivation.

PERLE VON GODESBERG and DUCHESS OF PORTLAND are of the Kaiserin Augusta Victoria type, the former claiming to be a yellow sport, but as seen very little yellow is present; the other evidently a glorified Kaiserin, which will perhaps eventually take the place of the parent.

ROADRICE, when grown in heat, is very beautiful and highly fragrant. Its open flowers have a tendency to fade, but in the bud state there is no more beautiful kind than this one.

LADY BATTERSEA is perhaps seen at its best in the forcing-house, where its bright rosy-crimson colour and fine long stems carrying exquisite buds are very welcome. It is reputedly a cross between Mme. Abel Chatenay and Mrs. W. J. Grant, so that should be sufficient guarantee that the Rose is a good one.

MME. JEAN DUFFY I much like. It is a fine sturdy grower, with beautiful bold flowers of a rosy-yellow colour.

MME. MARIE CROIBER and WILLIAM ASKEW are evidently seedlings or sports of Caroline Testout, and, as such, welcome and distinct additions to a popular group.

ROBERT SCOTT has evidently come to stay. It is one of the few good novelties from the States, and it has the free-flowering and continuous habit of the true Teas.

SOLEIL D'OR is a Rose of remarkable individuality, capable of great things as a pot variety.

SOUVENIR DE MME. CHEDANE GUENOISSEAU should be good, if only to compensate for its long name. That it is good I can testify. It is a fine flower of a very bright red colour.

SOUVENIR DE PIERRE NOTTING at present falls far short of its reputation, but, notwithstanding, it is a Rose of great possibilities.

The above are the cream of the novelties of the last two years. ROSA.

NOTES AND REPLIES.

A long-lived Marechal Niel Rose.—This fine Rose is, as a rule, short-lived, but one occasionally meets with an exception. The first plant I ever saw of this with good blooms on it was upwards of thirty-five years ago, and the plant still flowers well every season. This plant is grown by Mr. Adams, a jeweller, in Sherborne. When quite a youth, and serving in a large garden near, my chief took me over to see it in bloom. This was the second year of its blooming. In the early part of this year, in a conversation with its owner, he told me it had bloomed abundantly every year, and, one year, when it was at its very best, he sold £8 worth of blooms from it, and this was not an exceptional crop. It is planted out in a lean-to house. At first this house had no heat, but now for some years it has been slightly heated. It is worked on the Brier, and where the union is made the scion is three times the size of the



The Sankeen Lily (*Lilium testaceum*).

certainly the shape of Frau Karl Druschki is very beautiful.

MME. ANTOINE MARI has been admired by all who have seen the Rose. It is one of the most distinct varieties we have had for many years. The raiser is M. Mari, of the Nice Public Park, and from such a beautiful district other good kinds should be forthcoming. I believe

MME. VERNOREL is also from the same raiser. It is just that fine deep, full flower so dear to the heart of the exhibitor, and it has the yellowish colour of Jean Ducher, with a shading of rose. The growth is strong, and we have in this variety a first-rate novelty.

DR. F. GUYON seems to be a near relative, perhaps from the same seed-pod as the last-mentioned, but yet sufficiently distinct to be worth growing.

BEN CANT.—The rich, glowing colour and grand form of this, together with a vigorous growth, are all points that go to the making of a good pot-Rose.

LADY ROBERTS comes of a good stock. It is reputedly a sport of Anna Ollivier, and all who have grown pot-Roses know what a fine kind the latter is under glass. It is only recently the sporting habit of Anna Ollivier has been noticed, although many Rose growers believe

stock. It is worthy of note how some amateurs succeed when they have a love for gardening.—J. CROOK.

Rose Crimson Rambler in bloom.—It may interest your readers to know that I have a Crimson Rambler now in bloom. It is an old plant, and grows on a rustic wooden pergola running north and south. I shall be glad to know if it is not very unusual for this Rose to bloom a second time, and so late in the season? It has never done so in the five years I have been here. Several of our Chinas, Teas, and Hybrid Perpetuals are still blossoming, although the blooms are small and almost scentless. The following is a list of those Roses now in bloom: Viscountess Folkestone, Iffrace Vernet, Mfrquis of Salisbury, Caroline Testout, General Schablikine, Perle d'Or, Louis Philippe, Sanguinea, Mrs. Bosanquet, La Vesuve, Ulrich Brunner, Souvenir de Malmaison, Mme. Eugene Resal, Laurette Messimy, and Irene Watt.—C. M. B. WILKIE, *Tatham's, near Godalming.*

CHRYSANTHEMUMS.

BLOOMS EXHIBITED AT THE N.C.S. NOVEMBER SHOW.

The following figures, which relate to the number of blooms exhibited in the classes at the great show of the National Chrysanthemum Society in November last, will no doubt prove of considerable interest to readers of GARDENING ILLUSTRATED. A bunch of Pompons or singles is counted as one bloom. Blooms exhibited in—

	1902	1901	1901
Japanese	1797	2445	2112
Incurved	471	657	543
Reflexed	21	48	30
Large Anemones	108	152	211
Anemone Pompons	12	18	24
Pompons	114	54	108
Singles	18	24	24
Total	2514	3378	3300

From the figures given above it will be seen there was a great falling off in the total number of blooms exhibited on the last occasion as compared with other years. This does not necessarily mean that the Chrysanthemum has lost its hold upon the flower-loving public. The methods of exhibiting the blooms are changing, fortunately, for the better. The best of the large blooms are now exhibited in vases, instead of on the flat and uninteresting green-painted boards, which only a year or two ago were considered the only proper and orthodox way of displaying the beauty and charm of these large blooms. Blooms, when set up in vases, make a far more attractive display than when they are arranged on the boards. When arranged in vases, the space occupied by the exhibits is far larger, consequently, so many blooms are not required to make a really fine display. The falling off in the Japanese and incurved sections may be attributed chiefly to the lateness of the flowering season. Many growers could not get their blooms finished sufficiently early for the chief metropolitan fixture, and for this reason the competition was less severe than usual. By a reference to the reflexed section in the table of figures, it will be seen how they are declining in popularity. Poor as was the display of this type of the flower in 1900, when only sixty blooms were exhibited, the display on the last occasion was limited to twenty-four blooms—two boards of a dozen blooms in each. At their best these reflexed blooms are very formal. The quaint blossoms of the large Anemones and Japanese Anemones also show a considerable falling off, as compared with the exhibition held in 1900. A drop from 204 to 108 in two years is a serious matter, and points to some lack of interest by the executive, or to the want of more liberal prizes, to tempt growers to cultivate and exhibit them. The Anemone Chrysanthemums, to my mind, are among the most interesting of the many types of the Autumn Queen. Not only are the blooms quaint and curious in their form, but they are so elegant in their build and so useful for decoration that the N.C.S. might well give more encouragement to these sections. More classes should be provided, and also more liberal prizes offered, and, if it is necessary, the number of classes devoted to Japan-

nese might very well be reduced in order to effect this. The undue attention given to the Japanese section is ousting these pretty flowers from the exhibitions, and this cannot be disputed in face of the fact that 108 blooms represented both the large-flowered Anemones and Japanese Anemones at the great exhibition of the National Chrysanthemum Society in November last. The same remarks apply with equal force to the Anemone Pompons. These beautiful free-flowering Chrysanthemums were represented by twelve small bunches on the last occasion, against double this number in 1900. This is a matter for regret, and interest in these lovely flowers should be stimulated by providing more classes and offering liberal prizes. The Pompons appear to be holding their own fairly well, but 114 bunches are, after all, a meagre display. Much cannot be said for the singles, as November is really too early to see them in goodly numbers and at their best. The rigidly disbudded blooms which are usually exhibited are made to look so formal, and the machine-like regularity of their setting up detracts from their beauty.

Those responsible for the schedule of the National Chrysanthemum Society have much to learn. All who are interested in further popularising the Chrysanthemum look to the National Society to set an example to other Chrysanthemum societies throughout the country. With the new move, which is now inevitable, the N.C.S. might well begin a new era of usefulness. The antiquated ideas which have characterised its movements all too long will have to give way to newer ideas, and the more enlightened and up-to-date methods of exhibiting, in which, of course, all sections of the flower should have due consideration, and the display, in consequence, be thoroughly representative, should be the rule. The society has now a splendid opportunity for making a clean sweep of—and ridding itself of—out-of-date and antiquated methods of exhibiting Chrysanthemums of all types and of all sizes.

A. R.

CHRYSANTHEMUMS IN VASES AND BASKETS.

MUCH as the introduction of the vase into competitions at shows was hailed with satisfaction as a welcome change from the hard lines seen in long ranges of show boxes, yet it is now found that nohow, apparently, can big rotund mop-like blossoms be made to look, however set up, pleasing or beautiful. The inherent objection lies more in the size of the flowers than in the setting up or the pile of vase or basket employed for the purpose. A singular contrast, so far as elegance, grace, and beauty are concerned, to these big show blooms, however arranged, was seen in the charming basket of Chrysanthemums set up by Miss Easterbrook, Fawkham, Kent, at the last meeting of the Royal Horticultural Society. Here quite medium-sized double with beautiful pure white singles, and some of the thread petalled varieties mixed with pleasing foliage made up in the basket a truly charming arrangement that was well worth an illustration, if but to show how to do things similarly. No vase or basket of big fat blooms could possibly look so beautiful as this basket did. No doubt, because of the prevailing craze for large blooms as seen at shows, Chrysanthemum growers have got to regard these big flowers as beautiful, whilst smaller ones get very little recognition. It is, if so, a grave mistake. Medium-sized Japanese, pretty Pompons, Anemone Pompons, and singles make up when tastefully used graceful combinations that far excel any that fat flowers can produce. A crusade against big blooms seems to be inevitable as taste becomes more refined.

A. D.

[The arrangement above referred to was one of the most dainty we have ever seen, the flowers being lightly and tastefully set up, and without that heavy, lumpy effect which is inevitable when the big fat blooms are shown in vases. The basket shown at the Royal Horticultural Society was filled with fine white single Chrysanthemums, associated with the thread petalled white blooms of the Mrs. Filkins type and Fern fronds, a light and elegant effect being in this way secured.—Ed.] Original flowers.—Essex.

NOTES AND REPLIES.

Single Chrysanthemums.—Could you kindly give me the names of some good single Chrysanthemums, and if any grower makes a speciality of them? I have one, and it has stood frost, rain, and wind out-of-doors so well, I am anxious to get a variety of colour.—C. G. (BRUX, *Poyne*).

[Mary Anderson, white, changing to blush, is probably the best known of all, and its tawny yellow sport, Miss A. Holden, is also good. Miss Chrissie, bright terra-cotta, is brilliant while the flowers are young. Buttercup bears many-flowered erect sprays of rather small round blooms, butter-yellow in colour. Emily Wells is one of the very best, with bright rose, medium-sized flowers that stand erect on long sprays. Prolific is rather large. The flowers, which open bluish-coloured, mottled with white, soon change to a paler hue, and are then very much like those of Mary Anderson in form and colour, but larger. This is a very free variety. Snowdrift is a useful white variety. For those who like very dark crimson Annie Tweed will prove a charming variety, very much like Mary Anderson in habit, form, and size. Useful late varieties are Admiral T. Symonds and Kate Williams, both large-flowered yellows. Mrs. A. E. Stubbs, creamy-white, of good form, with fairly long, narrow-pointed petals; Framfield Beauty, rich crimson; Jane, white; Yellow Jane; and Purity, white, are also good.]

Large Chrysanthemums.—Mr. C. J. Grist (page 535), very correctly defines the feelings of many lovers of beautiful flowers in his remarks concerning the monotony of the big blooms at the Aquarium and other autumnal shows of this popular flower. There is not the slightest doubt that the financial crisis to which he refers will become much more acute, unless steps are taken to introduce more variety, for the simple reason that when you have seen one show of these monster blooms you have seen them all, for they vary so little as to become wearisome. There is no doubt that big blooms, cut with long stalks and foliage, set in vase, take the eye of the visitors much more than the flat boxes, and when we turn to the groups we find the big bloom plants far less effective than the naturally-grown and not disbudded ones. The majority of provincial shows find a difficulty in keeping up the interest in these shows, and have to add classes for miscellaneous groups of plantable plants, winter-flowering Geraniums, Cyclamens, Primulas, etc., and not the least effective aid is given by the Begonias of the Gloire de Lorraine type as pot plants.—J. G. (Gosport).

Old Chrysanthemums (Miscellaneous).—If you have room in a cold-frame or greenhouse, do not be in too great a hurry to throw old stools of Chrysanthemums away, even if you have taken what cuttings you want—accidents will happen. Old plants will winter in a cold-frame if covered up on frosty nights. Where decorative Chrysanthemums are grown, often these old plants turn out the best, and bloom earlier than those from cuttings, and should be planted out in the borders in April. Stirring the soil about the roots and introducing a little fresh will induce many that are backward to send up suckers, but such treatment should be the general rule.—W. BARTWICK.

Chrysanthemums at the Aquarium.—In reference to Chrysanthemums at the Aquarium, I fail to understand how people who attend exhibitions can expect to see a lot of small blooms, instead of the magnificent specimens grown under skilful and scientific treatment. Exhibitions are not markets for cut flowers, but are held to improve floriculture and to test the skill of the gardener. There is no skill displayed in producing small flowers. What has made our Autumn Queen so popular, and what has caused it to make so much progress? Is it not the exhibitions, where the public meet to see this well-grown flower, but what some critics term "so many mops on poles"? It seems that to make any further progress is wicked. At a recent show which I attended there were classes for cut blooms and plants undisbudded, but the public took hardly any notice of them, their minds being centred on the large ones. To my mind, Covent Garden, and not the Aquarium, is the place for small flowers.—Essex.

VEGETABLES.

KITCHEN GARDEN WALKS.

Of old, the kitchen garden used to be devoted exclusively to the culture of vegetables, and in the present day more are perhaps to be found that lack flowering plants among their occupants than possess them. Now, however, that cut flowers are used so largely for indoor decoration, it is almost a necessity that some plot of ground should be set aside for the production of these flowers, for if it be not the routine drain on beds and borders will soon have an effect on the display. Unless there happens to be spare ground which may be utilised, the reserve beds are generally formed in the kitchen garden. Sometimes a small portion in one of the corners was allotted to them, and they were, in a way, kept out of sight, but by degrees the fashion of growing flowers in the kitchen garden, which first

ing flowers on either side, and arches were here and there thrown across the path on which were trained climbing Roses, Honeysuckles, Clematises, Jasmines, Vines, or other ornamental clamberers, and thus the kitchen garden assumed a fairer guise, until at the present day there be those which in interest to enthusiasts in gardening exceed the pleasure-grounds to which they are an appendage, so well-filled are the wide borders that edge the walks with all descriptions of hardy flowering plants—Lilies, Campanulas, Lupines, Swot Williams, Alstromerias, Paeonies, Poppies, Pansies, and a host of other dwarf and tall-growing subjects—while the arches are garlanded with bloom-sprays, and in the springtime the surrounding branches hold a shell-pink drift of Apple blossoms—"blossoms as tender in colouring and delicate in fragrance as the rarest exotic"—that spreads like a sun-kissed cloud above the earth. S. W. F.

waterings once or twice weekly after the blossoms are set will materially help the fruit to swell. See that the Cucumbers do not shade the Beans after they are through the soil; neither should they be more than 2 feet away from the glass roof, or the plants will be spindly and the crop unsatisfactory. Place ten or a dozen Beans in each pot, thinning down to six before crowding takes place. Some only about half fill the pots with soil at first, earthing the Beans up as growth advances, but I could never see the wisdom of this. When they have made their first true pair of leaves nip out the point of the shoot, which will cause them to branch, and before the tender stalks have a chance to bend over place supports around the edge of the pot, such as a half worn out birch broom, or three sticks 18 inches long, and tie cord around to keep them erect. The plants must be syringed once or twice daily, gently until the foliage strengthens, up to the time the flowers open, when discontinue until set, when again ply it well underneath the foliage, or red-spider will soon cripple them. As regards varieties, sow Veitch's Early Favourite, or Ne Plus Ultra and Canadian Wonder in a month's time.]

Celery failing.—I am sending you a root of Celery in the hope that in your valuable paper you will kindly give me some idea of the reason of its failure. The soil in which it was grown is light, the trenches were well manured before the planting in August, and it has been well earthed-up.—ATLAN.

[We can only conclude from the appearance of the head of Celery that you send that the seed was sown too early, that the plants remained too long in the seed bed, becoming drawn and weak. You also planted out far too late. The Celery ought to have been put out at the end of May. The plant showed the centre had run to flower, caused by its having received a check, also that in earthing up soil had been allowed to get into the heart, thus checking growth and setting up decay. Did you earth up when the soil was wet? It would have been well had you sprinkled some lime over the soil and amongst the plants ere you earthed up the Celery. The lime would have helped to considerably dry the soil.]

Cleaning weedy ground.—kindly give me your advice about some land (half an acre), which I took possession of last winter, and being weedy, Docka and Thistles reigning supreme, I had it trenched so as to get the roots out. This year I planted it with vegetables and some flowers, hoping to clean the land with the hoe during this summer, but owing to the rain and shortness of hands, the weeds again conquered, but most that are left now are shallow-rooted weeds like Groundsel, Chickweed, as I especially waged war against the deep rooters like Docka. I want to sow all the land with Grass, but I fear it is too full of seeds dropped again this year for me to venture to sow this spring as I had intended. I have been wondering if the best way of cleaning really would be to sow with Vetches as a smothering crop, as I was advised by a friend in the first instance, but whose advice I did not take. What do you think? I shall be short of labour, I know, and need to save work as much as I can. (Other advice has been to grow Potatoes and Turnips, but I would rather not have either of those crops. If you approve of the Vetches, would you tell me, (1) when I ought to sow, and (2) how much seed I should need, and (3) also how to sow—in drills or broadcast like Grass and raked in?—CROYDON.

[It is unfortunate that whilst doing so much to free your ground from deep rooting or perennial weeds, you should have allowed annual weeds to grow so abundantly. Still, the season was unfavourable to seed production, and it may be that not much of what was cast will grow. It would have been best to have sown Tares in October; now you had better wait till the weather is open in February. Even for that sowing we should not advise you to dig, fork, or plough the ground, or to stir it more than 2 inches deep. If you work it deeper you will bury the weed-seeds, and instead of being smothered by the Tares they will, when the ground is re-dug later, be brought up and will grow abundantly. A crop of Tares sown in February could hardly be got off before the end of May, and it is then rather late to break up and well pulverise the ground to sow Grass seed before hot, dry weather sets in. Probably your best course will be to give a dressing of manure shortly, to have the surface soil and manure buried down 10 inches, and you may find a clean surface soil in April to sow with Grass seeds. Vetch seed may be sown broadcast, evenly, half a pound per rod.]

Seakale.—Where the crowns are yearly lifted for forcing, no time should be lost in getting them up, reserving all thong-like roots of medium size for next season's planting,



Middle walk in kitchen garden. From a photograph sent by Mrs. A. K. Wykeham-Martin, Purdon, near Swindon.

arose from the desirability of having blossoms for cutting in some spot where their removal from the beds would remain unnoticed, has extended until many of these gardens are beautiful with blossoming things through all the seasons of the year. Long beds of Tulips, breadths of self Carnations, crimson, white, and pink, satin Lavateras, and shot-silk Salpiglossis, white Foxgloves, scarlet Gladioli, chaste Madonna Lilies, arching shoots of Solomon's Seal, Christmas Roses, and all manner of lovely flowers associate with vegetables, many of which, were they not vegetables, would be accounted of equal value in decoration as the denizens of hed and border, such as the feathery Asparagus, the twining, scarlet-blossomed French Bean, and the Globe Artichoke, with its cool grey curving leaves nobly fashioned as Acanthus, and its towering violet-blue flower-crown. By degrees, as the custom of having flowers in the kitchen garden grew, an endeavour was made to render the central walk, at all events, more presentable by grow-

NOTES AND REPLIES.

Forcing Dwarf Beans.—I intend growing Dwarf Beans in Cucumber-houses for early spring crop. Ought the Beans to be sown at once? Is Canadian Wonder the best sort to grow? My plan is to grow Beans in pots down centre of the houses as a catch crop, while Cucumbers are coming on.—T. WILKINS.

[You may sow these now at any time. We may now expect more sun, and the days will gradually get longer after the middle of the month, November, December, and January being the worst time for a supply of these to be kept up. Where the requisite heat, 60 degs. to 70 degs., can be maintained during the night, with a rise of 5 degs. to 10 degs. in the day, according to the weather, no difficulty should be experienced in getting these to fruit. Six to eight weeks will elapse before they are fit for use, and such an early crop is best grown in pots 8 inches in diameter. Light, rich soil is necessary, and the pots should be well drained, as Dwarf Beans require a plentiful supply of water after the plants are well established in the pots, and manured

making these into cuttings on wet days. Cut the larger end square across, the bottom end slanting, tie in bundles of fifty, and lay in sand or earth, out-of-doors, with 2 inches or 3 inches of soil over the top. The crowns should also be laid in the soil in a sheltered corner where they can be easily got at in case of sharp weather, a little straw litter being shaken over them in case of hard frost. A fresh supply should be introduced into a temperature of 55 degs. to 60 degs., keeping the crowns dark, so that blanching may take place. Lily White is taking the place of the older variety, being much whiter both before and after cooking.—EAST DEVON.

TREES AND SHRUBS.

SHRUBS FOR EXPOSED POSITION.

Would you oblige me by giving: 1, the names of shrubs and small trees which would grow well in a border exposed to rather strong wind? 2, The names of plants suitable for a hedge to run along a wooden fence, to grow quickly?—CLERY.

[The following will suit your requirements: *Evergreen*.—*Berberis Darwini*, 5 feet to 6 feet high, orange flowers, May; *Berberis Aquifolium*, 4 feet to 5 feet, golden yellow, February, March, and April; *Buxus sempervirens* (common Box); *Cerasus Laurocerasus rotundifolia*, one of the best and hardiest of the common Laurels; *Cotoneaster microphylla* and *C. rotundifolia*, dwarf shrubs with red berries in winter; *Ligustrum ovalifolium variegatum*, the best form of Golden-leaved Privet; *Ilex* (Holly), many varieties; *Cupressus Lawsoniana*, of which several of the dwarf forms reach a height of 3 feet to 6 feet; *Juniperus Sabina*, a pretty, spreading bush; *Osmanthus* in variety, all Holly-like shrubs, some with green and others with variegated leaves; *Taxus baccata* (common Yew), of which there are several distinct forms.

Deciduous.—*Amelanchier canadensis* (Snowy Mesplis), 10 feet to 15 feet, clouds of white flowers in May; *Berberis sinensis*, 4 feet, and *B. vulgaris*, 5 feet to 6 feet, remarkable for their autumnal display of bright red berries; *Cerasus Avium multiplex* (Double Wood Cherry), *Cerasus Padus* (Bird Cherry), and *Cerasus serrulata* (Chinese Cherry); *Colutea arborescens*, 6 feet, the yellow flowers in June, and large bladder-like pods later on, are very noticeable; *Cornus Mas*, 6 feet, little tufts of yellow flowers in February; *Cornus Spethii*, 4 feet, golden variegated leaves, *Cornus stolonifera*, 4 feet, bright red bark; *Cotoneaster horizontalis*, 2 feet, a spreading shrub, whose scarlet berries form a bright autumn feature; *Crataegus Crus-galli* (Cockspur Thorn), *Crataegus Oxyacantha* (common Hawthorn), and its several charming varieties, *Crataegus tanacetifolia* (Tansy-leaved Thorn), the latest flowering of all the Thorns; *Cytisus scoparius* (common Broom), and its varieties, 5 feet to 6 feet high, flowers in May; *Euonymus europæus* (Spindle Tree), 10 feet to 15 feet, whose drooping clusters of soft red fruits are very pretty; *Forsythia suspensa*, cut back every year this forms a bush 6 feet to 10 feet high, with golden flowers in March and April; *Genista hispanica*, *G. tinctoria* *flore-pleno*, and *G. virgata*, all members of the Broom family, from 3 feet to 5 feet high, flowering in June; *Laburnum*, one of the most delightful low-growing trees that we have; *Magnolia obovata*, 6 feet to 8 feet, purple flowers in May and June; *Philadelphus coronarius*, *P. coronarius flore-pleno*, and *P. grandiflorus*, all members of the Mock Orange family, from 6 feet to 10 feet high, with white blossoms; *Potentilla fruticosa*, yellow flowers in July; *Prunus Myrobalana* (Cherry Plum), *Prunus Pissardi* (purple-leaved Plum), and *Prunus spinosa flore-pleno* (Double-flowered Sloe) are all good; *Ptelea trifoliata*, 6 feet to 8 feet, laden with flattened seed-pods in the autumn; *Pyrus Malus floribunda*, 6 feet to 10 feet, rose-coloured blossoms in May; *Rhus Cotinus* (Venetian Samach), 5 feet to 8 feet, flowers like bunches of purplish hairs in July; *Ribes*, Flowering Currants, of different tints; *Roses* of sorts; *Spartium juncocum* (Spanish Broom), 5 feet to 8 feet, golden Pea-shaped flowers in July and August; *Spiræa arifolia*, *S. arguta*, *S. callosa*, *S. opulifolia*, and *S. prunifolia flore-pleno*, are all tree-flowering shrubs from 4 feet to 15 feet

high; *Symphoricarpos racemosus* (Snowberry), 5 feet to 6 feet, remarkable for its large white berries in autumn; *Syringa vulgaris* (Lilac), of which there are several varieties, both single and double; *Tamarix gallica* (Tamarisk), so well known as a seaside shrub, but which also grows well inland; *Viburnum Opulus* (Guelder Rose), 8 feet to 15 feet, whose snowball-like clusters of blossoms are borne in May or June; and *Weigela*s of different sorts, which are, taken altogether, a delightful class of flowering shrubs, whose blossoms vary from white to deep crimson. There are several subjects available for hedges, but some of the best are of rather slow growth. The most likely to suit you are *Thuja gigantea* or *Cupressus Lawsoniana* (both members of the Cypress family), which are quick growers, while they also retain their colour well. Both also submit readily to cutting.]

GARDEN WORK.

Conservatory.—In furnishing new conservatories one of the most important features is the wall plants and climbers. I once had charge of a conservatory where the back wall was covered with *Camellias*. The house was broad and lofty, with a span-roof. The front was nearly all glass and the back wall was 10 feet high; and against this wall the *Camellia* grew and flowered very freely, and always had a dressy appearance. An adjoining division was covered in a similar way with the Citron family, including Oranges, Limes, Shaddocks, etc. In planting *Camellias*, or any other plants, with hard wood stems, it is necessary to be careful not to bury the stems. I remember an instance that came under my notice where a new conservatory had been planted with *Camellias*, *Acacias*, and other hard-wooded plants, and it was necessary to take them all up and replant because the soil settled, and in pulling up the beds the hard-wooded stems were buried too deeply and soon began to show its effect. For covering pillars Tea Roses of the free-growing kind (Hybrid Tea) are useful for cutting. *Luculia gratissima* makes a good wall plant, and for light positions *Acacias*, *Jasmines*, *Habrothamnus elegans*, and *H. fascicularis*. *Swainsonia galegifolia alba* against a pillar is effective. One of the prettiest little twining plants for a light position against a wall or on a pillar is *Sollya heterophylla*. It has sky-blue flowers and twines very speedily round anything near. It makes a pretty specimen in a pot on a wire trainer. Years ago plant growers would occasionally include it in their collections of stove and greenhouse plants at the shows. One of the most beautiful climbers for a cool conservatory is the *Lapageria*, especially the white variety, as the flowers are so valuable for working up in a cut estate. The border and beds in the conservatory where the planting out system is adopted should be well drained and composed of the best loam obtainable, mixed with good peat and leaf-mould, and sand enough to keep it open, but care should be taken in using leaf-mould that all the bits of stick are sifted out. These fragments of wood, or even Beech Nut husks, are apt to breed fungus, which, if the border gets dry at any time, will attack the roots of the plants and prove very injurious. Fifty degs. at night is a suitable temperature now for the conservatory where plants in bloom are kept. When we have to depend largely upon forced flowers, we shall not object to a degree or two more if it can be obtained without unduly heating the pipes. Do not watering in the morning now.

Stove.—Materials for repotting various plants should be prepared in readiness for work next month. Rough fibrous peat will be required for the fine-foliaged plants, such as *Martianthes*, *Alocasias*, *Anturiums*, etc. Charcoal, loam, and clean, sharp sand will be required, also drainage materials in several sizes, for draining-pots. This forms the foundation of all good plant culture, and is especially necessary for choice things in the stove. *Anturiums*, for instance, want a porous root-run—in fact, all plants must have free drainage if they are to thrive. *Gesneras*, if well done, will be useful now, especially the *zebrina* and *cinnabarina* sections. The last-named look well in artificial light, and nice plants may be grown in 6 inch

pots. *Pandanus Veitchii* is useful, either in small pots or as specimens. The only objection to them as table plants is that the hooked spines on the edges of the leaves are apt to catch hold of anything near them.

Early Strawberries.—No time should be lost now in starting Strawberries if ripe fruit is wanted in March. They come very strongly partially plunged in a bed of fermenting leaves in a low pit. When the flowers begin to expand they can be moved to shelves near the glass, in a temperature of 55 degs., to set the fruit, a camel's-hair brush or a rabbit's-tail being used to distribute the pollen when enough fruits have been set for a crop. All remaining blossoms may be removed, and liquid-manure may be given if large fruits are required. A dozen large fruits on each plant are considered a good crop. The watering should be carefully done till the blossoms show, as, if too much is given, the leaves move at the expense of the flower-spikes. If green-fly appears on the plants they should be vaporised, and if the syringe is used on fine days red-spider will be kept down. In many places Strawberries are regarded as a catch crop, and are grown on shelves or stages under Vines and Peaches, and very good results are generally obtained in this way when the plants are well cared for. It takes a long time to produce a crop of Strawberries. The plants are usually started early in June for the first crop, and are kept moving on through the summer, rested in the autumn, and then started in a temperature between 45 degs. and 60 degs. under glass to produce fruit.

Orchard-house.—Now that the Chrysanthemums are over, the Peach and other trees in pots should be returned to the house, the loise having been previously thoroughly cleaned, and wall surfaces whitewashed. After the trees are housed the necessary pruning should be given, and the trees washed with an insecticide. Gishurst compound is a safe thing to use. In pruning, enough young wood should be left to bear a crop of fruit as near the main stem as possible, so that the trees may always keep in compact shape. This constitutes the chief art of the pruner. Anybody can use a knife, but to manage Peach and other fruit-trees in pots something else is wanted, which is best summed up in the word—judgment. A good knifeman will entirely alter the character of a tree very often without cutting much off. When a tree has been summer-pruned there is, perhaps, not much to do in winter, and yet the knife must go through the trees.

Early Grapes.—If the first crop is taken from pot-Vines, and the Vines are strong and reliable, there is not the same necessity for starting the permanent Vines very early. Still, a house of Hamburg and Sweet-water should be got ready now, and closed ready for starting. I need hardly say how important it is to start clean, and with the inside border in a thoroughly moist condition. If the roots are outside I believe in helping them with a bed of warm leaves and manure on the surface.

Window gardening.—We have had a rather sharp frost. Our thermometer registered 20 degs. of frost on December 6th, but that was the only frost that would be likely to damage anything in a dwelling-house except plants in flower and Ferns, which must have water enough for healthy growth. Other things will be better on the side of dryness for another month or so. Cactuses and Aloes may be kept quite dry for a time. This is their resting-time and excitement will be bad for them. Very few plants now will require water oftener than once a week.

Outdoor garden.—In planting shrubs nearly everybody plants too thickly. If the matter is left in the hands of a nurseryman to show some immediate effect, too many things are generally planted, and in the near future, if thinning is neglected, which it frequently is, many of the best specimens are seriously injured by overcrowding. Again, mistakes are often made in planting trees and shrubs which require a good deal of space for full development too near the house and too close to a walk or carriage road, necessitating removal or severe cutting back at

a late period. We have given up the idea of planting common shrubs as nurses among the better things. If in bleak situations shelter is desirable, plant a few Austrian Pines round the margin on the windward side. By the seaside the Canadian Poplar may be mixed with the Austrian Pines, the Poplars to be cut out when the Pines get up with a belt of this kind as a wind break. There is no necessity to plant common things as nurses among the better things, the spaces between to be filled with hardy plants and bulbs. Clumps of Daffodils, Bluebells, and Snowdrops have a charming effect among the choice shrubs and trees so long as their presence is desired, and when overgrown they could be moved elsewhere; then there is no necessity for hard defined margins to a shrubbery, unless the shrubs are to be used as a background. In many cases the effect would be better if the turf mat the growth of the shrubs, and was studded with bulbs and a few clumps of suitable hardy plants.

Fruit garden—Now that the greater part of the pruning is done, the trees, especially Plums and Cherries, which may have been attacked by insects early in the season, should be washed with an insecticide. Most gardeners have their favourite dressings for trees in winter. Petroleum in some form is a good deal used. Gishurst compound, though an old remedy, is still useful, especially for dressing trees infested with scale or American blight. Sunlight soap mixed with paraffin oil is a good cleansing agent, and, of course, fresh lime either as a wash or dusted over the trees when the branches are damp has some value in several ways, especially in its effect upon the roots when it ultimately descends into the soil. Lime is a necessity for fruit culture, especially for stone fruits. I have several times referred to the way in which the roots of fruit trees are driven down into the subsoil by planting vegetables, such as Potatoes and green crops, very near to them. This is a great evil even to trees grafted on free stocks, but it is ruinous to those trees on dwarfing stocks. Certainly nothing should be planted nearer to wall trees than 4 feet, and espaliers and bush Pears, Apples, and Plums should have a clear circle of at least 3 feet from the main stem. Some of the best Plums for planting are Victoria, Rivers' Early Prolific, Monarch, Transparent, and Oulin's Golden Gagees; Kirkes' and Gishorn for cooking and jam making.

Vegetable garden.—A stock of roots of various kinds, and roots which are likely to be wanted, should be taken up and laid in the soil in some place easily accessible during winter. Horseradish, Turnips, Salsify, and Parsnips are among the things which are generally left in the ground till frost is expected, and then have to be lifted hastily. If taken up in good time the roots of such things as Horseradish and Salsify may be laid in on a north border and a little long litter thrown over to keep the roots from drying too much. It is usual to leave Jerusalem Artichokes in the ground and cover with litter. During periods of open weather Sea-kale and Asparagus roots may be taken up and laid in ready for use as required. In the event of a long frost coming, and all things are possible, it will not be a satisfactory excuse to say the frost is so hard the roots cannot be lifted for forcing. The 20 dogs, on the night of Saturday, the 6th ult., have done some injury to Cauliflowers where exposed; but otherwise the greens have not sustained much damage. This is so far fortunate, as greens are very aspy, and would perish under a long frost even if not very severe. Fork over the Gooseberry and other fruit quarters as soon as the pruning is finished. I think it is a mistake to leave the bushes unpruned for the birds to work upon during winter, as lime, soot, and soft-soap are cheap. E. HURDAY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

January 5th.—With the advent of the New Year the seed catalogues are coming in and a selection has to be made. We usually get a few novelties, but our main reliance is upon the well-tried kinds, especially as regards Peas.

Chelsea Gem has been sown outside on the south border, and this and one other kind have been sown in pots to come on quickly and produce a dish or two early under glass. Peas do not force in the same way as the Kidney Bean, but they will do well in a cool, light house.

January 6th.—A range of hotbeds has been made up and covered with shallow pans for Potatoes, Horn Carrots, Radishes, and Lettuces. A few of Vnite's forcing Cauliflowers have been shifted on into 4½-inch pots, and will get a further shift into 6-inch pots when the roots have occupied all the soil. We find these come in useful in May without much forcing. We want many French Beans in March, April, and May, and every vacant spot on shelf or stage is filled with pots of Beans through the spring; then the weather becomes hot and the pots come into use.

January 7th.—In fine days the hoo is used among Onions, Spinach, Lettuces, &c. Earth has been drawn up to the Cabbages, and on the warm border, where a few rows are planted to come in early. A string of matting will be passed loosely round the largest plants shortly. A batch of Tom Thumb Savoy planted thickly in the way of Coleworts has been much appreciated. Sowed several boxes of Ailsa Craig Onions for transplanting about April. We have usually had good crops of very fine Onions from the early sowing.

January 8th.—Planted a lot of stout cuttings of Mulberry tree. We have mulched the surface with fitty manure, and they will be watered and kept moist in spring. Some of the cuttings are stout branches, and if they can be induced to root, which I think they can, they will form fruiting trees early. Camellias and Azaleas are now in flower in the conservatory, and are very bright and effective. We have still some Chrysanthemums in bloom, but the season is nearly over with them. For yellow flowers now there are Goultas and early-blooming Acacias, with early-flowering Narcissi. Sweeping, rolling, and other routine work receive regular attention.

January 9th.—Liquid manure in a weak, clear state is given to Mushroom beds in bearing. Salt is used in the water occasionally as a stimulant. Beds are covered with coarse hay, to keep the moisture and heat in the beds. Outside beds are still bearing freely. These are covered with straw and a waterproof sheet or straw mats. There is not much potting to do now, but loam has been carted in and the stock of peat and sand has been replenished. In the matter of potting soils, we find it economical to get the best stuff available.

January 10th.—Advantage has been taken of frosty weather to wheel the manure on the land which requires help, but a reserve supply is always held back for the land now under crop and for mulching purposes. Artificials are used to a limited extent to push on special crops. Mixture are often more useful than one manure used alone, but we do not intend to spend too much upon artificials. As a rule the very high priced manures do not pay to use largely, and for open-air gardening stable or yard manure will supply your needs.

Sweetening Rhubarb-wine.—During July last I made some Rhubarb-wine (6 gallons) from a recipe as here stated: "To 7 lb. of ripe fruit add 1 gallon of water, let it stand ten days. Strain off crushed fruit, and to each gallon of liquid add 2½ lb. of lump sugar. After fermentation rack it, and further add 1 lb. of sugar per gallon." All this I have done, I now propose adding about 3 ounces of salmagundi for fining purposes, so I drop off a small quantity, and on tasting I find it is much too tart. Can I again add some sugar, or what do you advise?—H. BACK.

[Your best course will be to boil 6 lb. of loaf sugar in a gallon of water; if that prove sufficient to dissolve it, then, when half cool, add the syrup to the 6 gallons of wine made. It would be sufficient to well sweeten it. Generally, in recipes the quantity of sugar advised to be used is too little, and the result is excessive tartness. The addition of the syrup should not induce secondary fermentation.]

Request to readers of "Gardening."—Readers, both amateur and in the trade, will kindly remember that we are always very glad to see interesting specimens of plants or flowers. Illustrate, if they will kindly send them to our office in as good a state as possible.

LAW AND CUSTOM.

A neighbour's hedge.—(On Sept. 20th I took a piece of 2 acres of land. The hedge on the west side of the piece belongs to the owner of the adjoining land, and has been allowed to run wild. In some places it is 10 feet wide from my side to the centre, and the customary width here is 3 feet for a ditch. I have requested the owner of the fence to cut it back, but he refuses, and he tells me I must not touch it. Can I cut it perpendicularly? If so, who must bear the expense?—A. F.

[You may cut off such part of the hedge as overhangs your land, but you must take care to cut perpendicularly from the boundary. Where the boundary is I cannot say—that must be decided locally, probably 4½ feet from the centre of the hedge, if the land is light and dry. Perhaps the line of the ditch may be still perceptible; if so, your side of the ditch is the boundary. If you cut the hedge you must bear the expense, and the severed portions must be placed at your neighbour's side of the boundary.—K. C. T.]

The right of a hedger to take the dead wood he cuts.—I engaged a man to split a hedge, and he took away some of the wood. He tells my gardener that all dead wood cut out of a fence belongs by right to the man who cuts it. Is this so, or is the man throwing dust in the eyes of my gardener? If there be such a custom, has the man the right to take the wood without my consent, the matter not having been mentioned when the contract was made?—CONSTANT READER, S.

[The property in the dead wood is in you, both before it is cut and afterwards—the hedger has no legal title to it. There is no custom bearing on the matter—that is, no general custom—but almost everywhere a hedger is allowed to take for his own use such of the dead wood he has cut out as he can carry away. But he would not be allowed to cart such away, or to sell it; and the very limited custom thus defined is not binding upon the fence-owner—he may stop the hedger taking any wood, if he chooses to do so. K. C. T.]

BIRDS.

Food for Bullfinch (H.).—Where the larger black Rape seed is given to Bullfinches it is scalded to remove its natural acidity. After scalding it should be rubbed in a dry cloth before being supplied to the bird. You need not trouble about scalding the smaller kind of Rape, which is of a purplish hue, and more generally used in bird-keeping, and known as summer Rape. This, with a little Canary seed added, together with a few grains of Hemp seed, will prove a good diet for your bird, while a stalk of ripe Plantain seed, a few Privet berries, or a piece of Apple from time to time, will tend to keep it in good health.—S. S. G.

The Wheatear (Saxicola oenanthe).—This handsome bird in confinement will continue in song the greater part of the year. It is one of our earliest visitors, generally making its appearance towards the end of March, frequenting moors, downs, commons, and fallow lands, building its nest on the ground, often under stones in old quarries. The nest is composed of Moss and dry vegetable fibre, and lined with hair or wool; the eggs are usually five in number, of a pale blue. The plumage of the Wheatear is very beautiful. In the adult male the top of the head and back are of a fine grey; a white line passes from the back above the eye, succeeded by a black band, which surrounds the eye and occupies the ear-coverts. The lower part of the back and two-thirds of the tail are white, while the tip of the tail and the two middle feathers are black; chest, delicate fawn colour, fading into white; wings, black. The plumage of the female is of a duller tint. The habits of this bird much resemble those of the Stonechat, taking low, but smooth and very rapid flights from one resting place to another, and running with great alertness over the short Grass of the downs and commons which it frequents. On the approach of winter thousands of these birds collect on the downs of Sussex, previous to their departure to warmer climes; at this season (as well as on their arrival in the spring) large numbers are captured for the sake of their flesh, which is considered very delicate. The food of the Wheatear consists of insects, especially of the beetle tribe, larvae, etc., which in their captive state should be supplied to these birds, although the general diet may consist of raw lean meat, finely minced, with a little Rice, Peas, and plain Biscuit.—S. S. G.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in GARDENING free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF GARDENING, 17, Furnival-street, Holborn, London, E.C. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in the determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and those only when the above directions are observed.

PLANTS AND FLOWERS.

Plant leaves going brown at the tips (J. S.).—Too cold water, also overhead watering at this season, would have the effect of turning leaves as those sent. You do not mention what heat you keep up, but if you have no artificial heat, you have either watered too freely or given too much ventilation.

Cypripedium spectabile (A.).—This can be grown in a pot, but a sunny window would be the worst possible position for it. This terrestrial Orchid requires a moist, shady situation, and the air atmosphere of a sunny window would be fatal to its successful culture. Specimens that are flowered in pots are grown in cold-frames and in the open where moisture and shade can be readily supplied.

Cissus discolor (W.).—If you cut the plant back in spring it will break away freely. The trimmings might be made into cuttings, and if inserted in sandy soil and placed in a close case they emit roots in about a fortnight. The plant grows well in ordinary soil so long as it is watered and the pots well-drained. During winter the plant should be kept on the dry side.

Streptocarpus (J.).—These do very well in an ordinary greenhouse temperature during winter, and enjoy a moist bottom without too wet a compost and overhead watering. Keep these thus until the end of February, or early in March if very cold and dull; then repot into a compost of peat, turfy loam, and leaf-soil, in equal proportions, with a dash of sharp sand added. Do not verpoot, and take great care not to injure the foliage. From this stage they do well to a temperature of 55 degs. to 60 degs., but will thrive in one of 5 degs to 10 degs. less.

Treatment of Lilies and other bulbs (C.).—Pot the Lilies at once in well-drained pots in a compost of sandy loam, rotten manure, and a little peat, if convenient. Bury the bulbs about 2 inches below the soil, and place the pots in a cool greenhouse, or frame. Do not water until growth commences, unless the soil gets very dry. If the pots are not filled more than three-parts full of soil (when potting), you can fill up with good, rich material when the pots are full of roots.

Abutilon insignis (A. T.).—This, also known as Abutilon lignum, is one of the best of winter-flowering plants, and does well trained up the rafters of a warm and light greenhouse. Its bell-shaped flowers, which are of a rich red colour, veined with velvety maroon markings, hang down in a graceful manner. Its blooms and buds stand out free from the foliage, a quality in which other species of Abutilon are deficient. It will grow well in any good sandy soil, and a little weak manure-water or clear foot-water, applied when the plant is in full bloom, is of great assistance.

Ixias in pots (A. E.).—These may be well grown in pots. Plant them firmly at once—six bulbs in a 5-inch pot—to a compost of sandy loam and leaf-mould. Place the pots in a cold-frame or on a shelf in a cold part of the greenhouse. Keep the soil rather dry at first, but give water more freely when the plants are in full growth. In April most of the varieties will flower, and will be very useful, as they are quite different in appearance from most plants in bloom at that season. When they have done flowering gradually dry them off, and allow them to rest till autumn, when they should be repotted as before.

Marvel of Peru (Alrebillia Jalapa) (E.).—This plant makes a well-shaped bush, and no situation is too hot and dry for it to grow in. Sow the seed in March in heat or out-of-doors in May, and the plants will bloom the same summer. The old bulbs must be taken up when the stems die down at the approach of winter, and be stored in a cellar or other dry place safe from frost. Old plants that flowered early will frequently be found to have seedlings spring up around them in the autumn, and if these are carefully taken up and stored away in a little soil they will make good plants for next year. Although they stand drought so well, yet, like all other plants, the Marvel of Peru will succeed better if planted in rich soil, and kept fairly moist.

Watering Ferns (F. M.).—Twice a week, or possibly less frequently, will be often enough to water Maiden-hair Ferns. Apply the water over the soil till it runs through to the bottom of the pot. Do not wet the fronds now. Water of the same temperature as the room is best. They must be kept in a room where the frost will not enter. If the fronds are withering away much less water should be given. Probably the soil has become close and sour; if so, withhold water for several weeks, hot do not allow the soil to get quite dust-dry. When the plants have rested for a time new growth will shoot up; then cut the old fronds away and shake up and repot in fresh porous soil containing plenty of sand in clean, well-drained pots. The roots should be done in March.

Roses for greenhouse (W. N.).—W. Alceo Richardson Rose is a grand orange-coloured variety for the greenhouse; Marshal Niel in still unobscured for a deep yellow, and Reine Marie Henriette is a good deep crimson. We would prefer Clematis Indivisa lobata in the other corner. This is a pretty white, starlike blossom, a good climber, and very profuse bloomer.

Brompton Stocks (M.).—To have these fine biennial Stocks at their best, seed should be sown out-of-doors in the month of May. When the plants are strong they may be transplanted to where wanted to bloom, but unless your position is a warm one, it is wise to plant either under the shelter of shrubs, or of a house, wall, or fence. These Stocks, though reputedly hardy, yet oftentimes are killed by severe frosts, especially if the plants have grown very strong. We have, in years past, found it to be a good plan after pulling out the strongest plants from the seed-bed, to later pot up many of the rest into large sashes. Get them well rooted, then shift them into 6-inch or 7-inch pots, and in that way keep them in a cool greenhouse or frame for the winter, planting out early in April.

Acacia armata (F. W. Cooper).—There seems to us some doubt regarding your Acacia, for you say the plant is from the open ground, whereas Acacia armata is essentially an evergreen greenhouse shrub or small tree, native of Australia. It conforms well to culture in pots, and near little bushes in pots from 6 inches to 8 inches in diameter, are grown in quantity by those who make a speciality of flowering plants for Covent Garden Market. Their period of blooming is during the months of April and May, consequently, it is true to name, your plant must on no account be pruned now, as every shoot taken off will lessen the production of flowers—indeed, to its culture no pruning is needed, except to shorten back any shoots that show a tendency to grow out of shape, and this must be done directly the flowering season is past. The treatment needed for this Acacia in a good light position in the greenhouse, and water when necessary. Throughout the summer it may be stood or plunged out-of-doors. If potting is necessary this should be done as soon after flowering as possible, but at the same time it should be borne in mind that a plant will keep in health for two or three years without being repotted.

Flower border (T. Cunningham).—There is nothing materially wrong in your suggested plan, so far as it goes. Its weak point is the little bloom that would be forthcoming. There are many other things that would do quite well and give but little trouble in keeping them in order. For example, in addition to the Snowdrops and Bluebells, you could, of bulbous things, plant such as Muscari, Primula Heliosis in variety, F. imperialis, also Narcissus poeticus plenus, N. pinnatus, N. incomparabilis Cynosure, N. L. Stella, N. pinnatifidus, N. Hornfeldi, N. Sir Watkin, etc., with Tritelesis, Anemone hortensis, A. apionica, Chionodoxa L. nobile, Dog's-tooth Violets, and others. Of plants not bulbous rooted, Lenten Roses, Christmas Roses, Hepaticas would do well. These last are not suited, however, to your plan of sowing Grass-seed, and we think a more effective way would be to carpet the border with flowering plants, such as Tuffet Vanities in variety, Saxifraga Wallacei, S. granulata plena, and others. The Oxifraga is a pretty flowering shrub and dwarf growing, and for this reason we think a good Holly like Hodgkiss or Golden Queen would be better, in your opinion, than any other idea. If you are still in doubt, write again giving some more of the things you were thinking of planting in front. In any case, the Lilies would be better than the Oxifraga, even though you adopt your plan of sowing Grass, then by adding some of the bulbs mentioned, a pretty effect will be secured.

TREES AND SHRUBS.

Common Barberry (Berberis vulgaris) (E.).—This is a British deciduous shrub, growing to a height of 8 feet or 10 feet, and bearing clusters of bright scarlet rhombic berries. It forms a noble object on the margins of scrubberies, or planted in groups on sloping banks and other conspicuous positions. Young plants are best, as old ones are apt to become "leggy" and unsightly. This Barberry will grow in any moist garden soil.

Berried Aucubas for windows (S.).—Yes, small, compact plants of the various forms of Aucuba, when well furnished with berries, are much valued in London during winter for window decoration. The way in which they are chiefly obtained is by fertilising, when in flower, old-established plants with male pollen, and then layering in light, sandy soil, good-sized branches with bushy heads being selected for the purpose and pegged down. In a short time they strike root, when they are severed from the old plant, and in autumn are lifted, potted, and placed indoors to colour their berries. Standard plants are obtained by grafting on the common Aucuba.

Dentaria gracilis (F. W. Cooper).—The old flower shoots ought to be cut down as soon as their beauty is past, just how far depending on the young growths which should be breaking away from the base of the plant. You ought to keep your plants for a month in a cold-frame, watering as the plants require, after which introduce to the greenhouse, and as the bloom-buds appear to a warmer place. On no account give the plants a warmer place than the greenhouse till the flower-buds appear, as freshly-potted plants thus early forced have a tendency to go blind, hence the need for well-established plants and ripened growth.

Shrubs for town garden (Myrrhis).—We think the Acaea or Rhododendron would succeed for some considerable time, particularly if you liberally treated the soil with good leaf-mould. Peat is not absolutely essential. These plants are frequently grown where no peat exists. Indeed, we remember some of the gardeners that formerly abounded on the Clapham High-road had many plants in the ordinary border, and these were quite a success. We therefore give you names of six kinds, various colours:—Atrorubiginum, intense blood-red, and very hardy; album grandiflorum, bluish-white, fine stems; The Queen, fine white; Mrs. R. S. Holtord, crimson-red; roseum elegans, Hendersoni, dark purplish-rose. If you try Azaleas, your better plan will be to ask your nurseryman for strong plants of Azalea mollis, either seedlings or named kinds. These are not evergreen, however. Some other good shrubs are:—Osmanthus ilicifolius, Syran-

ges paniculata grandiflora, Forsythia suspensa, Eranthis, Berberis Darwinii, B. Thunbergii, Lilac, "Gauldie" Rose, "Philadelphia grandiflora," Weigela, etc. These with asterisks are deciduous. If you wish strictly to evergreens, you are confined to Hollies, Laurels, Aucubas, and the like. Some of the flowering deciduous shrubs are very beautiful, however, and should be freely planted.

FRUIT.

Pruning (G.).—Winter pruning of fruit-trees may be done at once, and at any time for the next two months. There is really no difference as to kinds. The leaves have fallen, the wood is ripe, and the trees, therefore, may be pruned at any time. Of course, the sooner done the quicker the soil about the trees may be worked over and as desired. Prune Currants and Gooseberries also now.

Growing a Fig-tree (J.).—We do not think you would succeed with a Fig-tree in such a structure. Can you not plant one in a warm south-west corner? You could then give all necessary winter protection by partially sheltering with a mat during severe frost. Too rich soil will produce coarse growth rather than fruit. Wait until spring, and then procure a plant in a pot, and turn this out into the open soil.

Apples spotted (l'andeevion).—The spotting on your fruit is the product of a fungus, and it would do the trees great good if you would make up a wash of soft soap, sulphur, and a little fine clay, and would either coat the trees all over with that by means of a brush, or else syringe it on to the trees thickly. If you could, and while that was damp, also smother the trees with fresh-slaked lime, you would do very much to free them from the fungus spores. Perhaps the roots have gone down into bad soil, and in that case you should open a deep, wide trench 4 feet to 5 feet from the stem of the tree, covering all downward roots and filling in with some good soil. Also remove a few inches of the top-soil over the roots, and give a dressing of well-decayed manure, covering over with some good turf loam.

VEGETABLES.

Cabbage club (S. E.).—The best admitted remedy for clubbing is, without doubt, gas-lime. That should be applied to vacant ground at once, at the rate of 2 bushels to 3 rods, if clubbing is very bad. If it be not, then put 1 bushel to 2 rods of ground. After lying on the ground from four to six weeks, dig the dressing in. Even a good dressing at the same rate of fresh lime is good also. Rather than plant any of the Cabbage tribe, plant Potatoes, Seakale, or Rhubarb, or sow Onions, Parsnips, or Beet; indeed, anything other than Cabbage. By doing so for a couple of years the club trouble may disappear. Peas or Beans also may be sown with advantage.

Seakale blanching (W.).—If you had stated how were the conditions under which you were growing seakale we could have given you a more practical reply. If yours is being grown in the form of permanent plants, then all you have to do is to cover over the crowns with fine soil or ashes, in mounds some 8 inches deep, and over those lay any long straw-matting or leaves you may have to spare. If that be done in February you should have well-blanching Seakale ready to cut during April. Where Seakale is grown annually from root-cuttings to lift in the winter, forced heads may be had blanching in warmth from Christmas onwards, and the latest left in the ground may be ridged over with soil, and the stems grown will be fit to cut if so treated in April and May.

SHORT REPLIES.

Staffordshire.—See reply to "Subscriber," in our issue of December 20th, page 553, re "late Chrysanthemum."—Braunston.—See reply to "R. J. Clements," "Plants for shady positions," in our issue of December 20th, page 555.—Garden Border.—See reply to "R. J. Clements," re "lardy flowering plants for shady positions," in our issue of December 20th, page 555.—Thomas Clarke.—Apply to Mr. John Egleton, secretary Frutlerer's Company, 40, Chancery-lane, London, E.C.—M. Pemberton.—The knob you refer to will remain until you cut them off.—Miss D. Biggs.—You would find an article dealing with "Mushrooms and their culture" in our issue of December 24th, 1901, page 537. This can be had of the publisher, price 1jd., post free.

NAMES OF PLANTS AND FRUITS.

Names of plants.—Edith H. Saunders, Brighton.—Eucalyptus ficifolia.—Springfield.—Persea macrocarpa.—A Young Beginner.—1, Abutilon Thomsoni; 2, Abutilon Thomsoni fl. pl.

Names of fruits.—Rae. P. Beaton, Camb.—1, Pear Broom Park; 2, Rambour Franc; 3, Duchesse d'Angoulême (rotten); 4, Lord Hillip; 5, Betty Green; 6, Lane's Prince Albert.

Catalogues received.—Jas. A. Harris, 22, Marlborough-street, Devonport.—List of Vegetable and Fruit Seeds.—Dobbe and Co., Rothsay.—Catalogue and Competitor's Guide.—Toogood and Sons, Southampton.—List of Seeds.—Cooper, Taber and Co., 90 and 92, Southwark-street, London, S.E.—Wholesale List of Seeds.—F. Roemer, Quedlinburg.—Wholesale List of Choice Fruit Seeds.

THE YOUNG FOLKS' FESTIVAL.

with its innocent gaiety and boisterous enjoyment has come round again. Whatever perplexities Mothers have about the entertainment of their guests they have long since made up their minds about one item in the menu—Jellies. Try and tancy a children's party without Jellies. And they must be Chivers, too, or the result will not be so pleasing and satisfactory. Chivers' Jellies are absolutely pure and delicious, and are flavoured with ripe French Jellies. Your Grocer sells them in pint and quart packages in various flavours. Don't forget to provide Chivers' Lemonade for the little folk. It is so safe and refreshing. Chivers and Sons, Limited, Histon, Cambridge. First English Fruit Growers' Jam Factory.

GARDENING ILLUSTRATED.

No. 1,244.—VOL. XXIV.

Founded by W. Robinson, Author of "The English Flower Garden."

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PLANTS AND FLOWERS.

OUTDOOR PLANTS.

HERBACEOUS LOBELIAS.

The majority of growers, both amateur and professional, appear to think that it is cold and damp that cause the winter losses of herbaceous Lobelias, and I notice that "A. W." writes on page 533: "Except in a few favoured districts these Lobelias will not survive our winters out-of-doors." Now the habitat of the Lobelia cardinalis is in swampy ground on the verges of North American woods, where it experiences degrees of cold and moisture greater than it is ever likely to meet with under the cultural conditions it usually enjoys in the British Isles. My experience of the plant is that it succeeds better in heavy, damp soil near water than in light, porous compost. When I had where the latter conditions prevailed and where the coldest winter frost rarely exceeded 10 degs., I invariably lost almost all the plants of herbaceous Lobelias which were left undisturbed in the open bed. Later I moved to another locality where the Lobelias were planted in heavy loam, inclining to clay, close to water. Here they withstood 23 degs. of frost unharmed, although totally unprotected, and not a single plant was lost in the severe weather which marked the opening months of 1895, when for many weeks the ground was frozen hard. In the coldest part of Suffolk, which, as anyone who knows that county will admit, is very cold indeed, these Lobelias came through the bitter winter of 1891-93, already included, to absolutely unharmed without the least protection, so that some other reasons than cold and damp must be sought to account for their failing to survive the winter in this country. My own experience points to light soil, either of a shaly or sandy nature, being the cause of their failure, and where such soil is present I should advise the importation of a barrow-load or two of clayey loam, and the planting of the Lobelias in that.

S. W. F.

PLANTS FOR BEDDING.

(REPLY TO "D.")

The only way to improve the central bed would be to discard the Pelargonium Henry Jacoby as a centre item, and in its stead employ tuberous Begonias of a crimson or scarlet shade. I suggest this as you have two Pelargoniums together. If you adopt this view, we think it will materially improve matters. In such case you would require to keep the Silver-leaved Pelargonium (Geranium) as small-growing and compact as possible. Tuberous Begonias may be had in many shades of colour, and for bedding the best way is to start them in pots and plant out in the first week of June. They are wintered quite easily in sand, and should be placed in some frost-proof building. It is unfortunate you have not given the size of any of the beds, but the Begonias may be put out about 8 inches apart—i.e., from stem to stem.

For the side beds the Echeveria would do as margin quite well, and the Pyrethrum could follow, although the latter is rather commonplace. You may keep it small by pinching. The red-leaved plant you wish for is *Alternanthera paronychioides* var. *rubra*. It is a tender plant, and you may not safely bed it out before June. You may get the plants as early as possible, and grow them on freely till that time. The "stiff kind of Moss with yellow flowers" is probably the yellow flowered Stonecrop (*Sedum acre*). Your arrangement for back border will do quite well, and if you could add a few Fuchsias and Tuberous Begonias here and there you would much improve the flowering, besides adding variety. The Begonias continue flowering to the end of October, or, indeed, until frost appears. We think you are leaving the sowing of the *Cerastium* rather late, and the end of January would be better. This, however, depends upon the convenience you have for raising such things quickly. A few clumps secured now would, in experienced hands, produce a large number of plants before the bedding-out season came round. As you are interested in carpet bedding, we would advise you to get a few plants of some of the following, and increase them for another year for the work you have in view: *Antennaria candida*, white-leaved, about 1 inch high; *Saxifraga hypnoides olegans*, dark green, dense, Moss-like, 3 inches high; *Herniaria glabra*, dark green, 1 inch high; *Sedum glaucum*, glaucous blue colour, more effective than in Echeveria, the plant of a dense Moss-like carpet growth. These are not only all perfectly hardy, but easy to increase: in fact, every fragment will grow, and you would see at once what position each was suited for. The plants named are very cheap, and are frequently advertised in our columns by hardy plant growers. The Golden Thyme is also at times employed for this work, and, like the others named, is used for its foliage only.

INCREASING TREE-PEONIES.

I will be much obliged if you can tell me the best way to propagate Tree-Peonies? I have two fine bushes on my lawn. Can I raise others from cuttings?—H. M. T.

[Tree-Peonies may be increased either by cuttings, seeds, division, layering, or grafting, this last being the method usually employed, for plants raised in this way make more satisfactory progress during the earlier stages than those increased by the other methods. In grafting, the stock employed is usually a stout, fleshy root of one of the herbaceous kinds, and the scion a young growing shoot of the current season. The best time of the year for grafting Tree-Peonies is during the month of August, when all that is required is to take a tuber having on it as many fibrous roots as possible, and having fashioned the scion in the form of a wedge, the upper part of the fleshy root must be split for a certain distance, and the wedge-shaped base of the scion inserted therein. It must then be tied securely in position, and the point of union covered with grafting wax or clay in order to render all air-tight. Of course, in inserting the graft in position care should be taken that the

bark of both stock and scion fits perfectly, and should there be any great difference between the two in size, the wedge-shaped portion of the scion may be so fashioned that an exact union is effected only on one side. After grafting, the plants must be potted sufficiently deep in the soil to completely cover the point of union, and then they must be placed in a frame which is kept close and shaded till a union is complete; but during that interval especial care must be taken not to overwater them. The most suitable scions are the good, clean shoots without flowers, but, of course, when required to increase any particular variety to the fullest possible extent, the shoots that have flowered may also be employed. *P. albiflora* and any of its numerous varieties supply the best of stocks for grafting. After a union is complete plenty of air must be given, but the better way is to winter the plants in a frame, as they are then protected, not only from sharp frosts, but also from heavy rains, which in their earlier stages must be especially guarded against. Another way of increasing Tree-Peonies that may be sometimes effectually carried out is to split up the plant after the manner of a herbaceous subject; but, of course, this can only be done when the plant has been buried rather deeply in the soil, and its several divisions have each roots of their own. Layering may also be successfully carried out for the increase of these Peonies, and this is best done in the autumn, when the portion of the branch that is to be buried must be partially cut through, and a tongue formed. The branch or branches thus layered will require to be held securely in position by stout pegs, and attention should be paid during the following summer to keep the soil sufficiently moist to hasten the formation of roots. When seeds are obtainable, which is seldom the case, they should be sown in pans of sandy loam and placed in a frame, where, however, they will generally lie a good while before they germinate, and even after this they make but slow progress during their earliest stages. See also article on the Tree-Peony, in our issue of Nov. 8, p. 473.]

CHRISTMAS WREATHS AND CROSSES.

How common now is the practice of placing on the graves of deceased relatives at Christmas wreaths or crosses composed chiefly of Ivy-leaves, with small sprays of well-berried Holly fixed into these, but standing erect, most of the point-leaves being removed. Many thousands of these mementos are now made and sold, and as they remain fairly fresh and green for a month, and are cheap, are very popular. The favourite leaves are those of the common wild or wood Ivy, as at this time of the year they assume flaked and distinctly pleasing hues. They are usually gathered and tied into bunches of twelve and so disposed of to the florists. The Holly is much the best when cut in sprigs of from 9 inches to 12 inches long, then packed into crates or into light flat wicker baskets, as then every portion can be utilised, there is no waste, nor are there large, woody branches to encumber florists and be a nuisance to the customer. The Holly, when so packed,

is removed, and the trees or bushes from which cut are not mutilated but simply pruned, and soon berry again. It would be a great gain to purchasers were all Holly sent to market in that way. When laid in neatly all round the crates, baskets, or light boxes, it is surprising how much can thus be put into a small compass. Dried flowers of one of the Staticeae have been much used this year and greatly liked when some well-berried Holly or coloured Everlastings from the Cape are introduced with the silvery Statice to give colour. Somewhat novel are chaplets, really heart-shaped wreaths, made of maroon-dyed leaves, resembling in size leaves of good sturdy Laurels. These are necessarily expensive, but find admirers. Of course, the greatest demand is for Holly and Ivy wreaths. The only forms other than round wreaths are crowns and chaplets, these being the favourite designs. For funeral wreaths, etc., nothing is now more in demand than white Chrysanthemums, still plentiful and so beautiful. A. D.

THE WHITE BUSH POPPY (ROMNEYA COULTERI)

This fine Californian Poppywort has other good qualities besides that of supreme and stately beauty as an outdoor plant. Flowering as it will from May to November, when the size of the flower decreases as cold days and nights check the development of the many yet unopened buds, it may well be considered one of the best of plants for yielding a long succession of bloom. It lasts well in water, and its delicate perfume is most acceptable in a room. The texture of the petals is very delicate—indeed, half transparent; they never lose the crumpled folds that in the case of most Poppies betoken a newly-opened state. The bold centre of yellow stamens gives the utmost colour value to the dainty milk-white of the petals, with which the pale glaucous, deeply-cut leaves are in quiet harmony. The flowers are borne mainly on the points of the new shoots and on laterals near the points, more sparingly on the lower laterals.

It does best on soils such as a warm peaty sand, blooming in such from June to October. Where it will not succeed in the open it would do so in many places against a wall with a southern aspect, as in the illustration we give to-day. No one need doubt the fitness of this noble plant for English gardens.

NOTES AND REPLIES.

Mauve and yellow perennials for autumn.—I shall be most grateful for advice as to what herbaceous plants to use for a border I wish to be all mauve and yellow in autumn? What other autumn-flowering mauve perennials are there besides Michaelmas Daisies?—*Wm.*

[If you do not interpret the former colour too literally, we think you may include the Italian Starworts, Aster Amellus, A. A. Bessarabicus and its many varieties, with the Michaelmas Daisies proper. Apart from these, you will not obtain a very numerous company in this particular colour. One of the best things is Scabiosa caucasica, and, by securing strong plants, a good show should be forthcoming. Statice latifolia is excellent (2 feet), and Eryngium amethystinum (3 feet), E. planum (3 feet), E. alpinum (3 feet), and E. tripartitum, are of the stool-blue tones that would come in this set, perhaps. To these may be added Echinos-

Ritro and E. ruthenicus, both 3½ feet high, and with certain pretensions to blue. In the Bolfowers or Campanulas there is much material at varying seasons, but for autumn the best would be C. lactiflora curulea, a plant 4 foot high, and very free. A very charming thing is the new Lathyrus pubescens, an exquisite bit of colouring, but, perhaps, not too hardy. Delphinium Belladonna (2 feet) you may purchase in autumn. There are purplish and slate colours, as also intermediates of both, in the herbaceous Phloxes, but no mauve. One of the very finest of blue flowers is Veronica subsessilis, worthy of extensive cultivation. These are some of the more striking, but there are others of dwarf habit, as the Tufted Pansies, Creeping Veronicas, etc. Of yellow flowers there is plenty, and especially in the two large groups of Helianthus and Heleniums. Of the former, there are at least a dozen kinds, and half this number of the latter. All are



The white Bush Poppy (Romneya Coulteri). From a photograph by Miss T. Niblett, Upham, Ledbury.

good and showy, as well as free-flowering. Other plants are Conocopsis grandiflora, Achillea Eupatorium, Gaillardia Vivian Grey, Lupinus arboreus, Kinothera macrocarpa, G. fruticosa, Rudbeckia Golden Glow, R. californica, R. laciniata, R. Newmanii, etc., Verbascum in several kinds, and others. Quite a large number in the yellow set are vigorous in growth, and would require plenty of room. Apart from those named are the Day Lilies, but few extend to autumn among the yellow kinds; perhaps one of the latest of these to bloom is Hemerocallis Thunbergii (2 feet). Kniphofia Chloris, K. citrina, K. Lachesis, are the most yellow of the Red-hot-poker family; K. Solfaterre is also of a yellow tone. These, we think, will afford you much material to work up for the present, and all are showy and effective.]

Shading hardy plants.—There are some kinds of hardy perennials, such as Primroses, especially the double-flowered kinds, Polyanthes, Christmas Rosos, etc., that dislike hot sunshine. Young seedlings, too,

certainly grow more freely if screened from the burning sun in July and August. The difficulty I have experienced is in finding a way of giving the required shelter in an easy and inexpensive manner. If mats or canvas are used, a framework of some sort is indispensable, and the construction of this involves more labour than one can in a general way afford. The best thing I have found for this purpose is sprays of Birch. In the spring lay in a store of Birch faggots and select the twiggy parts of them. Should a period of very hot, dry weather set in, it is an easy matter to lay some of this material on anything that may need a little shade, and on the return of moist, dull weather there is no need to remove it, as sufficient light will be admitted to keep the foliage from becoming weakly. It is surprising how well many hardy things do with this slight shelter. In the case of Hellebores and the hardy Primulas it seems to be just what they need. In a very hot, dry summer one cannot give everything that needs it a constant supply of moisture at the roots, and many hardy things do not require a great amount of it if they do not get the very hot sun on them. They thrive just as well in partial shade with the soil in a semi-dry condition when in full exposure and constantly watered in a parching time. Violet culture in some places is troublesome and often unsatisfactory by reason of red-spider attacking the plants, but a little shade will do more to keep it off than a great amount of attention with the watering-pot. Young seedlings raised early in summer make much more rapid growth in the great heat of the sun is warded off.—*B.*

Low growing perennials.—Would you kindly tell me what are the best low-growing perennials for carpeting a herbaceous border? I want yellow spring blooming ones, blue and pink summer blooming, and yellow and red autumn ones. I want all the bare ground between the large clumps of perennial plants covered.

[We are in sympathy with you in your desire to carpet the ground between the clumps of bold herbaceous plants. In this way the frequently objectionable surface is hid from view, and in its stead, if well treated, a valuable ground-work of flowering plants is seen. A possible objection to this carpeting, if too rigidly observed, is that the working space is unimpaired for those things requiring periodical attention. There is, however, no reason for crumpling the surface that no room exists for necessary work. On the other hand, a carpet of plants is not only acceptable but very desirable. You ask for "yellow in spring blooming," and we believe nothing so well fills the place as the good yellow Tufted Pansies. These are to be had in several shades and planted in groups are most effective. We some years ago planted freely on this plan, and the wealth of bloom was very great. Some good kinds are: Bullion, Ardwell Gem, Lady Echo, Golden Gem, Grievet, and Lema's Queen. These may be planted at any time a good ground in open weather. Obtain well-rooted cuttings as opposed to mere divisions, and when planted and growing freely reach the point of each shoot to cause the plants to break. In this way the plants may be put out at 6 inches asunder. We think you will have to fall back upon the Tufted Pansies for the summer "blue," for we call to mind no carpeting perennial that would answer the purpose. The only plants we have in mind are Campanula muralis and C. turbinata, while we are in worse case for the summer "pink." In the late spring months the colour could have been supplied by the dwarf Phloxes, but these complete their flowering in June. For yellow in autumn we recommend Achillea aurea and A. tomentosa, very nearly allied in habit of growth, and both yellow flowered and about 5 inches high. For the red we think you will have to be content with Zauschneria californica and Z. c. splendens. Polygonum Brunonis may also be serviceable. Two of the best carpet plants in this shade are Saxifraga muscoides purpurea and S. Rhei, the blossoms being reddish-carmine and spotted red respectively. These, however, are spring flowering. What we regard as an essential to a good carpeting plant of a perennial character is one that is easily and quickly increased, and coupled with this a plant not impatient of disturbance. Many good carpeting plants are omitted by reason of the rigid colour conditions.

CHRYSANTHEMUM MAXIMUM AND ALLIED FORMS (GREAT OX-EYE DAISY).

There are now many beautiful varieties of these Perennial Marguerites, as they are frequently called, and the best kinds make a very fine display in the garden for a long period during the summer months. It is not many years since the somewhat coarse-growing *C. latifolium* was the principal kind found in lists of hardy plants, and then it was offered as *C. maximum*. Presently, however, a dwarfier and certainly a more refined and beautiful plant generally came into notice as the true

to some extent, is dependent upon circumstances, and especially in respect to the depth of the soil. In any case, however, where the finest flower-heads are required the plants should be freely broken up every two years. The best time to do this is in early September or early in March. For very light soils September is best, and the plants quickly obtain a fresh root-hold. In the more heavy and cold soils the early part of the year will answer quite well. Where a large stock of any one kind is required this is best done by means of cuttings in spring, the cuttings in the slight warmth of a dung frame rooting freely. The following are some of the best varieties in

the tips of the florets deeply cut into narrow segments. A fine pure white and very free-flowering.

C. M. G. H. SAGE.—This is also a distinct form with the deeply-notched florets of the last-named kind.

C. M. GRANDIFLORUM is one of the best of these plants, the broad florets pure white and very fine in form.

C. M. DICHESS OF ABERDEEN is a fimbriated kind, with snow-white and very handsome flowers.

C. M. EARL ROBERTS is one of the finest yet raised of these plants. In

C. M. MADRICK FREDWARD, a very large and showy kind, the flowers are very bold and telling.

C. M. JAMES CUCKER is a variety with more rounded flowers and distinct from the rest.

C. M. TRIUMPH is one of the latest, and has enormous pure white blossoms.

C. M. PRINCESS HENRY (flowers of which are represented in the illustration) is also a fine addition to the group.

All of these are forms of *C. maximum*, and distinct from these are the forms of *C. latifolium*, which flower later and continue longer into the autumn months. Two of the most notable are known as *C. l. "Top Sawyer,"* and *C. l. grandiflorum*, fine plants attaining nearly, or quite, 4 feet in height, loaded with pure white flowers. In a mass or large bed these are most effective. E. J.

CHRYSANTHEMUMS.

NOTABLE CHRYSANTHEMUMS.

In the following notes I have jotted down the names of varieties, particularly those the blooms of which appeared to me the most striking at recent exhibitions. Some of them are new, but the majority I have grown, and can therefore point out any characteristic in habit of growth. There are, I know, readers who do not admire giant flowers; still, the fact remains that most people who cultivate Chrysanthemums require flowers as big as it is possible to obtain them. Too many of the varieties (and popular ones) have little grace in form to recommend them, the petals being too short. The long-petalled ones appeal to no most, or those handsome Japanese of an incurving nature. In both of these respects the sorts named are the best, and neither are they wanting in rich or delicate colours.

PRINCESS ALICE DE MONACO.—This splendid variety has been renamed Miss Elsie Fulton, and is much admired. Bearing the last name, too, it has been certificated by the Royal Horticultural Society. This is unfair to the raiser, who loses the credit of producing such a magnificent kind. M. Nonin is the raiser, and the colour is white. It is of incurving shape, very large, and beautifully formed. Every bud opens well, and from late struck cuttings one may get it at its best on plants no more than 2 feet high. The foliage is excellent. Being the first to mention this variety—two years ago—from a comparatively poor flower I am glad it has exceeded anticipations.

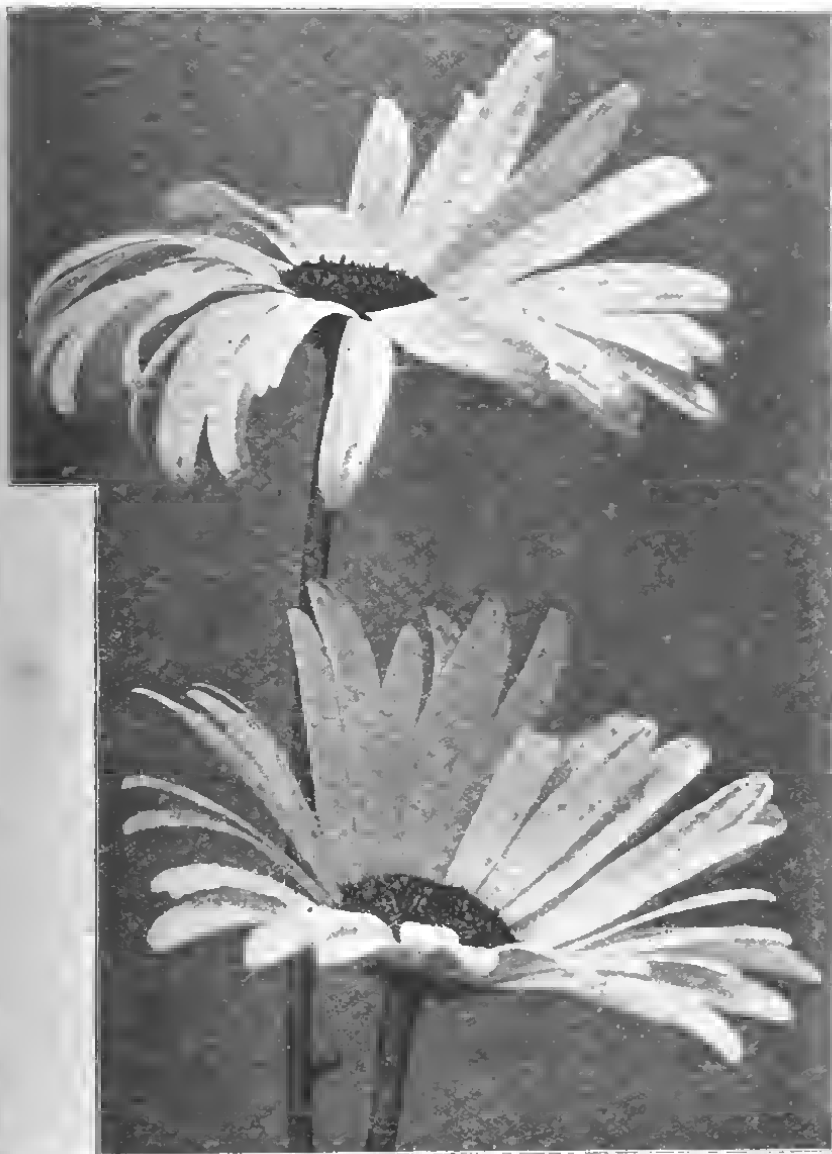
MR. F. S. VALAIS.—This variety is better than G. J. Warren, hitherto considered the finest yellow for exhibition. The latter is difficult to grow, whereas the newer is easy. It is dwarf, the blooms are very large, yet of most graceful formation. It is one of M. Calvat's productions.

MADAME PAOLO RADAELLI is a grand incurving flower; colour rosy white, not at all faded, as many of such tints look. The bloom is remarkable for size and elegance, and the variety is of sturdy growth and easy to grow. The system of late-struck cuttings, each plant to carry one bloom, suits it admirably.

MADAME WALDECK ROSSIGNOL.—This is another bloom of incurving shape, and really marvellous in size. Colours deep crimson and bronze, the latter tint, of course, predominating. Such a variety, which is of easy culture, will be much esteemed when it gets more plentiful.

MISS MILDREN WARE is an English seedling of much beauty. The florets droop and are of great length; colour a distinct shade of light brick red, and very telling. Many regard this as the choicest now kind of the year.

GEORGE PENFORD.—This, too, is an English



Chrysanthemum maximum Princess Henry in Mr. Gumbleton's garden at Belgrove, Co. Cork.

C. maximum. It is, in all probability, due to a mixture of these two by cross-breeding and seedling raising that we owe not a few of the good forms that are now found in gardens. Like many other plants, however, for which in the past there has been a demand, the varieties of these Ox-eye Daisies are too much alike, and by no means all of them, or even the one half of them would be required in any one garden. These plants are very easily grown and increased. In respect to the former, the plants may be grown to perfection in any good ordinary garden soil, and if precaution is at all necessary it is that the soil should not be over-rich. A more important matter than that of excessively rich soil is frequent division—that is to say, at intervals of about two years. This,

cultivation, the flower-heads often measuring as much as 5 inches or even 6 inches across:—

C. MAXIMUM.—This is a reputed Pyrenean species and of neat habit, rarely exceeding 2 feet high when in flower. The flowers are produced on erect, slightly-branching stems, and are about 3 inches across. Of this kind there is quite a number of beautiful forms, all alike useful for the garden and for cutting. The principal varieties are:—

C. M. "MUNSTEAD VARIETY," pure white, and about 3 inches in diameter. Very good for cutting.

C. M. ELEPHANS is rather less wide in the petals or rays, and the flowers are about 3 inches across. A very graceful plant.

C. M. FILIFORME is a distinct plant, having

seedling, and, I think, a splendid gain. The colour is rich, deep crimson, reminding one of the older Wm. Seward. It is large, with drooping formation of petals, which have an elegant twist, and exhibit a little of the gold reverse. For some time the desire of raisers has been to improve the crimson sorts. This, then, is a real improvement.

DUCHESS OF SUTHERLAND was raised by Mr. Penford, who obtained the last named, and it is magnificent. The petals are of extra length, drooping and curling in the most graceful manner possible, and building up a large bloom; colour intense yellow, a deeper shade than in any I know. It is a good grower and a decided gain.

GENERAL HUTTON.—This is remarkable for size, and with that drooping shape so much esteemed. Bright bronzy-yellow will describe the tints, whilst the growth is all that can be desired. This sort does well from late-rooted cuttings, a mode of culture suitable to the amateur with limited room. It is an Australian seedling.

SIR CHARLES SEELY is another Australian seedling. I have only seen one big flower of it, but it appears to me a magnificent addition, being one of the choicest forms of the drooping habit of flower yet noted. The colour is a nice shade of purple-rose.

MAFELING HIKO.—This kind has been exhibited frequently in fine form. It is a large, spreading Japanese bloom of a deep red colour. The only fault it has is a tall habit of growth. The same fault applies to

MADAME HERKEWEGE, a white flower obtained by a shoot of Australia "sporting." The flower is grand.

MRS. G. MILEHAM, an English seedling, is quite the best pink Chrysanthemum yet introduced. In size as well as shape it is excellent. The habit of the plant, too, is dwarf.

MRS. GREENFIELD may be regarded as an improvement on Phœbus, which has been a favourite for so many years. The colour is richer, the petals have more substance, and the plant is, if anything, a better grower.

S. T. WRIGHT.—This crimson variety is one of the new sorts of the year. It is splendid in size, form, and colour, and will be much esteemed.

MRS. T. W. POCKETT has fully borne out the high opinion formed of it last year. The easiest of all Chrysanthemums to grow, it is especially adapted for amateur cultivators. A plant will produce half-a-dozen finer blooms than if restricted to three. From very late struck cuttings I have fine blooms on plants barely a foot high. Colour a light shade of yellow, and the form of the bloom drooping.

MRS. H. EMMERTON is another yellow or straw colour. This is a fine variety in every way. Large, handsome in shape, with excellent foliage, it is among the easiest of sorts to grow.

HENRY PERKINS.—This new variety is notable for its great length of petals, which, being numerous, build up a handsome flower of large size. Colour a bright deep crimson.

BESSIE GODFREY is among the most charming of all yellows, the size of the flower, and the shape, too, are remarkable; the colour being soft and refined. This has a desirable habit of growth.

ETHEL FITZROY may be described as an orange-coloured flower. It is the most distinct and best of the shade. The forets incurve slightly. A dwarf and easy grower.

GODFREY'S PRIDE.—In this flower the forets are long and spreading, but have a peculiar curl at the points which gives a distinct appearance to the flower. It is noble looking exhibited in a vase. Habit of the plant sturdy. Colour a light shade of red.

W. R. CHURCH.—This variety is now pretty well known, but is named on account of the large number of fine blooms noted. It can be overgrown, then it is coarse, but nothing in Chrysanthemums is more striking than this, when the crimson colour is just relieved by the yellow tips to the petals.

MISS ALICE BYRON is indeed a splendid white variety. It is always good. The incurving petals make up a massive flower generally admired.

MARQUIS V. VENOSTA.—This kind was noted in fine form, much better than I have seen it since

its introduction two or three years back. It is a huge drooping bloom of a purple-rose shade. Amateur growers appear to exhibit this well. Why it is some sorts do better with amateur cultivation than with others I do not know, but absolutely the brightest Chrysanthemum in the large show at the Aquarium was in a stand of one such grower. The variety was Royal Standard, a sort most of us have discarded because so uncertain. Yet, here it was almost scarlet in its intense shade. The last to note is

SIR H. KITCHENER, not because of its novelty, but a bloom of it was the largest Chrysanthemum I have seen. It measured 10 inches by 9 inches as growing on the plant. H. S.

NOTES AND REPLIES.

Single Chrysanthemums.—How beautiful these are, either as plants for room decoration or in a cut state for placing in vases; and, no matter how they may be employed, they always arrest attention and excite admiration. There have been many additions of late, but the following are still hard to heat when given good culture: Mary Anderson, Annie Holden, Irene, Eucharis, Golden Star, Miss Rose, Cannell's Perfection, Framfield Beauty, and King of Siam. In the nine varieties enumerated the colours range from pure white of Irene and Eucharis to the dark maroon of Framfield Beauty and King of Siam, Golden Star being a fine buttercup-yellow. If propagated in March fine bushy plants will result, that begin to flower in November, and follow on in succession until Christmas.—A. W.

Chrysanthemum Gladys Rout.—This is occasionally referred to, but it is very little known. The plant has been in commerce for some years, and here and there a market grower has recognised its dainty form and chaste characteristics, and has sent it to market with good results. The blooms are pure white, with long, narrow petals, and they are produced on the plant quite freely. To be seen at their best, however, the plant should be disbudded, or partially so at least. As its habit is good, and its height is about 3 feet, it deserves extended culture. In ordinary seasons from a late crown-bud selection the plant comes into flower in October, but the abnormal season through which we are now (mid-November) passing the flowers from terminal buds are only partially developed. A note should be made of this plant.—W. V. T.

Chrysanthemum novelties of recognised merit.—This season novelties have not been so numerous as usual during the flowering period, and at no time during the exhibition season has a large number of new sorts been staged for adjudication by the floral committees of the N.C.S. or R.H.S. at any one meeting. Raisers and introducers appear to understand much better than formerly what is required of them when submitting novelties for the judgment of the respective committees. Because of this fact, blooms of poor quality, and those, too, of medium size, have seldom been seen, so far, this season. For exhibition purposes, size, and this as large as possible, still appears to be the chief object desired, and however refined and pleasing in colour the novelties may be, if they lack size they are almost entirely ignored. Occasionally a bloom of medium size gains a commendation for its colour, but these instances are very rare indeed. It is curious to notice how the judgment of a committee of experts may be influenced by the order in which the blooms are submitted to them. Should a very large bloom of good form and striking colour be the first to be adjudicated upon at any one particular sitting, it invariably gains the coveted distinction of a first-class certificate, and a high standard is consequently set up. Other varieties, subsequently submitted at the same meeting, are expected to attain the same standard as the first one, and any novelty, however meritorious it may be, failing only in the merest particular, seldom receives recognition at the committee's hands. The chances are, that, had flowers of a lower standard of quality been put up in the earlier period of the same meeting, they might have been recognised with an award of some sort, although such recognition may not have been quite unanimous.—E. G.

ROSES.

LONG FLOWERING ROSES IN 1902.

SUCH an autumn for Roses as that of 1902 has seldom, I suppose, been known. All, or nearly all, have done well; but some among them undoubtedly carry off the palm for beauty and persistence in blooming. I will begin with the glorious Réve d'Or. It is barely three years old, planted late in the autumn of 1899. It now covers a space two yards each way, and its great brown shoots are running up into the fence to mingle with a vigorous Crimson Rambler, thereby promising much pleasure next year. From June to November it has been covered with hundreds of its fragrant, tan-coloured blossoms, and if they have waned for a moment, the rich foliage has always made it a delightful object; while, beyond it, Longworth Rambler, with its semi-double clear scarlet-crimson flowers, has run riot over the fence and the Furze bushes. But, surpassing even Réve d'Or in beauty, is a bush of Marie Vanhoutte on the other side of the straight path from the gate to the house. A plant of three years' growth shows sixty-two well-shaped blooms in the middle of October, with promise of as many more to follow. By an even higher place must be assigned to the more solid Madame Lambert, with some twenty noble blossoms on one brown shoot of last summer's growth, somewhat paler than the July flowers, but of astonishing size, substance, and fragrance.

So far I have not succeeded as my neighbours the cottagers do with standards—my garden is too windswept to suit them yet; but a couple standing on each side of the path are the exceptions, and match each other for shell-pink blossoms, shape, size, and persistence in blooming. They are Mrs. Sharman Crawford and Madame Caroline Testout. From late June to the third week in November they were never without a flower, and though one is a Hybrid Perpetual and the other a Hybrid Tea, there is but little to choose between them. Madame Pierre Cochet, a smaller W. A. Richardson, with excellently-shaped buds which do not change colour, and Isabella Sprunt have also lasted well in these borders. So has W. A. Richardson under the south window, where Climbing Captain Christy mingles enormous pink globes with its golden flowers, and with the copper and pink of the fragrant, old-fashioned, and now neglected Noisette Ophirie.

It is my endeavour to collect in this new garden the Roses I remember as a child at the old home a mile away. I rejoice to see signs that a taste is gradually reviving for some of the lovely parents of our gorgeous exhibition Roses of to-day. On the west wall of the house is another of these beautiful and fragrant old Roses, so seldom seen now that I hunted through a dozen catalogues before I could secure it—the Noisette Jaune Desprez, raised by M. Desprez about 1825, and which should be found in every Rose garden. It needs good food and a little protection of Bracken about the roots and lower shoots in winter; but even in my Cave of the Winds it has grown up to the eaves in less than three years, and blazing June and chill October alike have seen its sweet-scented, rosy-copper flowers hanging in large clusters from the end of every ripe branch.

The ever-flowering Grass an Toplit just beyond is a crimson Hybrid Tea, which cannot be too highly praised for colour, sweetness, handsome foliage, and abundant blossom. I find that against a wall the flowers are larger and richer than on dwarfs or standards in the open, but this may be merely accidental.

Let us now move on to the long Tea Rose border, and see which of the little plants—put out in December, 1901—are the latest and strongest bloomers. Heading the list is the delicious Mme. Abel Chatenay, with Francesa Kruger, Graco Darling, and Jean Ducher among the pale pinks and peach colours; Gustave Regis, Etoile de Lyon, Chateau des Borgeies, the superb Mme. Ravary, without doubt one of the very finest Hybrid Teas of the last three years, Coquette de Lyon, and Kaiserin Augusta Victoria among the creams and yellows; Mme. do Watteville, pale lemon

edged with pink; Gustave Nabouand, Safrano, Comtesse Eva de Starhemberg, and Mme. Chauvy among the apricots and salmon; the China pinks, fragrant and attractive, of Luciole, Mme. Jules Grolez, Belle Siebrecht, Killarney, and Amabilis a Rose, by the way, not well enough known here yet; the fiery red and copper of Baron de Hoffmann, Tillier, Dr. Rouges, and Souvenir de Cathorino Guillot; the dark reds, Le Miroir, Francois Dubrenil, M. Desir, and grand semi-double Barlou Job. With such a set of Tea Roses in

ROSE MME. ALFRED CARRIERE.

With such a wealth of Roses suited for all purposes and situations, comparative neglect will doubtless be the lot of certain kinds, as it is of this, a fine plant of which we figure to-day, from a photograph of a plant in an Irish garden. Anyone, however, who can find space for it on a wall or fence will not regret doing so, as it blooms early and late. Its pale white flesh flowers are pretty, and the scent is delicious. If one were to choose the sweetest

shoots about a foot in length for the Roses to be tied to. Connecting chains are easily arranged. If possible, plant a fast-growing summer Rose against each pillar, and, in order that the pillar shall not be entirely devoid of blossom, an autumnal bloomer of less vigour may be planted also against each pillar. For the former we suggest Crimson Rambler, Flors, Electra, Queen Alexandra, Euphrosyne, and Felicite-Perpetue; and for the latter, Aimée Vibert, Longworth Rambler, Gruss an Teplitz, Gloire des Rosomanes, Alister Stella Gray, and Pink Rover.]

Roses for smoky district.
—Could you tell me of one or two climbing and pot-roses (red, pink, and white), most likely to thrive in a greenhouse? I do not mind how common they are. The air is too smoky for outdoor roses. I suppose it is too late to plant now, but perhaps I could get them in early spring?—MAYMAN.

[Where one is obliged to consider local nuisances, such as smoke, it is much better to grow the Roses under glass, as you propose to do. The plants can be obtained at once. Those grown in pots would be the best to purchase. You can ask your nurseryman to send them out of their pots to save carriage. Good climbing kinds for such a district are—*Red*: Cheshunt Hybrid, Monsieur Desir. *Pink*: Climbing Capt. Christy, Climbing Belle Siebrecht. *White*: Purity, Mme. Alfred Carriere. For pots—*Red*: Capt. Hayward, General Jacqueminot, Ulrich Brunner. *Pink*: Caroline Testout, Mrs. W. J. Grant, La France. *White*: Boule de Neige, Merveille de Lyon, and Mme. Plantier.]



Rose Mme Alfred Carriere. From a photograph by Miss Mabel Galsford, The Grove, Dunboyne.

of Roses, this would have to be included. It is certainly the best white climbing variety we possess that has quality of blossom combined with a vigorous constitution. It is difficult to say in which class it ought to be placed, as it partakes of the rambling character of the Noisettes, but the blossoms are more like those of the true Tea-scented. Little or no pruning is necessary beyond the annual removal of worn-out shoots, together with those that are unripened, and some of the small twiggy wood in the centre of the plant.

Roses for cold greenhouse.—I have a lean-to cold greenhouse, facing south, in which I grow Tomatoes in boxes, trained to the roof. This greenhouse can be well ventilated, but is very warm in summer from the heat of the sun. I am desirous of growing Roses in slat-pots, and also three climbers in the inside border, and trained to the back wall, which is 14½ feet high. I would be obliged if you would let me know if the following varieties are suitable for the purpose, and also when I may expect them to flower if planted this or the following month? Climbers for back wall: Gruss an Teplitz, La France de '89, Climbing Perle des Jardins, or Billiard and Barré? For slat-pots: Gustave Regle, Mme. Jules Grolez, Killarney, G. Nabouand, Mme. Pernet-Ducher, Mme. Chauvy, Marquise Litta, Maman Cochet, Marquis de Salisbery, Niphotos, White Lady, and Souv. de Mathilde Guillot.—A SUGGESTION TO THE EDITOR.

[The selection of varieties you propose to grow in this unheated structure would be a very suitable one, with the following exceptions: Instead of Gruss an Teplitz, we should advise, for the back wall, Climbing Belle Siebrecht. The former, although a beautiful decorative Rose for the garden, is scarcely suitable for culture under glass. The other two for the wall would be La France de '89 and Billiard and Barré. The latter is a splendid kind, and must sooner or later be in every garden. Climbing Perle des Jardins would be much too rampant for a wall only 6 feet 6 inches high. If it is your intention to continue to grow Tomatoes upon the roof, we cannot promise you any great success with Roses, as they demand all the light one can give them. A partial shade would not matter very much during the summer months. For growing in slat-pots, of the list you submit, we can recommend Killarney, Mme. Pernet-Ducher, Marquise Litta, White Lady, Mme. Jules Grolez, Maman Cochet, Niphotos; but, instead of the other kinds, we would name Mme. Hoste, Papa Gontier, Mme. Ravary, Mme. Cadeau Ramey, and Belle Siebrecht. Plants already established in pots you would obtain in flower during April and May, but if you have specimens from the open ground, they would not give you much return until the autumn, as it is best to prune hard the first year.]

More Roses (E. A. Prescott).—Little Gem is a charming miniature Rose, with small, double crimson and well-mossed flowers; Crimson Globe, the buds well incased, and of a deep crimson shade; Laurel, with large rosy-crimson buds; Crested Moan, pale rosy-pink; Reine Blanche, with double, double, crimson; and White Bath, pure white, are all good.

October and November one may well be content.

But besides these the China Roses were in flower till the December frost came; the old common pink or blush China, beloved alike in cottage and palace, the velvet-red Craniois-Superieur, with Lauretto Messimy and Mme. Eugéno Régal, pink and red, suffused with yellow and orange; while the little Noisette Alister Stella Gray, with great clusters of flowers like a small pale W. A. Richardson, must by no means be forgotten, for it blooms late and early.—RICH G. KIMBLEY in "The Telegraph."

and want to plant four or five pillar Roses, with chains from pillar to pillar at the back. How high and of what thickness should the pillars be, and what is best to use for pillars? The front of the border is planted with H. P. Roses, edged with dwarf Polyantha Roses.—LIVAN POOL.

[It is not advisable to have the pillars too high, as they are bare for a considerable time, and appear anything but picturesque. We consider 7 feet out of the ground a suitable height for the fast-growing Roses. For stability iron standards are best, but they should have prongs or iron feet at their base to render them more stable against gales. Larch poles are very interesting, leaving the side

GARDEN PESTS AND FRIENDS.

AMERICAN BLIGHT (SCHIZONEURA LANIGERA).

Will you kindly describe in GARDENING American blight on fruit-trees?—R. B.

[This well-known pest is one of the worst foes which cultivators of Apple-trees have to contend with. When once this insect becomes established in an orchard it is very difficult, if not impossible, to completely eradicate it, and the damage it does to the trees is very considerable; at times trees have been entirely killed by these little insects, so that measures should be at once taken for their destruction as soon as any are discovered on a tree, for they spread very quickly, the eggs and quite young larvae being easily blown, with small pieces of the cottony substance with which the colony is covered, from one tree to another.

The best means of destroying this insect appears to be by scraping off the loose rough bark from the stems and branches, and removing the earth from the base of the stems and roots. Before the scraping is commenced, a sheet or cloth should be laid on the ground, so that everything which is scraped from the tree can be collected and burnt. The tree should then be well scrubbed with a hard brush and one of the following mixtures which are much recommended by various persons: Coarse petroleum oil; $\frac{1}{2}$ ammoniacal liquor to $\frac{1}{2}$ water; strong brine; soap-suds; Tobacco-water (1 lb. Tobacco to 4 gallons of water); or the trees may be painted with 1 peck quick lime, $\frac{1}{2}$ lb. flowers of sulphur, $\frac{1}{2}$ lb. of lamp-black, mixed with hot water till of the thickness of paint and used when warm; or 7 lb. of soft-soap to 1 lb. of train oil, two or three handfuls of soot and flowers of sulphur, mixed with a pailful of lime-water; then add sufficient clay until it is about as thick as butter. When the compound dries it will very probably crack; the cracks should be filled up with clay. Syringe the trees, using a fine rose, with 1 lb. of soda dissolved in a gallon of rain water and well mix with 1 pint of spirits of turpentine; then add 8 gallons of water. A small brush dipped in turpentine and brushed over the insects is a very effectual way of killing them if they have not spread much on a tree. Whichever of the above methods is used, care should be taken that the insecticide is well worked into the crevices and rough places in the bark, for it is in such places that the eggs and the young are likely to be found if this operation is not properly performed.

This insect usually selects some part of the tree where there is an inequality in the bark, and there forms a regular colony, which may be easily detected by the white cottony down with which these insects cover themselves. These white patches make the tree look as if it were covered with mildew in those parts. The insects, by constantly puncturing the bark with their probosces and drawing off the sap, bring the tree into an unhealthy condition, and cause the parts attacked to swell and form warts and knots.

The severest weather does not appear to kill the American blight. It is supposed by many that they usually pass the winter beneath the surface of the soil, feeding on the roots of the trees, and no doubt they occasionally do so, but it seems very doubtful if this be their ordinary habit. Probably what more usually takes place to insure this insect from becoming extinct is, that a few females in each colony survive the winter on the stems or branches of the trees, and commence to propagate their species as soon as the sap begins to rise in the trees, and eggs laid the previous autumn hatching about the same time, fresh specimens are produced. As before mentioned, this insect soon spreads from tree to tree when once it is introduced into an orchard, for the eggs and young larvae, attached to small pieces of the cottony substance, are easily wafted about by the wind, and some of the females are winged and able to fly from one tree to another. The American blight belongs to the same family (the Aphididae) as the common Rose aphid and the Peach aphid, and, like them, will breed for several generations without the intervention of the male. The genus *Schizoneura* contains six species. The females in the wingless state of *S. lanigera*, the species now under

consideration, are, when full grown, about one-tenth of an inch long and tolerably plump, with the joints of the body well defined. They are of a slaty or leaden black or dark brown colour, the front portion of the body sparingly covered with small short tufts of a cottony-like material, the after-part thickly covered with it, and forming a long train behind the insect of about its own length. This covering is doubtless a great protection to the insect against unfavourable weather and the attacks of parasitic insects and carnivorous grubs. The young larvae are pale yellow in colour and they gradually attain the colour of the adult insect.]

NOTES AND REPLIES.

Chrysalis in lime.—I send you some specimens of a chrysalis, which I found in large quantities in a heap of lime which was placed in a shed in my garden about six months since. If you can tell me to what insect they belong I shall be much obliged? They are something like the chrysalis of the Marguerite Daisy-fly, figured in your number of GARDENING ILLUSTRATED recently, but not quite the same.—GEOFFREY WALKER.

[The chrysalides you sent are those of a small fly belonging to the genus *Anthomyia*, as far as I can judge; but chrysalides are often so much alike, though belonging to different genera, that it is impossible to be certain as to their identity. In every case the flies had



American blight in various stages of development.

Fig. 1, Wingless Female (magnified); Figs. 2 and 3, Larvæ (magnified); Fig. 4, Apple branch with American blight (natural size).

escaped from the chrysalides. One thing puzzles me very much, which is, how they came to be amongst the lime. Were there any vegetables or plants hanging above the lime in the shed from which they could have fallen? For no larvae would have become chrysalides in the lime, and even if it were possible that they could, then would come the question: From whence came the larvae? Can you throw any light on this point?—G. S. S.]

Hart's-tongue failing.—I have a fine, well-grown Hart's-tongue Fern, which was remarkably healthy up to a week ago, since when it has sagged, and the leaves have lost their firmness, although it has received the same care and attention as before. On taking it out of its pot to examine the roots I found a number of small white, semi-transparent grubs, each about $\frac{1}{2}$ inch in length, and thin, somewhat like a small worm in shape. Can you or any of your readers tell me how to get rid of these pests without injury to the plant, and what is the cause of them? The plant was potted at the same time as a number of others, which all seem quite healthy.—DOXA, FERRIS.

[Your Fern has been attacked by the grubs of the Vine-weevil, which prey on the roots of Ferns, Cyclamens, Primulas, etc. When full grown they are about half-an-inch long, white, with brownish heads, and very much wrinkled. They cannot be reached by any insecticide so as to kill them, the best thing to do being to pick them out from amongst the roots. The weevils only feed at night, so that it is very difficult to find them. When disturbed,

they drop off the plant on which they are feeding and lie quite motionless, as if dead. You should lay a white sheet under the plant while it is still light, and about an hour or so after dark go into the house with a bright light, which will cause the weevils to fall at once. If it does not, shake the plant well so as to make them fall down.]

The Carnation-maggot.—Can you tell me the best way to prevent the attacks of the Carnation-maggot, of which I have found considerable numbers lately in the stems? In the "English Flower Garden" it says they should be searched for in the spring, while the young grub is still in the leaf, from which it reaches the stem. I should like to know a little more precisely when to look for them, and would be grateful for any other information you could give me about them.—LANSLOW.

[This is a small yellowish-white maggot, which works its way under the outer skin of the leaf until it reaches the shoot, down which it eats until it reaches the main stem of the plant, into which it bores, eating out the heart of the plant and eventually killing it. No insecticide will touch the pest, and it must be searched for and destroyed, using a pin for the purpose. The maggot should be caught, if possible, before it reaches the main stem. When there are any signs of the maggot, the plants should be gone over carefully every day.]

INDOOR PLANTS.

ECHEVERIA RETUSA.

In greenhouses where a temperature of about 50 degs. is maintained, this will bloom all in winter, and will flower on all through the spring. In cool-houses, from which frost and damp only are excluded by fire-heat, it does not commence to flower much before March, lasting in bloom up to May. It is a well-habited, showy little plant that is well worth the attention of those who like to have something bright and rather out of the ordinary way when there is not much in the shape of flowers outside. The bright orange flowers on rigid stems that spring from neat rosettes of foliage are so numerous that when in full bloom good plants make a brave show, and the colour is so distinct as to form a welcome contrast to the various shades of pink and white that frequently predominate in the conservatory in winter and spring. A large batch of plants in full bloom has a very cheerful appearance.

CULTURE.—In April the plants should be pulled to pieces. Let the soil dry out first, so when the greater portion of it can be shaken away without injury to the roots, and the plants get the benefit of a body of fresh compost. It is not, however, very important that any great quantity of old roots be retained, as, like all the members of the family, roots are thrown out all up the stem, and being of a very succulent nature, the foliage does not suffer much until these new roots are made. When repotted the stems should be covered with the new soil quite up to the leaves. Sandy loam with some sand added is the best soil, and good drainage should be given, as all plants of a succulent nature are very susceptible to stagnant moisture at the roots. Let the plants have all the sunshine and air possible through the spring and early summer, and in July put them in the open air in a sunny situation, but be careful to bring them in before the middle of September, as this *Echeveria* is rather tender, and if the points of the blooming stems are frosted but slightly, the flowers will not expand later on. A good roasting in the sun is what this little succulent requires, and then it will yield a good harvest of bloom.

I know of but one drawback to the growth of this plant, and that is the grub of the black Vine-weevil, which eats its way into the stems, and just as the flowers should be expanding the whole plant collapses. My plants were so much infested that at one time I thought I must give up its culture, but I found a way out of the difficulty that has never since failed. Instead of repotting in spring, I shake the plants out in June, and wash all the old soil from the roots, so that, if possible, not a particle of it is left. This should not be done before the latter end of the month, as by that time the weevil has deposited its eggs, and in washing the soil away the eggs or, perhaps, newly hatched grubs go with it. The crowns are then laid in in light soil in a frame in the full sun and kept watered. By the end of

July they will be growing freely, and are then taken up and potted.

WATERING.—The roots being of a fine, hair-like nature, a little more care in watering is required than with the many winter and early spring-blooming plants. Plants of a succulent nature are very impatient of much moisture at the roots in winter, and *Echeveria retusa* is no exception to that rule. Plants that are getting an intermediate temperature to bring them along may of course be watered with tolerable freedom; but where the thermometer drops to below 40 degs. water should only be given when the soil gets dry. T.

A FINE WINTER-FLOWERING PLANT (EUPHORBIA JACQUINI-EFLORA).

(REPLY TO "F. G. L.")

NEXT to the *Poinsettia*, the *Euphorbia* is one of the brightest subjects we have for this season of the year. It is rather more difficult to manage than the *Poinsettia*, as the slender roots are liable to perish if allowed to become dry or if kept too wet. It is very important to have strong cuttings, and this can only be done by looking after the old plants after the flowers have been cut. When flowering is over, the plants are somewhat shabby-looking, and on this account they are often consigned to some obscure corner and neglected. The earlier in the year cuttings can be had the better. If taken off close to the old stem with a slight heel, and inserted in pots filled with peat, leaf-mould, and plenty of sharp sand, and stood in a propagating case, they will soon form roots. I like to put the cuttings singly into small pots, as then there is no danger of the tender fibres being injured in any way. When ready for potting off, some loam and a little manure may be added to the mixture just mentioned. Early-struck plants may be stopped once or twice, but those rooted later in the season may be grown three in a pot. This *Euphorbia* must not be ripened off; the more freely the plants are grown, the longer will be the sprays of bloom. When required only for cutting it may be planted out with advantage, especially if a position where there is a little bottom-heat can be given. Give the plants plenty of drainages, using a rough, porous compost. It must be well exposed to the light, and with good treatment will stand full exposure to the sun. In the summer artificial heat is not necessary, but as soon as the nights begin to get chilly a little fire-heat must be applied. If left in a cold-house, the mischief will show itself as soon as placed in heat, when the leaves will quickly fall, thus spoiling the appearance of the plants. T.

NOTES AND REPLIES.

Calanthe Veitchi.—This most useful Orchid is not grown so much as it deserves for cutting throughout December and January. Spikes nearly 4 feet long with three dozen fully expanded blooms are no mean sight at Christmas time when flowers are so much in request. The flowers remain in good condition quite three weeks when cut if only the water is changed twice a week and the end of the stalk shortened a little. In a later issue I will give cultural details.—J. M. B.

[With the above note we received some very handsome spikes about 3 feet long, the flowers of good size and richly coloured.—Ed.]

Aspidistras.—When someone asked me to look at an *Aspidistra* that "needed potting badly," I was told, I found that the mischief did not lie in this direction, but in the fact that it had been over-watered and had become yellow. There is a danger during the winter months of window plants such as these

receiving too much moisture. The state of the atmosphere outside, as well as the temperature of the room, should govern in some measure the use of the water-pot. The potting of *Aspidistras* is best done in February or March, but this should not be until the pots are quite full of roots and really need a shift.—TOWNSMAN.

Lilies in flower.—To the uninitiated it must be a matter for surprise to see the splendid flowering examples of *Lilium longiflorum* and *L. speciosum* now so freely displayed, as their blossoms are in the usual course of events long past. This is brought about by retarding the bulbs in a temperature just below the freezing point, so that they remain dormant till long after their usual season of starting into growth, hence those in flower now would out-of-doors have bloomed in the previous summer and autumn. They need about three months from being removed from the freezing chamber and potted before the flowers expand. A few years since it would have been considered impossible to have such quantities of these Lilies in bloom at Christmas, but now the lines of demarcation between

and failing to take on that intense crimson-scarlet tint which renders them so effective for decoration. In the London market gardens they are grown in low, span-roofed houses facing east and west, with plenty of air and light in the later stages of growth, so that the wood gets firm and the leaves acquire substance. Good loam, with a liberal admixture of leaf-soil, with some manure for the last shift, is the compost usually employed. Although *Poinsettias* are in demand all through the winter, Christmas is the time when prices usually rule highest.—C., *Exh. et.*

Plants after forcing.—Though one cannot reasonably expect the plants forced in a bloom early one season to flower again the succeeding year, it naturally follows that a recuperative treatment immediately after they have flowered is essential. How frequently forced plants are neglected, instead of being carefully nursed! *Azaleas*, *Heaths*, *Epacrises*, *Genistas*, *Spiraeas*, and *Lilacs*, all valued whilst in flower, are only too often left in some out-of-the-way corner of the house, or removed to frames out-of-doors much too early, and, as a consequence, suffer from extremes of tem-



A fine winter-flowering plant (*Euphorbia jacquini-eiflora*).

the seasons are continually broken down. Regarded from a sentimental point of view, whether this is an advantage is at least questionable, though as long as it is a remunerative business it will doubtless be carried on. Lilies at Christmas are, however, not limited to these retarded bulbs, as I have a plant of the beautiful *L. sulphureum* from Upper Burmah which had two blooms expanded on Christmas morning. The bulbs were received late in the spring, potted and stood out-of-doors till the autumn, then taken into the greenhouse where the last one is now in flower. The rich ochre-yellow of the interior is, however, less pronounced than in the case of those that opened earlier. There still remains a flower, too, on *L. neilgharrense*, a much rarer Lily than was the case a few years ago. The long trumpet blossoms of this Lily are of a pleasing deep primrose tint.—W. T.

Poinsettias.—In a general way, market gardeners do these very much better than private growers. In gentlemen's gardens they are usually cultivated with other things, and frequently, from want of sufficient light and air, run up lanky, the bracts not coming to their full size,

perature. Often, too, they are neglected as to watering. Cooler conditions for plants that have been subject to a high temperature to bring them into blossom are, after flowering of course, desirable, but a generous treatment for encouragement of new wood especially is applicable to *Heaths*, *Azaleas*, and, indeed, all hard-wooded plants.—LEAHURST.

Violets in pits and frames.—During winter these are liable to damp badly, owing to the excessive moisture which settles on the foliage and flowers, therefore every endeavour should be made to keep them free of this by giving full ventilation on every favourable occasion, pulling the lights right off on fine days, and seeing that the glass is free from dirt on both sides. The plants themselves should be examined every ten days or so, removing all decayed leaves, etc., which, if left to remain long, cause spot on the leaves. Where this spot disease occurs, pick off the infested leaves and dust with a little wood-ashes and lime mixed together. The double varieties, Mrs. J. I. Astor and Lady Hume Campbell, are fine Violets for frames, and are flowering well this season, the latter being

more after the colour of the old Neapolitan, but much more robust in growth. Marie Louise is a good all-round double variety and will take a lot of beating. The White Comte de Brazza or Cannell's White appears much harder in its growth than Marie Louise, and scarcely ever shows much disease, and is most useful, especially where white flowers are in demand.—J. M. B.

FRUIT.

APPLE NEWTON WONDER.

In this we have a grand cooking Apple, large in size, of fine colour, and the tree a great bearer. It should be largely planted, as it remains sound up to midsummer in a cool fruit-room. The fruit much resembles both its parents, Blenheim and Wollington. The tree bears freely as a bush, and requires freely thinning most seasons. I also have it as an orchard standard, but the trees being small as yet, I cannot say much about it as regards this style of tree. J. M. B.

PRUNING PEARS.

Those who have not commenced this work may now do so, and persevere with it whenever the weather permits, or otherwise there will most probably be too much to do in the spring for all to be properly performed. The start should be made with Pears, and if there is not a mulching of ashes or strawy litter in front of the trees, let boards be used for standing upon, unduly trampling upon wet fruit borders having a most injurious effect. In the case of strong, well established trees, and which, say, have covered nearly or quite as much wall space as they will ever do, pruning is a very simple operation. It is these trees, however, that very often are too lightly pruned. If, owing to a too sparing use of the knife, the spurs are allowed to project 6 inches or more from the main branches, then much of the benefit that ought to be derived from the walls is lost. The fruit spurs ought to cluster round the branches and spring out not more than 3 inches from the wall, and in consequence be less liable to injury from frosts, the fruit attaining a larger size and ripening better. Trees largely furnished with long, ugly spurs ought to either have these gradually sawn off to within 1 inch of the branches, or else shortened to a back break much nearer the wall. In most instances this would be duly followed by a strong break of young shoots and fruit spurs, and which the cultivator should take good care to keep more within bounds in the future. Supposing the trees were summer pruned, spurs being left to a length of about 2 inches, the latter ought now to be further reduced to a length of 1 inch, in some instances, or where short spurs already exist in goodly numbers, to be cut quite hard back. Nothing is gained by crowding the spurs; therefore thin out where they smother each other when in leaf. If fruit-buds are scarce, leave some of the short shoots there may be with a fruit-bud at the end intact, cutting these back after the fruit has been gathered from them next season. Where there are any strong shoots available for furnishing blank space lay these in to their full length.

Pear Easter Beurre.—Late Pears are none too plentiful, and when one can say a good

word in praise of any one variety, it should prove of some service to those planters who may be undecided as to which varieties are best to plant. It thrives as a bush, but on cold soils is much better when given wall treatment, and is especially fine on the Quince as a cordon. It becomes fit for use during January, and sometimes will keep plump until March. With me it does equally well as an espalier.—J. M. B.

PLANTING VINE.

Will you be good enough to advise me what to do re Grape-Vine? It is an old Vine, been growing in the open, and this year carried 100 bunches of fruit. It has been given to me, and I have just replanted it in my own garden. I have taken four rods into my lean-to greenhouse, leaving five rods outside, trained to the wall. Would you advise me to cut off the five outside rods to strengthen the rods inside the house? I have planted for fruit, not foliage. Would half a bucket of blood benefit the Vine? May I expect any Grapes next year?—H. CLARKSON.

[We never remember having seen a Vine growing partly indoors and out, as per your illustration, and do not think it would be wise to attempt such, seeing that the Vine rods under glass, even if your house is not heated, would naturally start into growth earlier than those on the outside wall, consequently to the detriment of the latter. Therefore, it would



Apple Newton Wonder.

be better to cut off these five rods where you suggest while the weather remains mild, painting over the cut surface of each wound with painter's knotting or styptic prepared for the purpose. We do not gather from your enquiry whether you prepared your border before replanting the Vine. Such should have been done by seeing that thorough drainage was ensured, if not naturally, then otherwise, by taking out the soil 3 feet deep and about 6 feet wide, and the same in length. Then place 3 inch drain-pipes along the pit, furthest from the wall, allowing a fall of a few inches for the water to pass away at one end, which should have an outlet into a larger or main drain. Over this place 9 inches to 12 inches of broken stone or brickbats, the top 3 inches being smaller than the hulk, which will keep the soil from being washed into the drainage. Then, if obtainable, procure grassy turves about 2 inches thick and lay Grass-side downwards, when all will be ready for the soil, which, with your ordinary garden soil, would be the better if a load of the same loamy turves were chopped up and mixed together, adding 2 bushels of bone-meal, the same of soot, and two ordinary garden barrowfuls of brickbats, broken to the size of Walnuts. In planting, lay out the roots, keeping them about

5 inches from the surfaces. Do not allow the Vines to carry fruit the coming summer, but encourage all the growth you can, though not overcrowding it. If you do not care to make a new border, the blood may be put on the old border when the Vine is in active growth, say about midsummer, and let it be well washed in, after covering with a few inches of soil. It seems to us that it would have been better had you planted your Vine at the front of your house and taken the rods in through and trained them up the roof, than downwards, as per illustration.]

VEGETABLES.

MANURING TOMATO GROUND.

(REPLY TO "MARKET GARDENER.")

THE artificial manures you name—sulphate of potash one-part and superphosphate two-parts—should make an excellent dressing for ground, put on at the rate of 41 cwt. per acre for Tomatoes. These plants need relatively very little of nitrogenous manures, such as nitrate of soda, as that tends to create coarse leafage. But in manuring ground much depends on the general nature of it and the crops, as well as dressing previously given. On that head you must be the best judge. If you have grown Tomatoes in the same ground previously and they have been diseased, we fear a recurrence of the disease is probable under any circumstances. With respect to combating the Tomato fungus, there is no better fungicide than the Bordeaux or sulphate of copper mixture. Dissolve 2 lb. of sulphate of copper (bluestone) in a wooden tub containing 4 gallons of boiling water. Dissolve 2 lb. of fresh lime in a pail in 2 gallons of water. When the latter is clear pour it into the tub with the other. Then, when the bluestone is dissolved, add 16 gallon-more of water. It may be well to dissolve into it a couple of pounds of common treacle. When the liquid is quite clear it is ready for use. Give all the plants a gentle spraying or drenching with this solution. That should be done before fruits are formed. A second spraying may be given a fortnight later, and yet a third some three weeks later. If the quantity named is not enough, then make more in the same proportion. The solution is poisonous, but if not used after the fruits colour, it is not likely to do harm. Tomatoes under glass should not have too much water, nor too rich soil, and have plenty of light and air. So treated, and the soil has grown other crops previously, the plants should be healthy.

Shallots.—Will you be kind enough to tell me in OARDEENING how to treat Shallots to get them to produce and ripen seed, if it can be done in this country?—SHALLOT.

[The Shallot very seldom produces seed. The bulbs when planted in spring speedily divide into a great number of cloves, which remain attached to a common disc, and in a few months become as strong as the parent bulb.]

Horseradish unsatisfactory.—I should be obliged if any of your readers could tell me the cause of my Horseradish assuming such a unddy, dark colour, and being so tough and starchy? It was all right till two years ago. The ground was then well dug and manured, and the Horseradish replanted. It has not been manured since, but has been replanted. Any information will be gladly received, as it is in great demand.—W. P. H., *Ashton*.

[A Horseradish plantation to be satisfactory should be partially renewed every year by replanting. This should be done in a piece of well-manured and deeply dug ground, placing small pieces of roots in a slanting direction 3 feet apart and from 12 inches to 18 inches in the rows, and about 6 inches deep. The ground should be kept free from weeds, and in very dry, hot weather abundance of water, if available, may be given with advantage.]

Celeriac—This is much neglected, few using the roots for other than flavouring soups. If, however, the roots are boiled till quite tender in a little gravy, they form an excellent vegetable, the flavour being distinct and pleasing. They are also very good when boiled and served with white sauce. Celeriac is one of the best of our winter vegetables, and if the improved continental varieties were more generally grown in England they would become popular. The roots can be kept during the winter with Carrots and other roots.

GARDEN WORK.

Conservatory.—There are two families of plants which are useful in the conservatory now. One is the *Acacias*, which are showing signs of flowering; indeed, *Acacia platyptera* has been in bloom some time and *A. Drummondii* will soon follow. Others, such as *armata*, *Riceana*, *grecoidis*, *verticillata*, etc., will come in succession. *A. grandis* makes a good wall plant, and *A. Riceana* is very effective trained along a rafter or a tie rod if the house is lofty and free growth can be encouraged. The *Acacias* are very easily cultivated, either in pots or planted out in the border. If planted out the soil should not be too light or rich, as they grow so freely. Good yellow loam two-thirds, with one-third of old leaf-mould or good peat and sand, will grow *Acacias* well, either in pots or planted out. The other family to which allusion has been made is the *Bamboos*, which are very useful for backgrounds, and may take the place to some extent of the *Palms*, though, of course, the latter cannot be done without, though in a large house there is room for much variety. The early sown *Cinerarias* will now be in flower, and well grown plants are very effective. These will, of course, be grown in a low house or pit, and before they are taken to the conservatory they should be vapourised to get rid of any stray flies which may be upon the foliage, and special care should be taken that no insect-laden plants are taken to the conservatory, as it is usually much more difficult to clear them out of a lofty house than a small one, and if the conservatory is connected with the dwelling-house, great care must be exercised in using the vapouriser so that the fumes do not penetrate the house. *Camellias*, when well done, seem to supply a want now. It is comparatively easy to force into bloom plants of various things which have been prepared for the work, but a well grown *Camellia*, 6 feet or more high, either in a tub or planted in the border, requires nothing to set it off when in bloom. The reason *Camellias* have not been so much grown of late years is they are rather stiff and cannot be cut with long stalks, but anyone with a large house to fill will find a limited number of good plants very useful just now to give elevation to the house now that the *Chrysanthemums* have for the most part been moved out. Do the watering in the morning, and give a little ventilation to let the damp out. Night temperature 45 degs. to 54 degs.

Stove.—*Orchids* starting into growth will require more moisture. If on blocks or in baskets, dip them in a tank; renew the *Sphagnum* on blocks. *Stanhopeas* require very careful handling, as the flower-spikes often strike downwards and come out through the bottom of the basket. If there is a brisk bottom-heat anywhere, old plants of *Dracenas* may be cut down and the stems cut into single joints and inserted in sandy peat and plunged in heat. A very large stock may be worked up from a few old plants. Under suitable conditions, *Crotons* and *Ficus elastica* may be propagated now, but it is better to wait a few weeks if there is not plenty of bottom-heat. As the days lengthen, *Allamandas* and other plants which have been resting with the roots in a dry state may be pruned, and the roots moistened, and a little later repotted. In the meantime stocks of potting soils should be laid in an open shed ready for use when required. *Begonias* are very bright to the stove now, and early next month cuttings of the young shoots should be taken, and when established in pots some of the oldest plants of the same kinds may be got rid of. Never keep old plants of these soft-wooded things too long, as younger plants produce finer flowers, but in the case of hard-wooded plants, which are of slower growth, old plants, if in good, healthy condition, are the best. An old *Franciscosa* or *Gardenia* will produce many flowers, and should be encouraged. Use the water-pot with judgment, tapping each pot to ascertain its condition.

Early Peaches.—Do not be in a hurry. It will not pay to rush anything at this early season, and it is specially unwise to rush Peaches. Trees which have been forced in previous years will not require much rushing. Fifty degs. when the blossoms are opening will suffice; 2 degs. or 3 degs. more

in the early part of the evening will do no harm, and 2 degs. or 3 degs. less at sunrise will be the natural course. Keep the air in motion by ventilation when the sun shines, and tap the trolleys or distribute the pollen in some other way when it is dry. If the rabbit's tail or the camel's hair brush is used, pay most attention to the blossoms on the upper side of the branches, so as to get the crop as much as possible in the sunshine. Of course, when the trees are in blossom the atmosphere of the house will be kept drier and more buoyant to bring the pollen to a condition for easy distribution. Close early in the afternoon, and keep down fires in the daytime.

Early Tomatoes.—This is a good time to sow the seed of a good early kind. The seeds should be sown very thinly in boxes or pots, and placed on a shelf in a warm-house near the glass where the plants can be sturdily grown from the first. Weakly, drawn-up plants never produce the weight of fruit which the sturdy, well built-up plants do. Many growers fruit the early plants in pots, but they do us well in troughs, and it is more economical both in the materials and labour, especially in the matter of watering and top-dressing. Early Tomatoes want plenty of warmth and light. We usually grow them in span-roofed houses trained under the roof. The body of the house can then be used for bedding plants or other things coming on that may require warmth. The temperature at night may range between 55 degs. and 65 degs., which means that there will not be all that amount of fluctuation; but, say the earliest house is worked at a night temperature of 65 degs., others which are following may be 50 degs. or 60 degs. The whole matter is worked as a compromise to suit other things beside a Tomatoes. A mixture of good loam and a little old manure will suit Tomatoes at the start. What more is required can be given when the first truss of fruits is set and swelling.

Forcing Seakale and Rhubarb.—The old-fashioned way of forcing *Seakale* and *Rhubarb* under pots where the roots grew, so far as the quality of the produce was concerned, cannot be beaten where there is plenty of tree-leaves in the country, but it is a laborious method, and the modern plan of lifting the roots and forcing in the Mushroom-house or elsewhere is now commonly adopted where a good deal of produce is required.

Window gardening.—*Hyacinths* in glasses should be moved from the dark cupboard at the first signs of growth above the bulbs, and by that time the roots will have descended into the water. A little charcoal will keep the water pure. Deficiencies of the water from evaporation must be made good from time to time. *Narcissi* and other bulbs started in pots may be taken out of pots and planted in Moss in bowls at any time.

Outdoor garden.—This is the usual time, when other things are not pressing, for making alterations. I never yet knew a man or woman that was fond of their gardens that was not constantly striving after some improvement of some kind. Beautifying here and adding a fresh feature elsewhere, introducing new shrubs and trees or hardy flowers, and preparing sites for various things always give interesting work in open weather in winter. No garden is ever so perfect as a good gardener wants it to be. But, apart from this, there is always work of a routine character, which must not be delayed or neglected. Box or other edgings can be replanted or repaired, gravel walks turned over and put into shape and made firm by rolling. Tennis or other lawns can be repaired. Old worn-out shrubs or trees can be grubbed, and the site trenched and made suitable for choice trees or shrubs. If the grounds are large and of picturesque character, there is always interesting work to be done in preparing sites for new trees. *Pæonies*, both herbaceous and tree, make lovely groups in what is termed the "wilderness." Hardy Heaths and kindred subjects are very interesting in some wild spots. The *Rhododendron* family, where the soil and position are suitable, are among the most effective ornaments in the garden and wood. There are some things which are always attractive, and among these are *Rhododendrons* and

Hollies. The Birch and the Beech seem to blend well with evergreen trees and shrubs.

Fruit garden.—Those who have pruning or traiving to do should get on with it at every favourable opportunity. It is a mistake to dig with the spade over the roots of fruit trees, especially when they are grafted on surface-rooting stocks. Trees and bushes which have reached a bearing age and crop freely may have help in the way of top-dressing. It is a very easy matter to pick out those trees which require help. Of course, trees which are making wood freely do not require anything extra in the way of nourishment. There is generally something to do at this season in suppressing insect pests. The larva or eggs of flies and moths are secreted somewhere, and should be destroyed by applying the necessary remedies. I have no doubt the eggs of green-fly and root-spider are hidden away in the bark of the spurs or buds, and a wash of any simple insecticide of sufficient strength will clear off most of these if done efficiently. Insecticides are all reasonably cheap, and, if used warm, according to directions, will save a good deal of labour during the growing season. Introduce Strawberries to the forcing-houses forthrightly to keep up a succession. The flowers must be fertilised to ensure setting, and the plants should occupy a position near the glass. Early Peaches must also be fertilised individually if they flower at this early season.

Vegetable garden.—Those who have plenty of convenience for forcing will now be starting early Potatoes. The best place for them is a warm pit filled with stable manure and leaves; or an ordinary hot-bed covered with a frame, where the Potatoes as they grow can be near the glass, is very suitable. Horn Carrots sown on a bed of leaves where there is a genial warmth will soon germinate. Very often a crop of Radishes may be sown thinly among the Carrots, to be drawn out before the Carrots are large enough to thin—indeed, forced Carrots, unless sown very thickly, do not want much thinning, as by the time they are 1/2-inch in diameter the largest may be drawn out for use. There are no better Lettuces than those produced on a bed of leaves and manure under glass. Seeds sown now will come in early, especially if an early kind, such as the Paris Market Cabbage, is sown. Sow an early Pea in pots or in some other way under glass for planting out in April. A few rows may be sown outside on a sunny border in front of a forcing-house, or at the foot of a south wall. Most people have their favourite kinds. Chelsea Gem is a good dwarf kind, and a good selection of William I. is equal to most. Gradus is a good Pea, and there are many others. Asparagus, Seakale, and Mushrooms should be plentiful now, and the gardener who keeps up a good supply will have but little trouble with the cook. Salsify, Celery, and Artichokes are not difficult to produce in quantity. E. HUBBAY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

January 12th.—Sowed early Peas in pots and Early Longpod Beans in boxes for transplanting. Beans transplant well. Advantage is taken of mild weather to take the lights altogether off cold-frames filled with Violets, Cauliflowers, and other plants. The materials for making Mushroom-beds are being constantly collected so that exhausted beds may be cleared out and the spaces refilled. Sowed several kinds of Tomatoes for planting in early houses or growing in pots. Sowed a few Cucumber and Melon seeds.

January 13th.—Sowed Peas on early border. We always plant a few early Cabbages on a warm border to come in before the main crop. They are planted about 9 inches or 10 inches apart, and every encouragement is given for rapid growth. The Peas were dressed with red lead previous to sowing to prevent them being taken by birds or mice. A few rows of the dwarf Fan or Cluster Beans were planted at the same time. Sowed several boxes with Ailsa Craig Onions in a little warmth indoors. Looked over fruit stores. Late Peas are moved a few at a time to a warm-house to bring up the flavour.

January 14th.—Planted a lot of cuttings of bush fruits and Briers, the latter for budding. The cuttings were prepared some time ago and laid in ready for planting at a convenient season. We always like to get all cuttings selected and made early, so that the work of healing and callusing wounds may begin. All Vines in early or second early houses have been pruned, and the late houses will soon now be cleared and the remainder of the Grapes bottled.

January 15th.—Disbudded pot-Vines, leaving only those shoots which are showing good bunches: night temperatures now fall down to 65 degs. Flowers will soon be open on Hamburghs and Foster's Scedling. Orchard-house has been cleaned, and the trees in pots arranged, pruned, and washed ready for a quiet start. All inside borders of fruit-houses have been moistened where dry, and top-dressed with good loam and bone-meal. Mustard and Cress are brought on by successional sowings in boxes in heat.

January 15th.—All bushes and fruit-trees likely to be attacked by bullfinches or other birds have been dressed with a mixture of soot and lime early in the morning when damp, so that the dressing may stick. Heathitis in the conservatory are grouped at the coolest end, and are very carefully watered. Azaleas in bloom are now making a good show, and other things are coming on fast, so that all danger of a dearth of flowers has been removed. Fuchsias and other plants, from which cuttings are wanted, have been placed in heat.

January 17th.—Lily of the Valley is started in batches in a close, warm pit, kept dark at first till flower-spikes appear. If grown in pots, an inverted pot is placed over each till the flower-spikes are well on their way. Leaves are never removed from shrubberies, but are forked in, thus keeping all things in condition. Prepared a bed in a partially shaded spot for turning out the Christmas Roses now flowering in pots, when they have to be taken out. The preparation consists in deepening the soil, and working in plenty of old leaf-mould and some sand.

temperature of the house until by the time the flowers are open a minimum of 60 degs. is reached. A lower temperature even than this will suffice when the flowers are fully open. A good place to start the bulbs is in an early viney or Peach-house, transferring them when growth has well started to the stove or other hot-house.

Lawn in bad condition (A. J. Hodgkins).—Your lawn is evidently in a very poor condition, the soil being quite exhausted. The only thing you can do is to have it dug up deeply, incorporate it at the same time some good cow-manure. Do this at once and have it returned, if you can get any good turf to your district, if not, let it lie rough till April, then break it well down and add some more rotten manure, working this in with a long-toothed rake. Tread it well, level it, and then sow some good grass seed—not that from a hayloft, which is generally full of weed seeds. Protect it from birds until the seed begins to germinate.

Lily of the Valley (E.).—What are styled "Berlin" or single crowns are best. Get them now, and let a slight frost have access to the tops. It is a good plan to set them into ashes and light soil, or Cocoa-nut-fibre and loam, with the tops just showing through. After a frost, lift in batches, pot into any light compost, and place in a strong heat of 70 degs. to 80 degs. If you keep them back in a propagating house until the flower-spikes are well forward, the bells and spikes will be larger and longer. Expose to light when half opened. They do not force well until after a frost, and need much water.

Lime dressing (P. J.).—A lime dressing can hardly fail to do your stiff soil much good. Except where chalk prevails it is rare that soil is overdone with lime, and this is really a valuable food constituent for plants generally. Still, it will be unwise to employ it too freely. Live at the rate of 1 bushel to 3 rods, as the lime is slacked, although it will have, no doubt because some time slacked, lost some of its pungency. Dry slacked lime dressings are very useful in the spring when slugs are troublesome. It should then be dusted freely about late in the evening, as, if fresh, it kills these pests rapidly.

Cactus Dahlias (S.).—There is some danger in allowing Dahlias to remain in the ground all the winter, as very severe frosts may kill them; or, if they do survive you have so many shoots break up from the root, whereas for all ordinary purposes one or two stout stems is enough. We do not understand why you should have difficulty in keeping the roots, but if others do not suit. Preferably lift the roots now, shake them as free from soil as you can, removing any that cling with the aid of a pointed stick. Turn them bottom upwards to drain the hollow stems, then, when fairly dry, put them as close together as you can in shallow boxes, and fill in round them with fairly dry soil or fine sh-ses, and stand in a cool, dry place where frost does not penetrate. Thus the roots should keep well, and from them in the spring, when placed in a frame or greenhouse, no difficulty should be experienced in getting good cuttings.

TREES AND SHRUBS.

Bigonica radicans not flowering (H.).—Surely the plant has made no growth for two summers if its roots are evidently in an unhealthy condition. If the weather remains open, lift it at once, clear away the old soil, and replace it with fresh loam, to which add some leaf-mould and a dash of silver-sand. Be careful that the roots are not injured in the transplanting, and spread them out carefully in the new compost. The ground around the plant had better be mulched during the winter.

FRUIT.

Black Hamburg Vines (S.).—You did wrong in taking two shoots or laterals from one spur. The strongest only should have been saved and the weaker pruned out. Evidently you have overtopped. If the border has become close, just fork over the surface 2 inches deep, and then spread over a dressing of fresh soil mixed with wood-ashes, horse manure, and soot, also some fine mortar rubbish or sharp sand. That should in the spring greatly help to form new roots. Let only one-half the crop you have had this season remain next year. You will probably find finer berries and bunches, and they will get better colour or finish.

Pear tree (W.).—North wall is hardly the best position for a Pear-tree, as the wood and buds need more warmth than can be obtained to thoroughly ripen them. If you could lift the tree with great care and remove to an east or west wall, it might do better. Failing that, it may be better to lift the tree entirely and replant it at once where it now is, as it seems evident the roots have gone too deep. When the tree is lifted, cut off all roots that strike downwards. Also, in replanting, do not bury the roots deep, neither add manure; but after planting lay a mulch of long manure about over the roots. Leave nailing until the soil is settled, and pruning should be moderate and done at the same time.

Wall Plum-trees (A.).—The laying-in of the summer shoots on wall Plum-trees that are kept for producing fruit, should have been done at the end of the summer to promote ripening. However, you should do so now, but only a few of the strongest. Do not attempt to lay in any that break out from the front of the main branches, only from the sides. Cut all others hard back. Generally Plums fruit from spurs, though also from well-ripened young wood. On the shoot nailed in, shorten back one-third at least. Cut back to about two buds or eyes all other shoots. With Plums the wood must not be so thickly laid in as with Peaches and Cherries. Do not allow clustering shoots to form and project out several inches from the tree.

Black Currant-mite (Purples).—If the buds on your Black Currant-bushes are broad, big, and burst, then we fear they are suffering from a bad attack of the Currant-mite, and the case is a bad one. When such buds as these are few only, and they are picked and burnt, often much good is done; but when bushes are badly infested we regret to say there seems to be no other course open but to grub up the bushes and burn them. Could you seed along some of the buds in a little tin or wooden box that we may see whether mite-infested or not? If you have a good lens, and picking a bud will pull it open, then examine it, you will soon see if tiny whitish mites are present. It is best to get rid of the bud that dressings of any insecticide will do no good.

Peach-trees dying (C.).—As your Peach-trees have died away so badly, we should strongly advise you, ere planting others on the same border, to remove most of the soil, and replace it with fresh soil from the vegetable quarters. The soil may well be excavated to a depth of 2 feet, the bottom being left well broken up, several inches in depth, to admit of free drainage. To replant in the old soil would be but to court failure. It is possible that the soil may lack potash, and be too full of iron, but this cannot be told except by personal inspection. In making the border add, if you can, some wood-ashes and soot, also a little bone-meal. As the trees grow they will benefit by a forked-in light dressing once a year of sulphate of potash or gypsum, for potash is a very important element in both wood and fruit.

Pears cracking (R.).—When pears crack it is conclusive evidence that the roots are in sour or crumbly soil, and fail to find the useful food elements. With respect to your Peach, Nectarine, Apricot, and Plum-trees, though on walls, yet they suffer from the same cause. It would be a drastic course to take, but the only remedy can be found in unnailing the trees, lifting them, carefully preserving every possible piece of lateral root, cutting clean off all downward roots, then replanting. Before doing that, throw out several inches depth of the upper soil, and wheel it away, replacing with fresh soil from the vegetable quarters, then replanting. Keeping the roots rather nearer the surface than before. Also replace the top soil in each case with fresh, and before filling in have top soil pulverised. If you can add some wood-ashes, bone-dust, and lime-rubbish, it will be helpful. After the soil has settled down, nail the trees as close together, and lay a mulching of long manure over the roots. The final nailing had best be done in March.

Fruit-trees for a wood fence (C. W. G.).—At the aspect of your wood fence is nearly due east, it would probably be a little too warm for a Morello Cherry, unless you placed it at the extreme south end, where it would be partially shaded from the sun. Morello Cherries do best on a north aspect. On warm aspects they become smothered with aphids. You can plant against your wood fence horizontal-trained Pears, each tree having five branches on each side; also lam-shaped Plums. Of Pea-good varieties are Williams' Bon Chrétien, Louise Bonne, Doyenné du Tomic, Kivers' Early Harly, and Josephine de Malines; and of Plums: Bour's Early Proflie, Victoria, and Monarch, cooking; and Jefferson and Coc's Golden Drop, dessert varieties. With respect to fixing them, as you have about galvanised iron wire stretched along the line of the posts, securing it to the posts and drawing it tight. These wires should be 3 inches apart, and have a couple of coats of dull-coloured paint. Tie the posts with a portion of the ties between them and the wire.

SHORT REPLIES.

Subscriber.—Apply to Anthony Waterer, Nursery, Woking. **Plata.**—Plant your Privet-hedge at once. **E. P. Weston.**—Plant one of the good Water-Lilies, *S. Martiana rosea* or *N. M. carnea*. **Edwards.**—Write to Barr and Sons, King-street, Covent Garden, W.C. **H. S.**—No, the whitewash will do no harm. It is inadvisable to colour it with some sulphur and so forth, the better to destroy the insect pests. **Edwards' note on Begonia Flore Lorraine** in our issue of Nov. 23, 1902, p. 105, and also January 11, 1903, p. 10, both of which can be had from the publisher. **W. F.**—You can buy paint ready mixed for use quite as cheap as you can mix it yourself. Any oil merchant in your neighbourhood could supply you. **Leila Tilden.**—See article with illustration of Hybrid Phytocacti in our issue of Sept. 6, 1902, p. 363. **T. W.**—You cannot do better than get "Vines and Vine Culture" from its author, A. F. Barron, 13, Sutton-court-road, Chiswick, price 5s. od., post free. **Holmesdale.**—Yes, the soil you have will answer well. Plant at once. **F. E. A. T. K.**—"The Chrysanthemum," by E. Molyneux. **A. Molyneux.**—No. It would for such a house be necessary to have a small boiler with hot-water pipes round the house. **Old Cur.**—1. If the weather is open plant at the time you mention at once. 2. Mix the lime and soot in equal proportions, and stre it over the bushes white dust. 3. Divide the Agapanthus in the spring. 4. Libum cædium. 5. The best time to plant is when the flower buds have died down, say early in the month of August. **H. A. T.**—The colours will improve as the sun gives it power. **V. J.**—The best plan will be to buy seedlings, which can be had more cheaply, and with less trouble than you can raise them yourself. **Justice.**—Not gardening query.

NAMES OF PLANTS AND FRUITS.

Names of plants.—*Phyllis.*—*Helleborus niger.*—*H. K. K.*—1, *Asparagus decumbens*; 2, *Juncus cristata*; 3, *Yucca japonica*; 4, *Pteris serrulata cristata*. Your Asparagus is covered with rust. The best plan will be to cut it down and burn it, allowing the plant to start from the bottom. **C. Segonard.—1, *Cyrtopodium thosium*; 2, *Cyrtopodium Harrisonianum*; 3, *Cotoneaster*; 4, *Aspidistra*. **H. S. W.**—1 and 2, *B. B. forms of the Red Cedar (Juniperus virginiana)*. **Constant Reader.**—S. Cannot say from such dried up leaves; 10, *Antennaria margaritacea*. **Names of fruit.**—**W. W. W.**—Quite impossible to name from such a dried up specimen.**

Catalogues received.—**W. Wellaand Co., Limited.** Redhill, Surrey.—*Special List of Chrysanthemums.* **Webb & Sons, Stourbridge.**—*Spring Catalogue for 1903.* **Fisher J. Forbes, Hawick.**—*Vegetable and Flower Seeds.* **Fisher and Sons, Reading.**—*Seed Guide for 1903.* **Wickson Chester.**—*Vegetable and Flower Seeds for 1903.* **E. P. Dixon and Sons, Hull.**—*Seed List for 1903.* **Slius and Groot, Eekhuizen, Holland.—*List of Seeds.* **S. Noble and Son, Heathfield Gardens.—*Little and Edmonds Amateurs' Garden Annual for 1903.* **Little and Edmonds, Carlisle.**—*Vegetable and Flower Seeds.* **Smyth and Main, Edgway, B. G.—*Gardeners' Catalogue for 1903.* **Canwell and Sons, Swanley, Kent.—*List of Vegetable and Flower Seeds for 1903.* **W. Paul and Son, Waltham Cross, N.—*Catalogue of Seeds.***********

CORRESPONDENCE.

Questions.—Queries and answers are inserted in *GARDENING* free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF *GARDENING*, 17, Furnival-street, Holborn, London, E.C. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate leaf of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as *GARDENING* has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Impatiens Sultan (S.).—This is a very easy plant to grow. During winter it needs a temperature of 55 degs. to 60 degs. Young growth runs very freely early in the spring. Do not grow in too large a pot. This is one of those plants which thrive best when the roots are partly restricted. Give a rich compost. Leaf-soil and good loam in equal proportions, with a little well-decayed manure and coarse sand, make a good compost.

Cutting back Stephanotis (A.).—You must not prune the Stephanotis. It is the long growths you have now that will flower from the axils of the leaves. If you cut away these growths you sacrifice blossom, and merely get more flowerless wood of the same character. *Alamandas* should be pruned in January or February, cutting the previous year's shoots back to within two or three joints of the old wood.

Potting Amaryllises (G. F.).—With the advent of the New Year these require attention, in the way of repotting and placing in a gentle heat. Repotting must be carefully done, using good soil that is fairly moist. When you have turned out the bulbs examine the base of each and remove all decayed and decaying matter. Then place some potting soil in the pots in the form of a cone, the top of the cone as high as the rim of the pot. Place the bulb on this cone, with the roots hanging down the side, fill up with soil and press firmly. Treated thus the bulb will be about half its depth out of the soil. Place the pots in a gentle heat, the bottom of the pot should be about 55 degs. Do not water until the young growth begins to appear. As growth increases lower the

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VEGETABLES.

PARSNIPS.

Most invariably in high-class gardens asparns are grown too large and long; hence these roots find when presented at table poor appreciation. The prevailing tendency to prefer long, large roots at exhibitions to smaller ones is primarily responsible for this production of what is, after all, undesirable to the table. It is often the case that roots curly of the most perfect form, ranging from 10 inches to 36 inches long, and straight as all can be, are seen at exhibitions. But through these long roots almost always runs a core of rather woody matter that is not edible, whilst the surrounding flesh is little better than so much watery pulp, devoid of all sweetness, flavour, or solidity. To produce roots of that nature for consumption is no gain, indeed, it is the reverse, much as they may be admired at exhibitions. Parsnip soil should always be deeply worked, because depth is essential to the production of any vegetable root. All tapering roots, of which the Parsnip is an admirable example, should be quite free from side roots and be dependent entirely on its deep point or tap-root for obtaining its regular supply of food from the soil, hence the need for deep working of the ground. The soil should not be enriched with fresh manure, but in just before the seed is sown. Far better Parsnips follow some diverse crop, such as Peas, Spinach, or small Cabbages, that is well manured previously. The primary addition to the soil when it is being trenched for the winter should be bone flour and about 3 lb. per rod, mixed, well incorporated to the subsoil. The great aim of the cultivator should be to obtain plenty of quite solid, well-sized, handle-some roots, ranging in length from 10 inches to 12 inches long, and in the shoulder, and free from side roots, such as these, when properly cooked, are not only delicious, but they are very nutritious, the flesh being less watery than large roots are. One of the best of all Parsnips is Tender and true, a selection from the Hollow-crown variety. It is whiter, of richer flavour, and so the most nutritious Parsnip in cultivation. That shows how far the seedman can help in the desired direction, although Parsnip varieties are very few. It is quite early enough to sow seed at the end of March in the south, and a fortnight later in the north, sowing in shallow drills 12 inches apart. When the seedlings are 2 inches in height, thin to 6 inches apart, keeping the hoe freely used between the rows during the summer. Little else can be done then until roots are needed for use, and in November is soon enough to begin doing so. Parsnips may be lifted as needed, but if really early weather prevails, then a portion of the seed should be covered with long litter. Scrape the roots only and cook them whole, gently lifting the water boil away and leaving them almost dry in the pot. A. D.

Sowing early Peas.—It was an old-fashioned custom, and far from being a bad one, when early Peas were sown to have at

hand a quantity of dry sifted coal-ashes, and to dress these along over the rows after covering with soil, forming a neat and not deep ridge. The effect of such a surfacing was to check the frost, and to throw off heavy rains or snow water when thaws followed snow. If such forms of protection to newly-sown Peas were regarded as essential in the old days, when only hard rounds, much harder in character generally than are modern Peas, were sown, what in the way of protection may not be needed now when in gardens at least almost only the somewhat wrinkled Marrows are sown? Another excellent feature of this form of ash covering is that so soon as the tops of the Pea plants show through, if a rake be lightly run through the ashes all the tops are at once liberated, and whilst less liable to harm than by birds, leafage all the sooner appears, and the plants grow away strongly. Sowing deep is not a good practice, as a weight of soil often injures the plant stems.—A. D.

POTATOES IN POTS.

This is a convenient way of forwarding a few early dishes before those in pits or frames are ready, and pots are usually to be had when the Chrysanthemums are being turned out. Ten-inch pots are suitable for this work, three parts filling them with good loam with a little bone-meal or wood-ashes mixed with it. Put one tuber into each pot, mounding up the plants when about 6 inches of growth have been made. A temperature of 50 degs. to 55 degs. will do, and where a Peach-house or vinery is started at the New Year, it will be found a very suitable place to stand the pots. No water will be necessary until the tubers push through the soil, and when in full growth a plentiful supply must be given. As the Peach or Vine require more heat I move the pots into another house closed about the middle of February, eventually into an unheated house early in March, where full ventilation can be given. The haulm must be supported with branched sticks or strands of raffia placed around. I have tried many varieties for this early crop, and none has given better returns than the true type of Sharpe's Victor, of dwarf habit, and the flavour good. It requires eight or ten weeks before the tubers are fit for table use, and the soil should be kept on the dry side when it is seen that the haulm is ripening, which will assist in imparting a better flavour to the Potato. The tubers are better if started a bit before planting in a pot, standing them upright in shallow boxes on a shelf, shaking down a little leaf-soil among them for the roots to lay hold of, and transferring to the pots before they have a chance to get matted together. J. M. B.

NOTES AND REPLIES.

Mushrooms in paddock.—I have a small paddock of about 2 acres, in which I am anxious to naturalise Mushrooms. Could you advise me on the method of procedure? What number of bricks I should require? How and in what month to plant the spawn, and how long after planting would they be ready to gather?—W. B.

[The first step is to procure spawn that will run freely when placed in a suitable medium.

Early June is an excellent time to insert the spawn in pastures, breaking it into lumps about the size of a lion's egg, then raising the turf with a spade, and placing a lump underneath about 3 inches or 4 inches from the surface. Take care to make the soil quite firm again by well treading or beating it down with the back of a spade, otherwise the spawn will not run freely into the surrounding soil, and is liable to entirely fail. The distance between the lumps of spawn may vary from 2 yards to 6 yards apart each way. When the spawn has once got established, the field may be expected to yield Mushrooms for many years afterwards if given a dressing of agricultural salt every season at the end of March or early in April.]

Green Cape Broccoli.—I send you two specimens of a Green Broccoli which may be of interest. It appears to be unknown in England, but it is grown and used almost exclusively in Southern Italy. There it is considered to have a different and far superior flavour to ordinary Broccoli. I agree so fully on this that I have given up growing the ordinary kind, except for May and June. Even Cauliflowers appear to me insipid by comparison with this Green Broccoli, but after all this is a matter of taste. I get seed from Italy, and can grow it almost all the year.—SIR GEORGE ERRINGTON, *Ramsport, Gorey, Wexford.*

[The variety you send is, we think, what is known as the Green Cape Broccoli, a greenish columnar-headed form which comes into use during October and November.—Ed.]

Ground for Peas.—No time should be lost in preparing the plot that is to be cropped with Peas. Last spring an article from my pen appeared in these pages, advising the ground to be well dressed with decayed farm-yard or stable-manure, and I see no reason to alter my opinion upon this point. If the ground can be double dug, burying the manure between the two spits, so much the better for the crop, and on heavy soils it should be ridged, when it breaks down very much better at sowing time. For the earliest crop a warm, sheltered border or corner should be chosen, and preference given to the dwarf varieties, such as Sutton's Harbinger, Carter's Daisy, Chelsea Gem, English Wonder, and the like. Do not sow too close from row to row: 3 feet is none too much for the sun and air to play around them. I like to get these into the ground before the end of January, being guided by the weather and the state of the soil. In drawing drills see that the bottom is quite flat and the Peas sown evenly, not jumbled together, as is often the case. Where mice are troublesome, roll the Peas in red lead that has been moistened with paraffin, and set figure 4 mouse-traps on either side of the row as soon as they break the soil, baited with bacon or a crust of cheese. To follow these dwarf varieties, sow a month later Exonian, Gradus, Glory of Devon, Criterion, or Duke of Albany. For the latest Pea crop let the ground be trenched 2½ feet deep, and well manured, so that in case of a hot, dry summer and autumn, the roots will have something of a substantial nature to sustain them.—J. M. B.

PLANTS AND FLOWERS.

OUTDOOR PLANTS.

COLCHICUM (MEADOW SAFFRON).

When the Meadow Saffrons begin flowering the approach or the presence of autumn is well known. Coming at this time, too, not a little increases their value, from the garden point of view, for then it is that flowering bulbous plants are by no means plentiful. This is especially true of the dwarfier things in the garden, for of tall subjects there is a good supply. Not merely in their time of flowering are the Colchicums valuable, but anyone may succeed with them. Among suitable places may be mentioned the rock garden, the wild garden, the border, and, as implied in the popular name, in the Grass. In any of these places the ruddy tones of purplish-rose, or the paler shades, wherein we mostly find the chequered members of the race, are ever pleasing, more so if freely grouped. In the Grass, or furnishing a bank in front of shrubs, these Meadow Saffrons look well when in flower: nor is the lolder leafage of some kinds to be regarded as meaningless. Again, we have the marked characteristic of this fine leafage appearing after the flowering, a wise provision of Nature, when we remember the wonderful disproportion between the two—flowers at 9 inches high, and the leaf tuft of an established group of *C. speciosum* more than 2 feet high, and fully as much across.

WHERE TO PLANT. I firmly believe that, as a rule, we are too conservative in our recommendation for "light sandy soil" for these plants. I do not say the Colchicums dislike it, but to those who have never seen the more vigorous sorts growing in good stiff clay soil, or, again, in Grass in the vicinity of a bog garden, the thing would come as a sort of revelation. In certain instances these plants are more influenced by sub-soils than by the actual soil in which the bulbs are set. Perhaps the one place not suited to these plants is the lawn, which is constantly being cut and rolled. In such a place the sod becomes very close and consolidated. In this class of soil most bulbous plants cut a sorry figure, and are not a success. The best time for planting is August.



Group of Colchicums.

Large quantities are, however, planted after that time, but such belated work is not actual evidence. When transplanting and division of the established groups in the garden are a necessity, the best time for lifting the bulbs is in July, when the foliage is well matured. This done, the replanting may follow in the

course of a month, always supposing the immediate replanting is not convenient. Dry corns may be replanted far into the autumn months, but these late planted ones take some time to recover. The genus Colchicum, geographically, has a somewhat wide distribution,



Colchicum Parkinsonii.

the majority being natives of Southern and Central Europe, while others are found in Northern Africa, Persia, and even the Himalayas. The following are some of the best kinds—

C. ALPINUM.—A pretty dwarf species: the flowers vary from rosy-purple to nearly bluish-white. The plant is about 4 inches high, flowering in early spring or even in winter, accompanied by the foliage. This species is somewhat freely distributed through Southern Europe.

C. AUTUMNALE.—This, with its many varieties, is one of the most useful of all for naturalising. Its free flowering, ready increase, and generally vigorous constitution fit it well for the climate of Britain. Indeed, *C. autumnale* is a true British wilding, and distinct from the well-known typical kind is a variety flowering in spring, *C. a. vernalis*, chiefly distinguished by the narrower segments to the flower and paler colour. Apart from these are the white, the rare double white-flowered form, the double of the type, roseum, and roseum plenum, etc. Native of Central and Western Europe.

C. BIVONÆ.—A fairly vigorous-growing species, producing large rosy-lilac flowers that are only delicately tessellated. Autumn-flowering, with foliage appearing late in spring. The leaves are distinctly linear. Southern Europe.

C. BYZANTINUM, also called *C. latifolium byzantinum*, is a very old species and one of the most vigorous. The flowers are of a beautiful rose colour, and compare favourably with those of a small *speciosum*. The corm is large, and the foliage even more vigorous than in typical *speciosum*. A most profuse autumn bloomer. Native of Asia Minor, Greece, etc.

C. CILICICUM is very near the above, narrower, perhaps, in the segments, and lacking some of the perfect form, yet one of the best

and most profuse flowering. Flowering in autumn. Cilicia.

C. CROCIFLOREM.—It is not improbable that this is a near relative, if not indeed synonymous with *C. alpinum* or *C. montanum*. It is a winter or spring-flowering kind of about 4 inches high, freely blooming, of a purplish tone, freely striped externally.

C. DECAISNEI.—A distinctly coloured species between flesh or pale rose. A rather early autumn-flowering kind from Palestine.

C. HYDROPHILUM.—A new kind and quite free flowering. The flowers, reddish pink in colour, sweetly scented, and about 3 inches high, are produced in spring. The species is found in damp spots in its native home in Asia Minor.

C. HAUSSEUSCHILII.—A rare species from Persia, flowering in autumn. Flowers on first opening nearly white, afterwards changing to a good purplish tone.

C. PARKINSONI.—Among the chequered forms this is one of the most distinct, while coming quite close to *C. variegatum*. In leaf time, however, it is more easily distinguished than when in flower, the leaves being disposed horizontally or nearly so, and more undulated, in place of the more erect, less undulated leaves of *C. variegatum*. The petals are reflexed and prettily chequered with rose-purple and white. This kind in some localities is tender, and, coming from the Greek Archipelago, should receive a light winter covering in severe weather. *C. tessellatum* and *C. agrippinum* are synonymous with this kind.

C. SIBTHORPII.—This is one of the handsomest of all, and certainly the finest of the chequered section. The plant is as yet rare in gardens. It is one of the most beautiful of the race, the predominant colour being rose, the broad segments freely chequered with purple. The species comes to us from Greece and Macedonia, where in the mountainous regions it is found at varying altitudes to a height of from 4,000 feet to 5,000 feet above sea level.

C. SPECIOSUM.—This I regard as the finest of the Colchicums. The type is surpassed by its variety *rubrum*, and I have also heard of another, *C. s. maximum*. In each of these the colour, usually a purplish-rose, is very warm looking in the autumn. It is a vigorous-growing kind



Colchicum autumnale.

and generally suited in most gardens. A deep rich soil, where moisture at leaf-time can be given, suits it best. Indeed, upon the fullest development of leaves do we get the finest flowers. The flowers are often 9 inches high and sometimes more, and well supported by a strong tube. There is a pure white variety

of this plant, but it is very scarce. The type is from the Caucasus, and, happily, is a good doer and fairly cheap.

C. VARIEGATUM.—This is a very old garden plant. The flowers come in autumn, are rosy-purple and much chequered.

Other kinds are *C. umbrosum*, *C. amabile*, *C. Bornmulleri*, *C. giganteum*, a present-day novelty I have not yet seen, *C. Troodi*, and *C. Steveni*, a spring or winter-flowering species from the Orient. E. J.

PLANTING THE CLEMATIS.

EVERY nurseryman and every florist know of the loss of plants of the Clematis, both by themselves and their customers. This loss is more likely to occur when the plants are set in the autumn than when done in spring, having in mind the large-flowered sorts principally. These are largely grafted on *C. Flammula*, and the fleshy roots of this stock do not take kindly to fall transplanting. Why this I cannot say, and it may not be so generally; but it has been my experience that to set out the plants in the autumn is almost equivalent to throwing them away. That the cold soil has something to do with it is believed, because when potted and placed in a greenhouse the result is different. Careless planters cause the death of many Clematises by not spreading out the roots. They set them in a bunch, as if the cluster was one root, resulting in the inner ones getting not a particle of soil to touch them. These roots rot, and the whole mass becomes diseased. The roots should be well spread out, so that each is encased in soil, and is good for covering them with, as it works in well around the roots. Many trees, evergreens, such as Hemlock and Arbor-vita, especially, are often destroyed in the same way. They have large clusters of small roots, make in appearance, and it needs great care to save the soil reach every one. J. MEEHAN, in the "Florists' Exchange."

NOTES AND REPLIES.

Name of Pink.—Would it be possible for the writer of that excellent article, "Garden Edgings," p. 579, to give through your columns name of Pink there described and where procurable?—M. H.

—Would the writer of the interesting article on "Garden Edgings," in your paper of Jan. 3, kindly inform your readers of the name of the Pink described as "flowering all the summer," also where obtainable? I have a border along a drive some 100 yards long, which is ready for a time, but after the flowers are at an end looks pretty till the Pinks are cut back. The longer lasting Pink described must be a decided advantage.—C. W. S.

Grass, in a sunny aspect and in no way protected. It has flowered twice, and ripened seed, which on sowing has come up into strong young plants. I have also, for the last two years, had a plant of Clematis balearica on a south wall. It is now in bloom, and last year it flowered in February. A. B. TRESTRAIL, Southdale, Clevedon, Somerset.

Sowing croquet-lawn (Cubic).—The practice of burning is chiefly adopted for clayey soil, and for the purpose of so far changing its texture that afterwards it is not so retentive of moisture. Even then it becomes but a body of from 2 inches to 3 inches thick, or even less per acre. If your soil is of a light porous nature, then you would find it difficult to burn it, as it would run so close together. Clay put up to burn in lumps admits a free circulation of air, and also of fire-heat amongst it. You would, for the purpose in view, find it needful to burn a thickness of surface-soil of fully 4 inches, and that would mean a great bulk. To do it well, it is needful to make a fire of wood, on that put coal in lumps and coke, then when well alight pack about it the soil in clumps, adding to it from time to time until all had been burned. But when done and respread, we are not sure that grass-seed will germinate in it freely, and if it be needful to add unburned soil, then all your labour will be lost if the added soil contain weed seeds. We should prefer to make the base for the lawn by well forking, levelling, and treading, then raking coarsely the soil, doing that a month before it is time to sow the seed, and the middle of April is early enough for that. Time enough would then be given for any weed seeds in the soil to germinate, and if a day or two prior to sowing the seed the surface were well hoed over, the weeds would partially dry, then be raked off. The grass-seed should when sown have the soil to itself, and be well ahead of any weeds that might follow, which could be pulled out after they become large enough.

where air can reach it. In a few days it will crumble to pieces. Now take and give a light dressing over the surface-soil, and particularly in those parts where the slugs most do coagregate—viz., round about the tufts of perennials, etc. Prior to doing this, free the



Colchicum autumnale roseum.

border and plants of dead or decaying foliage. Such things afford the best shelter for slugs. Repeat the dressing of lime a fortnight hence, and by the use of the lime alone you will get rid of large numbers. It is more effective in this way than when mixed with soot. Sprinkle a little in the crowns of the plants also, though chiefly about the base of the plant.]

Leggy Wallflowers.—I have some Wallflowers and other plants which are very leggy. Can I plant such very deep in the ground to counteract the legginess, or is it detrimental to do so?—AMATEUR.

[If the stems are sufficiently pliable, a better plan will be to bend them round and peg them into the earth, or you may lay the stems in sideways, so that there would be no great depth of soil above them. Deep burying of the stems is certainly not desirable, less so where heavy soils obtain. Any expedient is better than this.]

English and Spanish Irises.—I have a lot of English and Spanish Iris bulbs, but my soil is wet, clayey, and holding. When shall I plant the bulbs? I thought February. Last year many rotted from being in the wet, sticky ground all winter. What treatment should they have after flowering?—AMATEUR.

[These Irises should have been planted weeks ago. If you keep them till February many will be worthless—a dry rot takes them. Your soil is obviously not suited to these plants, and your only chance of success would be to mix sand and old mortar very freely with the soil. If, in conjunction with this, you could plant 3 inches deep in a position sheltered from south-west rainfall, a better opportunity would be afforded of a good flowering. It is a mistake to keep these Irises long in the dry state—in fact, we believe more roots are lost in this way than when planted in November. If you cannot do as suggested, the next best thing is to cover the bulbs deeply with sand. In the end of July the bulbs may be lifted, cleaned, and placed in sand till required for autumn planting.]

Delphinium Blue Butterfly.—About two years ago I noticed in your paper an account of a new annual Delphinium "Blue Butterfly." Last spring I got a packet of the seed and raised some, filling with them two small beds in my garden. I was charmed with them, especially as one often runs short of good blue flowers. This Delphinium is perhaps not quite of so rich a hue as our old favourite *Salvia patens*, but it is a lovely colour all the same. Growing only about 1 foot high, it is a good plant for a flower-bed. Any of your readers who try it will, I think, find a welcome addition to their gardens in "Blue Butterfly."—AMATEUR.

Dianthus deltoides, cutting down (Rockery).—All the old stems may be cut off the straggly *Dianthus*, which is probably *D. deltoides*. This may be done at any time after blooming. Compact tuft of growth assuring a further supply of flowering stems another year.



Colchicum alpinum.

The New Zealand Flax.—In reply to the questions asked in your paper regarding the hardiness of the New Zealand Flax, I may state it grows well in Clevedon, Somerset. I have had it between five and ten years planted in the

Slugs in garden.—Slugs are very bad here in summer. Can I dust round the actual bulbs and also all herbaceous plants with mixture of soot and lime? They eat all the young shoots.—AMATEUR.

[Your best plan will be to obtain at once some fresh lime, placing it in a box in dry shade

CHRYSANTHEMUMS.

THE FUTURE EXHIBITIONS OF THE NATIONAL CHRYSANTHEMUM SOCIETY.

THE Executive Committee of the N.C.S. have decided to hold their coming exhibitions at the Crystal Palace. At least, so I gather from the report of the last meeting held to discuss the question of the future of this society. What a relief this piece of news will be to those who have so long desired the removal of the exhibition to a building where they could ask their friends to come and see the displays made in October, November, and December for many years past. It is difficult for old habits to realise that the fiat has gone forth, and that the "Aquarium" has seen the last of the National Society's shows. The association of the National Chrysanthemum Society with the Royal Aquarium has, no doubt, been mutually advantageous. Almost, without exception, the members of the N.C.S. would probably recognise the fact that the great popularity of the flower has been achieved by associating its fortunes with those of the Aquarium. The National Chrysanthemum Society for several years past has been subsidised to the extent of £375 per annum, and in many other ways has benefited. Because of this fact the prizes have been increased in number, and in value too—the total value of prizes and medals awarded reaching about £375. Whether this money has been wisely applied is a matter which has disturbed the minds of several writers in GARDENING ILLUSTRATED within the last month or two. The big, unwieldy blooms of some of the varieties have received far more attention than they really merit, to the exclusion of some of the more interesting and pleasing types of the Chrysanthemum. Let us hope that with the change which is now inevitable there may be a complete alteration in the character of the exhibitions.

The remarks of "Essex" in GARDENING ILLUSTRATED for January 3rd last seem to point to the want of knowledge respecting what is required of Chrysanthemum societies and their exhibitions. To say that "Ovont Garden is the only place for small flowers is ridiculous. He rightly says that exhibitions are held to improve floriculture, and to test the skill of the gardener." To say "there is no skill in producing small flowers" is absurd. I maintain that to grow a batch of plants to produce a free display of medium-sized disbudbed blooms of good character—not miserable, weak-necked blooms with little to admire in the plant and its foliage—requires the best skill. "Essex" asks, "What has made the Autumn Queen so popular?" and answers, "Is it not the exhibitions?" The exhibitions have certainly popularised the cultivation and exhibition of large, severely disbudbed blooms, but the growers of these blooms are but a tithe of the large army of cultivators who find the keenest pleasure in growing the kind of blooms to which "Essex" refers rather disparagingly.

All who have had the best interests of the N.C.S. at heart are hoping the executive committee will set their house in order and rearrange their schedule. According to the report of the meeting, to which I have already referred, the Crystal Palace Company are offering, in addition to a certain number of medals, some £200. As this shows a difference of £175 or thereabouts in the amount previously received to supplement the society's prize list, the greatest care will have to be exercised in the compilation of the schedule of prizes for the next series of shows. Many of the "big bloom" classes might with advantage be left out, as there is far too much repetition in the existing schedule. All who are interested in the Chrysanthemum, not necessarily from the point of view of large, disbudbed flowers only, but rather for its general usefulness for decoration, will hope that the freely-grown, disbudbed, and partially disbudbed blooms may receive the encouragement this type of flower deserves. Let these be encouraged and also be properly exhibited, and it is safe to predict an increased popularity for the Autumn Queen, because many people who

cannot find pleasure in the "mops on poles," which now so largely predominate at the shows, would appreciate the many uses to which the medium-sized flowers could be put. The exquisite form and lovely colours of sorts which are too small for the large bloom classes would then be more often seen and their excellent traits deservedly brought to the front.

What a pity it is the society has decided to charge, in addition to a member's subscription, a fee for each class in which such members exhibit. Experience of shows extending over many years, and in societies of a varied character, goes to prove that this charge acts as a great deterrent. An old friend, who was once honorary secretary of a very influential Chrysanthemum society, has always been most emphatic in protesting against anything that might deter growers from exhibiting. His experience was similar to that expressed above, and if the present idea of the N.C.S. is persisted in, there is good reason for believing there will be a considerable falling off in the competitors. As a well-known grower truly said, "the expenses of getting up and down from the Palace will be considerable, and if in addition one has to pay to exhibit, I am sure it will end in failure, because men will not show there at all." This, surely, is a remark of an ominous character, and one which the committee will do well to consider.

W. V. T.

EARLY-FLOWERING CHRYSANTHEMUMS.

WHAT TO DO WITH THE OLD STOOLS.

THESE do not need the long period of growth that many seem to suppose is necessary. Far better wait a little while, and in the meantime take every precaution to ensure the satisfactory development of a good crop of fresh growths on the old stools. Cuttings of this kind will make all the difference between success and failure. In many gardens the old stools are still in their flowering quarters, and these old plants have had a very rough time of it lately. Notwithstanding this fact, one's prospects may be improved by timely lifting of these old stools, placing them in boxes, or, better still, planting them out on the greenhouse benches. Those who do not possess a glasshouse may accomplish the same object by utilising the cold-frames, or, better still, the heated pit-frame. Any soil of a light and gritty kind will do to embed the plants in, and if a good watering with clear water, from a can with a fine rose, can be applied, fresh, short-jointed growths will soon develop. Many of the early-flowering Chrysanthemums are rather shy in producing cuttings, and others, too, are likely to die if left out during a protracted frost. These plants should be the first to be lifted, and special care should be taken in planting them in the better positions on the greenhouse bench or elsewhere. In this category appear such varieties as Mychelt White, Mons. Gustave Grunerwald, and its sports—Henri Yvon, M. Louis Lenaire, and Mrs. R. Mallinson in the Japanese section; and among the Pompons, Lyon, and its sport Alice Butcher, represent two of the sorts needing special care for a time. Ultimately, these plants grow along vigorously, and produce a splendid crop of cuttings. Mme. Marie Masse and its sports, Ralph Curtis, Crimson Marie Masse, Robbie Burns, and Horace Martin, represent the hardiest of the outdoor kinds. One plant in a season will develop a mass of shoots, many of them with numerous roots adhering, sufficient to supply the needs of a neighbourhood. Many of these old stools measure between 2 feet and 3 feet in diameter, and no matter how severe the winter may be, they generally come through it exceedingly well. Readers of GARDENING, in taking in hand the cultivation of plants of Mme. Marie Masse and its sports, should remember that these plants may be increased by division quite easily. This is encouraging for readers who have no glasshouse or frames. It would be better, of course, to leave the division of the plants until the spring. April would be quite early enough, and if the plants be divided with a little care the divided portions will soon start freely into growth.

Referring again to the old stools, which

should be plunged in the soil on the greenhouse benches, etc., these should give an excellent crop of cuttings just as the days begin to lengthen. The fresh and healthy condition of these new growths enables one to start the season's work of propagation with success assured. Assuming the cuttings are not coddled during their period of propagation, it is quite safe to assert that scarcely a failure will have to be recorded during the rooting process. The cuttings should be dibbled into shallow boxes, and if the temperature of the glasshouse can be maintained at about 50 degs. they will quickly root, and be considerably assisted by the more genial atmospheric conditions prevailing outside. The old stools will continue to give successive crops of cuttings, and this may be allowed until a sufficiency of plants has been obtained.

E. G.

NOTES AND REPLIES.

A new late Japanese Chrysanthemum—Mrs. Swinburne.—The variety under notice is another of the choice kinds raised by Mr. H. Weeks, of Thrumpton Hall Gardens, Derby. This Japanese flower is refined and chaste, having very long, medium to broad petals of good substance, which prettily twist and incurve at the ends, making a flower of undoubted high quality. It may be described as a pure glistening white, and as such will be of value for late displays. It is the result of a cross between Miss Alice Byron—which is recognised as one of the best pure white mid-season sorts—and Mme. R. Cadbury, a beautiful late-flowering white sort. From plants housed at the beginning of October, at which time the crown-buds were retained, lovely blooms were gathered about a fortnight before Christmas, and these continued to make a brave show right into the New Year.—E. G.

Chrysanthemums in vases and baskets.—I quite agree with "A. D." January 3rd, page 582, in his remarks with reference to "big, fat" blooms usually exhibited at Chrysanthemum shows. There is no comparison between these so-called high quality flowers and those of the charming spidery, Pompon and decorative Chrysanthemums, of which we see far too few. It is owing to the action of the Chrysanthemum societies catering for these large blooms that the pretty blossoms just referred to are so scantily provided for. Societies will have to mend their ways if the flower is to maintain its popularity, and more classes of a decorative character will have to be the rule. Anyone who has seen a free display of decorative exhibits, in which small and medium-sized blooms are used, will admit that for exhibition and for providing more general interest this class has many advantages. Apart from this, the cultivation of free-flowering kinds is encouraged.—W. V. T.

Chrysanthemums—plants shy in producing cuttings.—Some sorts are naturally shy in developing cuttings, and these same varieties not infrequently are among what are regarded as the best kinds for exhibition. There are also, in most collections of Chrysanthemums, plants which appear to give but the faintest indication of developing cuttings within the period best suited to their requirements, and as they may be regarded as indispensable by certain growers, means should be taken to encourage the production of new growth. To this end, shake out the plants from their flowering pots. If the grower has a portion of his greenhouse bench to spare, and can plunge a few old stools in some light compost on this, he will be able to raise a goodly quantity of stock in a little while. Before plunging the old stools, as just suggested, the ball of soil and roots should be considerably reduced, and what remains of the old ball of soil should also be slightly loosened. Should the old stool be very dry, give it a thorough soaking with slightly tepid water, and after this has drained sufficiently the embedding of the old roots should be proceeded with. Maintain a temperature of about 50 degs. to 55 degs. Where the use of a side bench or the side of a propagating-house, with its accompanying bottom-heat, can be utilised, so much the better. A genial temperature in such a structure, keeping the soil just moist,

not wet, produces fresh and clean growth in a short time. Old stools may also be reduced and repotted into 6-inch pots. This latter method is useful in the case of those growers who cannot conveniently adopt either of the other methods before described. By following any one of the three courses suggested sly sorts can be induced to break out into fresh growth, and cuttings of this kind generally root readily.—E. G.

TREES AND SHRUBS.

THE NEW ZEALAND DAISY BUSH (OLEARIA HAASTI).

This is hardy in most parts of England, and we remember having seen some very fine specimens in the villa gardens round Aberdeen, where it grows vigorously and flowers freely every year. If planted in large groups it has a beautiful effect when covered with its thousands of Aster-like flowers. Even out of bloom it is attractive. In New Zealand, where it is found at an altitude of about 4,000 feet, it forms a small shrubby tree. The flowers, as

It is perhaps *Philadelphus Sataumi*, as noted on the label. I turn to the *Kew Gardens* handbook, and find it has nine other aliases. If a tree bears on its label at *Kew* the name *Amelanchier canadensis*, the handbook warns me that the tree also bears eighteen other names. *Spiraea canescens* has twenty-four other names. The multiplication of examples would be easy. The nomenclature of the flowering Cherries, for instance, is in a hopeless state of confusion. The only certain way of getting what one wants is to wait until the trees and shrubs are in flower, and then make a selection at the nursery. All this is very troublesome. Is it too much to ask one or two of the best of our nurserymen to make a commencement towards bringing their stock into accord with the *Kew Gardens* nomenclature? This would, I suppose, involve a good deal of labour and some cost, but the result would be well worth the trouble. A commencement might be made with the family of Rosaceae, which includes some of the ornamental gems of our gardens, *Prunus*, *Amygdalus*, *Armeniaca*, *Cerasus*, *Padus*, *Laurocerasus*, *Pyrus* *Malus*, etc. I know very little of Conifers, but

increase it. Never cut a slit in the bark into which to insert the seeds, but simply apply them to clean bark, protecting with a piece of fine muslin. Raising the Mistletoe from seed is a slow process, as no external sign of the growth is visible until a year after the seed has fallen away. If you examine the place then you will find that the bark is swelling just beneath the spot whereon the seed was placed, and in the second year the young shoots appear.]

Upright low-growing Conifers.—Are there any upright-growing, well-shaped Conifers, whose growth is limited to 5 feet or 6 feet in height?—H. C. W.

[There are very few Conifers that just conform to your requirements, the nearest being *Cephalotaxus podunculata fastigiata*, *Juniperus communis hibernica compressa*, *Retinospora leptoclada*, *Retinospora obtusa pyramidalis*, and *Biota (Thuja) orientalis elegantissima*. Some kinds that are very amenable to pruning, such as the medium-growing forms of *Cupressus Lawsoniana* and several of the *Retinosporas*, may be kept to the specified height for some years if the principal branches are shortened back when necessary.]

Carpeting plants for bank.—

What are the best evergreen carpeting plants for a bank, to grow in large spaces between and in front of Conifers? The Conifers are low, and the plants would get plenty of sun?—H. C. W.

[Evergreen plants of a shrubby character suitable for the purpose you name, are: *Cotoneaster microphylla*, *Cotoneaster thymifolia*, *Euonymus radians variegata*, and the variety *Silver Gem*, *Ivy* of various kinds, *Hollanthemums* (Rock Roses), of which there are many beautiful flowering forms, *Vinca major* (the *Periwinkle*), *Vinca minor*, of which there are many varieties. The *Rose of Sharon* (*Hypericum calycinum*) is almost evergreen, and is such a delightful low-growing shrub that it must not be omitted from any list, however select. It is certainly one of the finest of all the *Hypericums*. Such a position, too, would suit the various hardy *Heaths*, and if the soil is of a heavy nature it may be made suitable for them by incorporating with it a portion of vegetable matter in the shape of either good decayed leaf-mould or peat. There is a considerable choice of these *Heaths*, all of which delight in a sunny spot. Specially worthy of mention are the *Ling* or *Heather* and its numerous varieties, all of which flower during the autumn months, the *Troy Heath* (*Erica cinerea*) that blooms about midsummer, *St. Dabie's Heath* (*Daboecia polifolia*), whose purple blossoms are borne from early summer till late in the autumn, and the same may be said of its white variety (*alba*). *Erica carnea*, that pretty *Heath* that flowers soon after Christmas, must, as well as its white variety, be included in the list, while *Erica ciliaris*, *E. tetralix*, and *E. vagans* are all good. Of Conifers, *Juniperus Sabina prostrata*, *Juniperus Sabina tamariscifolia*, and the *Weeping Yew* (*Taxus Davoustii*), if on its own roots, may be all recommended.]

Outdoor climbers for various aspects.—Some quick growing, robust climbing plants fail, for the reason that they are put into wrong positions. Take as one example amongst *Roses*, *Crimson Rambler*. No one who has had much experience with it would recommend its being planted on a south wall. Yet generally I have seen it so grown, but, of course, both flowers and foliage soon blister in the hot sun. A north-west or even an east aspect is better for this *Rose*. *William Allen Richardson* is another *Rose* that bleaches very much when grown on a hot wall, and besides this the buds are unduly hurried. Plant on north and north-west walls *Ivy* in variety, *Ampelopsis*, *Jasminum nudiflorum*, but do not confine the last to this aspect as on south walls early blossoms of the *Jasmine* are most acceptable,



The New Zealand Daisy Bush (*Olearia Haasti*). From a photograph sent by Miss Sophie M. Walker, Lough Eske, Co. Donegal.

may be seen by our illustration, are very numerous, in terminal corymbs, the ray florets 1/2 inch long, white, the disc yellow. The plants, as a rule, bloom in August, and remain in perfection several weeks. It appears to succeed in any kind of soil, provided it is not a rank clay, and soon forms a dense bush. It is advisable after flowering to pick off the flower-heads, as it would be a great tax on the bushes to allow them to produce seed. In cold districts it is best planted where it can have the friendly shelter of other and taller growing plants. T.

NOMENCLATURE OF PLANTS.

Now that more attention is being given to flowering trees and shrubs for the brightening of gardens and grounds, it seems desirable in the interests both of buyers and nurserymen that trade catalogues should be revised, so as to bring them into accord with some standard nomenclature. As matters stand at present, names in catalogues are absolutely bewildering. What has happened to the writer of this note must have happened to many gardeners before, and will trouble many more in the future. I see some beautiful things in flower by *Kew*.

I can see by looking through the lists of one or two of our very best nurserymen that they are not free from the old confusions between *Pinus*, *Picea*, and *Abies*. TURKEY.

[This is just what our best nurserymen are now doing, but it is very difficult to get all to follow the *Kew* list. The Continental growers, too, in many cases do not follow the same nomenclature as our English growers, and it would be difficult to get them to do so.—E. G.]

NOTES AND REPLIES.

Propagating the Mistletoe.—In your issue of Jan. 11 and Feb. 8, 1902, you had some notes on Mistletoe culture, from which it appears the seed must not be sown till March or April. In this district, however, little Mistletoe is found, and one can hardly obtain ripe seed at that time. Will seed saved from the boughs answer the purpose, or will the berries then be too dry to adhere to the bark? What would be the result of sowing early in January? Kindly let me also know whether the method of sowing is simply to squash the berry on to under side of bough and protect as instructed?—T. C. USURE.

[If you put on the seeds now they are not quite ripe and probably will fail. You can preserve the berries, or anyone who has a tree with Mistletoe on it would send you some berries in April, which is the best time to

On north and north-east walls the Flame-flower (*Tropæolum speciosum*) is often to be seen in blaze of colour: for east walls, too, Honey-suckles, *Cydonia japonica*, and *Kerria japonica*, with Clematises, are suited. We know, too, that often in east aspects strong growing Roses like Gloire de Dijon, Mme. Berard, and Aimee Vibert often excite admiration. On a corner of a west wall I have a Clematis belonging to the lanuginosa group—Lord Nevill—which never fails to bloom well.—LEAHERST.

INDOOR PLANTS.

CLIMBING PLANTS IN THE CONSERVATORY.

The climbers in the conservatory, if not already thinned out or pruned according to their several needs, should have this attention given to them. Indiscriminate pruning is altogether a mistake; thus to prune *Ilabrothamnus elegans* now would be utterly wrong; rather save every shoot and prune immediately after the flowering season in the spring. Another instance is the well-known but none too frequently grown *Bougainvillea spectabilis*, which, in contradistinction to *B. glabra*, flowers from the terminals of the previous year; here, again, pruning would be wrong. Instances need not be multiplied beyond these two. *Lapagerias* should be carefully thinned, merely taking away the weaker or spray-like shoots. See that this plant does not get dry at the roots: it should never suffer from this cause. Look closely after young shoots, which in favourable positions may soon be pushing up from the base, and guard against slugs and even snails; these shoots appear sometimes farther away than one would for the moment think of looking. Where large or medium-sized plants are in pots or tubs and there is any idea of planting out, it had better be attended to at once, using rough loam and peat, turfy and fibrous, with a liberal addition of road-scrappings or silver-sand. *Plumbago capensis* may be pruned hard and be thinned freely, too much wood if left being a check to strong growth, which is the best for flowering. *Troscasias* should be pruned moderately, spur-pruning rather than cutting hard back being advisable. *Solanum jasminoides* should be cut back freely, otherwise it becomes master of the situation. *Cobæa scandens* requires similar treatment, but the best check to this climber is to drap its shoots, letting them as far as possible hang downwards, thinning out the rest as growth proceeds. Roses in conservatories which are not kept absolutely cool are rather awkward to manage at times, being predisposed to start into growth too soon. To remedy this in a measure it is best to keep them quite on the dry side for the time being. Any climbers which are known to be a trifle tender should, if possible, be dropped from the roof to where it is a little warmer. Thus treated, they may be kept safely. The white scale often troubles conservatory climbers that are of a hard woody character. Wherever this pest exists no time should be lost in attacking it with determination whilst work in other quarters is not so immediate and pressing.

TUBEROSES.

Few flowers are more valued in autumn and winter than the Tuberoses. Especially is this so where there is a large and constant demand for such as are useful in button-hole work. Tuberoses, it must be admitted, are suited to this class of work, and altho useful as they in wreaths, crosses, or bouquets. It is now possible to have them in bloom almost all the year round, and though, of course, in common with all flowers, they open very slowly in the depth of winter, yet it is satisfactory to know that a fair percentage of their blooms expands tolerably well. To secure the flower-spikes from accident, a stick should be placed to each, with a loose tie to admit of future growth, and if the pots are stood closely together little harm should result. At this time also keep them free of the side growths that form about the bulbs to the detriment of the flowering stem and blooms. Give the plants abundant supplies of water at the root and weak liquid manure every other day. Syringe freely and regularly, so as to check as

much as possible the progress of red-spider, thrips, and the like, which are almost sure to infest them. An occasional watering overhead with clear soft-water will also conduce to the same end. Best of all, perhaps, is an occasional syringing with Quassia chips and soft-soap. Take a 6-inch potful of the Quassia chips and place in an old saucapan with soft water, and boil steadily till the whole of the chips have sunk to the bottom; then drain it off and add a large teaspoonful of soft-soap, stirring well till dissolved, adding sufficient cold soft water to make two gallons of the whole, but if not sufficient, increase the proportion of chips and soap till enough has been made to give a good syringing all round. Provide abundance of air on all favourable occasions, and daily while the plants are in frames at closing-time give them a nice sprinkling overhead with a fine rose. This will also tend to keep insect enemies in check. From time to time the most forward may be introduced into warmth as required.

NOTES AND REPLIES.

Creepers for a balcony.—I should like to know what creepers would be suitable to grow in boxes on a south balcony next summer? I want something to cover the walls of the house well. Is it any use trying *Solanum jasminoides* in a box?—W. J. B. L.

[We hardly think *Solanum jasminoides* sufficiently quick-growing. Better plants would be *Cobæa scandens* and its variegated form, *C. s. variegata*, together with Climbing *Nasturtium*, the Canary Creeper (*Tropæolum canariense*), thickly planted in line, or some good two-year-old plants of Ivy-leaved *Pelargonium*. These last are very free.]

Carnation Deutche Bruant.—I have heard it stated that this is what is termed a "miffy" doer, but with me it is all that can be desired. Having propagated it last spring freely, with a view to test its capabilities as a winter bloomer, I am now in a position to say that it is quite first-rate, for it is as free as *Mlle. Carlé*, while the individual blooms are thrice as large. The flowers are clove-scented, pure white, beautifully formed, and of the greatest value for button-hole making at the present season. Plants with about five expanded blooms on them are very valuable for house decoration just now, and the flowers being so sweet-scented render them doubly valuable.—A. W.

Spot in Carnations.—Can you tell me how to cure spot in Carnations? I have a large number of *Malmaisons*, and they have got spot badly. They have been in cold-frames, with plenty of air and very little moisture at the root. The disease appeared just after the layers were potted up at the end of September. Can you recommend me a book on the culture of *Malmaisons*?—A. VENABLES KYRKE.

[As your plants seem to be badly affected with this disease, we would advise you to throw away the very worst ones, and, if possible, remove the others to a greenhouse or similar structure, where a little fireheat can be turned on during wet or foggy days, so as to dispel superfluous moisture. In a house the plants are not likely to keep nearly so wet as when in cold frames, and this, we think, is partly the reason your plants are so bad. In cold pits or frames it is next to impossible to keep the Grass dry, consequently the plants are laden with moisture day and night—a sure forerunner of this dreaded disease. Do not water until really necessary, and then use every care that the foliage is not wetted in the operation, using a long-spouted small can for the work. We would cut off the worst patches and then dust the entire stock with a mixture of soot and sulphur, washing this off after a couple of days, laying the plants on their side and syringing with clean water, repeating the dose twice or even thrice. We have known this to be effectual in many cases. Give the plants abundance of ventilation on fine days, and the night temperature should be from 40 degs. to 50 degs., according to the weather. Place the plants in the lightest position, and within 2 feet of the glass roof if possible, allowing plenty of space between each one, overcrowding being another cause of this Carnation going wrong in the way yours have done. We do not know any one book on *Malmaisons* alone, but the "Carnation Manual" should answer your purpose, as all classes of Carnations and their diseases are fully dealt with in it.]

ROSES.

ROSES AS ISOLATED SPECIMENS BETWEEN FIR-TREES.

(REPLY TO "BEGINNER.")

THERE is abundant variety for such a purpose. Foremost among the groups are the *Rosa rugosa*, or Japanese Roses. Great improvements have been made in this tribe during recent years. In some cases we have lost the charming display of fruit or seed-pods, but, on the other hand, we have gained more exquisite blossoms. Varieties such as Conrad F. Meyer, the delicate-coloured Mercedes—as beautiful as a Tea Rose the snowy white *Blanc double de Courbet*, the brilliant *Mrs. Anthony Waterer*, and the single pink and white should not be omitted. Other good Roses for such an object as you have in view, supposing the space available is fairly considerable, are: *Dawn*, *Robusta*, *Fair Rosamond*, *The Garland*, Climbing *Belle Siebreecht*, *Reine Olga de Wurtemberg*, *Polyantha grandiflora*, the small-flowered but exquisite *Polyantha simplex*, *Macrantha*, *Bardou Job*, *altaica*, *Paul's Single White*, *Carmino Pillar*, *Pezancea Briers*, *Celestial*, and *Maiden's Blush*, the *Dawson Rose*, *Leuchstern*, *Gloire de Dijon*—in fact, any vigorous kind that appeals to your taste. As to *Crimson Rambler* and other rambles on posts, this is the ideal position for them. Their beauty cannot be better displayed, provided always the soil is well prepared before planting. It would not do to just take out a spadeful of soil and put in the plants. You must take out a considerable amount of the soil, mix with it some well-decayed manure, then return again to the hole, leaving out just sufficient to enable you to place the roots about 7 inches or 8 inches beneath the surface. The turf can be returned again if this is desirable. You must take care to provide good substantial posts. Nothing is better than young Larch-trees with their lateral branches sawn off about 7 inches or 8 inches from the stem. Good stout Bamboo canes will do also. When the plants have attained a considerable height two stakes are then desirable, placed about 1 foot apart, and some stout spurs put to them to keep them steady. A cross-piece of wood tied on to the two stakes will keep them the better in position.

Rose Miss Glegg.—I read an article on old-fashioned climbing Roses in GARDENING ILLUSTRATED of December 13th, 1902, which gave me great pleasure. *Rose Miss Glegg* was exhibited last June at Southampton Rose Show, several standards of that variety being one mass of bloom. I think this Rose deserves larger cultivation. I know of a plant that has been in an old garden for over twenty years, and has produced flowers every season.—OLD ROSE LOVER, Southampton.

Roses in November.—Late in the season one may often gather a good many varieties in even better form than they frequently assume during the month of June, for, owing to a long continuance of mild, showery weather, Roses in general started into active growth in the autumn, and buds in various stages of development are still plentiful. *Gloire de Dijon* on walls or in the open is always one of the earliest as well as latest to give us some beautiful buds, while *Souvenir de Malmaison* is invariably of better form and colour as an autumnal than as a midsummer Rose.—J. G., Gosport.

Erratic flowering of Scotch and Austrian Brier Roses.—It really looks as though a perpetual race could be evolved by careful crossing. I have always thought it strange that no additions have been made to the Perpetual Scotch Rose known as *Stanwell Perpetual*. This variety remains alone, yet a few more as good and of other colours would be welcomed. The introduction of *Soleil d'Or* shows it is possible to have autumnal flowers of the Persian Yellow type, so that perhaps a similar character could be given to the pretty little Scotch Roses, and I am sure if we had an autumnal-blooming *Harrison* it would be of much value, not merely for its wonderful hardiness, but also for its lovely diminutive form and

FERNS.

NOTES AND REPLIES.

Adiantum Farleyense in hanging baskets.—At Bicton, in a lean-to house, facing north, I saw this used with fine effect as a hanging plant, a purpose I have not seen used for before. Several plants hung from the roof. These were in 6-inch and 7-inch pots, and so vigorous were they that the fronds hung over, completely covering the pots. Undarnesth, on the bed, was a fine lot of Ferns of many kinds, mixed with the showy Impatiens Sultoni and fine plants of Cypripedium Harrisianum.—C.

Nephrolepis exaltata.—This is one of the most valuable of Ferns for amateurs who have little artificial heat. It is equally good as a pot plant or for hanging-baskets—in fact, for the latter purpose it has very few rivals, for while its tall fronds fill the central portions of the basket, the older fronds droop down over the edges, and after they get well established the base of the basket is completely hidden by combs that give a very pretty effect when seen from below.—J. G., Gosport.

Growing the Killarney Fern (*Trichomanes adianthifolium*).—I should be grateful for any information about ways for growing Filmy Ferns. Those I have seen are

excellent base on which to allow the rhizomes to ramble.]

—A month or two ago I noticed that a question was asked in this paper as to how this Fern should be grown. The answer gave the usual treatment. I now wish to suggest treatment which I have tried and found successful. This method is vastly preferable to that of enclosing it in a dark glass case, where its beauty can only be seen when the glass structure is removed. I was recently given a piece of this Fern, which had grown in a structure of the above description for the last twenty or thirty years. I planted it in the approved material in an Orchid-pan, and stood it on the floor of my greenhouse in such a way as to be well shaded from the strong light, as the house faces south. Immediately alongside and at a higher elevation I have placed a large earthenware basin, which is kept quite full of water, and over this is suspended a hose-pipe connected with the water supply, and the water is allowed to drip slightly: the drop coming into contact with the water surface below causes a fine spray to disperse all round to a distance of a foot or so. This keeps the fronds of the *Trichomanes* in a nice damp state, and produces in an artificial way the conditions in which it grows in the wild state near dripping

very coldest localities, when the hexagon netting is the better. That cold winds are the chief cause of the curled leafage I had ample proof in these gardens last spring in the case of two young trees trained on a west wall. Owing to an oversight on my part no protection was afforded. As in "G. H. N.'s" case, the young foliage looked the picture of health for a few weeks, but after a time all the leaves got more or less affected, and in time dropped off, and the trees looked very bad. I am not sure now whether one will ever make a tree. On the other hand, a tree of Gladstone was left unprotected on a south wall, and here and there a leaf was blistered, while on the Peach wall proper, sixty yards long and facing due east, not more than a score of leaves was affected. These trees were protected with a double thickness of 3-inch mesh netting, which was put up March 15th, the glass coping being put on a week earlier. The nets were taken down May 15th, and the glass coping taken away the first week in June. If "G. H. N." takes similar precautions it seems difficult to account for the sorry plight his trees get into year after year. On a small scale the affected leaves may be picked off, but it worries the gardener not a little when all more or less follow suit and his most promising crop is a failure. A suggested preventive is to spray the trees with a solution made by dissolving 1½ oz. of carbonate of copper in a quart of liquid ammonia, diluted with 90 quarts of water, once before the buds unfold, and once or twice after the fruit is set. I have not used it myself, so cannot say if it really does prevent the blister. As before stated, I have always found that the gradual removal of the affected leaves is the best remedy, except last spring on the two trees on the west wall. This was owing, I consider, to the exceptionally cold spring we had. Your correspondent should try this latter remedy on its first appearance and persevere with it, unless a sure preventive is forthcoming in these pages.

EAST DEVON.

APPLE GASCOIGNE'S SCARLET.

THIS, as its name implies, is a handsome, rich coloured fruit, and suitable for either dessert or kitchen. It is a most prolific bearer on the Paradise stock. Avoid too close pruning, and the crop will be right. I have it as a standard in the orchard, and though the tree is small as yet, it had a nice crop the past season. Should the tree under garden culture make too much wood, root-pruning is preferable to using the knife too freely, and this advice stands good in the culture of all fruits. This Apple is seen to advantage in Kent, and in colour is much like Baumann's Red Rainette.

J. M. B.

GLASSHOUSES FOR MARKET GROWER.

I HAVE bought a shop with some ground attached, and think of putting up a glasshouse about 70 feet long, parted in two, one for Cucumbers, the other for Tomatoes. I would like a little advice as to the best description of house, most economical boiler (would like it large enough to heat another house if required later), quantity of piping? I have thought of a span-roof with path down centre and beds on each side. Would it be possible to have it so as to force Rhubarb, Seakale, etc., under the beds? I would like some suggestions as to crops to succeed Tomatoes and Cucumbers? What should be next of the house complete put up by builders? I am a gardener, but have had no experience in growing for market.—SOMERSET.

[Had you given us some idea of the size of the piece of ground attached to the shop it would have helped us materially. One house 70 feet long, cut in two to suit two crops, means that you have nothing for market at any time, for you cannot do much in a house 35 feet long; less, indeed, if you wish for a house so narrow that the path is to run through the centre. The best style of market house is one 20 feet wide, and you must bear in mind that a less high wall carries a house of this size than in the case of a house only 10 feet wide. Such a house would contain two side beds and a larger and wider central bed. Or you could erect a double-roofed structure on one set of ground walls, with a central wide plank in the middle to act as gutter. This, perhaps, would be your best plan. In such a structure the outside walls would require to be 3 feet high out of ground; walls 4 inches thick with 9 inch piers in



Apple Gascoigne's Scarlet.

the miniature greenhouses and stand in windows. I believe they are called "Wardian cases." I have a beautiful Killarney Fern, which needs more room than it can have under a large bell-glass.—E. M. I. R.

[All this requires for growing successfully in the dwelling-house is a close glass case in which a sufficient quantity of moisture can permanently be afforded, attention in keeping the sun's rays from it, and in supplying it with the necessary amount of water at the roots. Moisture this Fern must have, as the delicate fronds if exposed to drought or the effects of sunlight for even a very short time would completely shrivel up. Heat is equally disastrous. We have known plants of this species that were for a whole fortnight frozen into a solid block of ice, and when under the influence of the thaw the fronds gradually recovered their former positions, these plants had not suffered from the rigours of the temperature to which they had been exposed. The Killarney Fern is provided with rhizomes or stems of a woolly nature, which trail on the ground and which possess a very strongly-marked power of adhesion. This species thrives best when the rhizomes are in close proximity to a stone of a porous nature, such as sandstone, to which they will cling with great tenacity. When stone is used it is necessary that a little peat of a sandy fibrous nature should be placed at its base to establish the plant. Small pieces of fibrous peat, charcoal, and crocks form an

caves and waterfalls. Under these conditions the Fern is doing well and has made many new fronds. The simplicity of this arrangement is such that anyone can try it, and a barrel or tank overhead would supply the necessary drip should the premises not be connected with a regular supply. The Filmy Ferns are a very interesting group of plants to grow.—I. R. G.

FRUIT.

BLISTER OR CURL IN PEACHES.

THIS is caused by a fungus (*Exoascus deformans*), and is much more in evidence after cold, cutting winds and severe frosts, therefore we must still conclude it is these two evils that cause it, and no pains should be spared in early spring to prevent its appearance, which is best done by protecting the tender growths with hexagon or other similar material, erecting this before the flowers unfold, and keeping on until general weather sets in. When this kind of protection is used some means must be devised to roll it up on mild, sunny days, but no harm will ensue if it is kept down on cold, boisterous days or when below freezing point. It seems somewhat puzzling to account for this in "G. H. N.'s" case (p. 548), as he appears to have taken every precaution. Usually a double thickness of 3-inch mesh netting affords ample protection for this fruit, except in the

each 10-foot run of wall. The central gutter would be supported on 9-inch brick piers. We suggest this type of house as you wish to grow things under the stages, and only in this way is the space available. In this kind of house the staging may consist of inch iron barrel, on which the wood crossbearers rest, those at the outside walls being let into the brickwork. Wood crossbearers are made of quartering 3 by 2 $\frac{1}{2}$, and on the underside, set 6 inches back from front line, a hole is sunk with centre bit to receive the inch iron barrel forming the upright. These uprights occur at every 9 feet or so. The covering for stage is of galvanised iron sheets, and the whole constitutes one of the simplest and cheapest stagings, and is well-nigh indestructible, as so little woodwork is exposed to moisture. The iron uprights are set on a pier of bricks, fixed in concrete, and sunk in the ground 6 inches. Wood uprights would be cheaper, of course. Fourrows of 4-inch piping would be required to each house, and about 12 feet wide outside would be suitable. If we had a choice in the matter, we should prefer the wide house first stated, with a dark shed erected elsewhere for Mushroom growing and for forcing Seakale, Rhubarb, etc. As to cost, either the wide or compound structure would differ but little at the finish. But a better way than employing builders, if you can arrange the details of the structure yourself, would be to employ a bricklayer to do the brickwork for so much, and a carpenter for the woodwork, which can all be purchased ready for fixing. The hot-water work also should be done in like manner. Of course, if you cannot arrange the work it will cost you more. With no knowledge of the cost of material in your district, we give as an average rate for a market house of say 20 feet wide, heated, about 30s. per foot run. A good, reliable boiler is the horizontal tubular, which is easily repaired in sections when occasion arises. Some good crops to follow those named by you would be Tuberoses, bulbs in variety, Solanums in pots, Chrysanthemums, and Ferns for cutting.]

NOTES AND REPLIES.

Highly-coloured early Apples.—Kindly mention a few of the very earliest eating Apples that are a good red colour? Only mention those that you can really recommend, please, as I am very anxious to have a few really good ones.—NORMAN.

Wood highly-coloured early Apples are Worcester Pearmain, Lady Sudeley, Devonshire Quarrenden, Joan-ting, Beauty of Bath, Duchess of Gloucester, and Red Astrachan.]

Pear Winter Nelis.—This season, when Pears are none too plentiful, Winter Nelis, though ripening a little earlier than usual, has proved valuable for filling up what would otherwise have been a gap in the supply. The fruits are rather small, but the flavour is excellent, as is usually the case with this fine old sort, and therefore much appreciated for the dessert. The trees from which the fruits were gathered are old and diagonally trained, and were partially spur pruned last winter. In warm districts Winter Nelis will succeed as a standard, pyramid, or bush, but on cold soils should always have the protection afforded by a wall. Grafted on the Quince-stock it bears well as a cordon, and the fruit also then comes larger.—A. W.

Late Apple and Pears.—I shall be much obliged if you will kindly, through the medium of your valuable paper, give me the names of (1) Four good late Pears for use about Christmas time; (2) Four good cooking Apples for use during the winter; (3) Two good cooking Cherries? The soil here is about 2 feet deep, rather heavy, and the subsoil chalk. The situation is high and exposed.—L.V.

[As you do not state how you wish to grow the trees, we give below a list suitable for all purposes for you to select from. Four wall Pears, to come in about Christmas: 1, Bourri-d'Anjou; 2, Winter Nelis; 3, Beurré de Jonghe or Nouvelle Fulvie; 4, Glout Moreau. Four bush or pyramid Pears: 1, Hynshe's Prince of Wales; 2, Winter Nelis; 3, Beurré d'Areberg; 4, Josephine de Malines. Four Pears as standards: 1, Winter Nelis; 2, Knight's Mouarch; 3, Beurré d'Areberg; 4, Josephine de Malines. Four good cooking Apples for winter use, as bushes or pyramids, are: 1, Beauty of Kent; 2, New Northern Greening; 3, Lane's Prince Albert; 4, Alfriston. Four Apples as standards: 1, Beauty of Kent or Kent's Filbert; 2, Golden Wonder

3, Belle de Pontoise; 4, Newton Wonder or Wellington. Two good cooking Cherries are Morallo and Kentish Red, which succeed equally well either as wall, bush, or standard trees.]

GARDEN WORK.

Conservatory.—There are still a few late Chrysanthemums, which are very useful for cutting. Some of the very late sorts have not done so well this season, especially if stopped late, as the wood has not ripened. We have some plants now in bud—white and yellow. The flowers will not be large, but will nevertheless be useful. Daffodils are now coming in, and Roman Hyacinths have been plentiful for a long time. We find Cyclamens very useful for filling specimen glasses. Sometimes we use their own foliage, but it is rather too large and stiff. Small sprays of the scented-leaved Geraniums are very useful for this work, and if a few plants are planted in the border of the conservatory they will grow against a wall and supply foliage for picking all winter for a change. The Indian Daphnes are very sweet, but it is not over one who succeeds with them. I have had them do well in yellow loam, with a little leaf-mould and sand, and a little crushed charcoal placed in the bottom of the pots as drainage. The finest plants I have ever seen were growing in a bed of loam, peat, and sand, peat predominating, in a light conservatory. One reason why these plants look so thin of growth is that the ladies will cut off every bit of flower the plant produces, and, of course, with each cluster of blossoms go both wood and foliage, this weakening the plants. The only remedy for this, if the flowers must be cut, is to plant a few out, or if grown in pots, to have them in larger numbers. They may be propagated from cuttings of half-ripe wood under a bell-glass, and kept cool till callused, and then moved to a little warmth, or they may be grafted on the Mezereon or the Spurge Laurel. Cuttings of Chrysanthemums should be taken from time to time as strong ground shoots or suckers are produced. Where only a few plants are wanted, they may be struck in single pots, but for wholesale work shallow boxes filled with sandy soil are suitable. The cuttings must be potted off as soon as rooted. It is hardly necessary to save all the exhausted plants as they come from the conservatory, especially of such soft-wooded things as Salvia and Begonias, as if the cuttings are struck early and grown on freely, the young plants will be better than old out-down stuff for next season. Give ventilation freely in mild weather, but keep out cold winds.

Forcing-house.—Where there is plenty of forcing material, in the shape of plants established in pots, and one or two good warm-houses, there will be no difficulty in obtaining plenty of flowering plants for the conservatory and also for cutting. For cutting there is nothing just now superior to Lily of the Valley, Roman and Italian Hyacinths. I like the Italian at this season better than the Roman. They produce more spikes, and the spikes are longer and the flowers keep well. The bulbs are cheap, and this year they are very fine, whilst the Romans are very inferior. A year or two ago I purchased better bulbs in the wholesale market at 60s. per thousand than could be obtained for 90s. this season. Paper-white Narcissi are cheap enough, and force easily, but the flowers from the South of France are so cheap that very few grow them now. It is not easy to have too many of the bright, showy single and double Narcissi where cut flowers are in demand. Bulbs that were potted in August will now be in flower, and, if started in boxes, the bulbs can be lifted out as they come into bloom and used to fill bowls or any other purpose, simply filling in the bowl with damp Moss. Tulips can be used in the same way; but these should be brought on under the stage till the stems have been lengthened out a bit, and then moved to a cooler house. Especially is this necessary if the flowers are required for cutting, where long stems are necessary. The forcing house should be kept constantly filled up with plants from another house with a lower temperature. The temperature of the forcing house will be

regulated by the demand, and in some measure also by the crops coming on. As a rule, it is not generally necessary to have a higher night temperature than 60 degs., but if there are two houses used for forcing, one may be a little in advance of the other. Rhododendrons, Kalmias, Azaleas, both Indian and others, Lilacs, Prunus triloba, standard and bush Roses, Dutzias, in fact, all hardy shrubs which have been well grown and ripened, will force. One of the best forcing shrubs is Weigela rosea, but it should not be rushed in a high temperature, and the flowers are useful for cutting. I remember when this plant was first introduced I grew it under glass, and it made very handsome specimens; in fact, I have never seen it so good outside as I had it then in pots. The water-pot and the syringe must be used with judgment, and as much fresh air admitted on bright days as can be done without unduly lowering the temperature. Close early in the afternoon.

Early Grapes.—Keep the atmosphere drier when the Vines are in bloom. Black Hamburg and Foster's Seedling usually set freely if the atmospheric conditions are suitable. When the pollen is ready for distribution, a tap on each cane with a padded stick, or even with the hand, will scatter the pollen when it is ripe. I have generally found these simple means sufficient, but sometimes a camel's-hair brush is used, or a long-stemmed inflorescence of the Pampas Grass lightly passed over the plants will suffice. Sub-laterals should be stopped to one leaf, and the berries should be thinned as soon as they are large enough to show which are likely to take the lead. This is important, as the berry which obtains an early lead always keeps it. Temperature 55 degs. at night, falling to 60 degs. at sunrise; air to be given in very small quantities at 75 degs. to 80 degs.; closing early enough in the afternoon to run the thermometer up to 85 degs. or even 90 degs. will do no harm. This will save fuel, and cause the bunches to spread out.

Figs in pots.—These may be grown in any house where either a forcing or a more moderate temperature is maintained; but there should be no fluctuation. The work should go on steadily from the first, not treated to a high temperature for a few weeks, then dropped down to 50 degs. or less. Fifty degs. at night is a good starting figure, but as the growth proceeds the temperature should advance till 65 degs. is reached. Figs in pots have been grown in a Pine stove, and in almost any kind of forcing-house, with more or less success. Of course, they are best in a house by themselves, but this cannot always be given to them. Figs should never be watered with cold water, and, after the fruits are fairly swelling, liquid manure may be given freely. Figs will succeed under pretty well the same conditions as Grapes; in fact, good crops have been grown under Vines in pots, and also planted out on the back wall, or trained up the sides of the house.

Window garden.—The chief flowers now will be bulbs, Cyclamens, and Primulas. The other day I saw a well-grown plant of Cypripedium insigne in flower in a window, and the plant had been so grown for some years, being moved in summer to a cool-frame in the garden.

Outdoor garden.—Those who do not see Sweet Peas in autumn may sow a few seeds very thinly in pots in a cool-house to plant out when the weather is suitable in March. Sweet Peas transplant very well. Bush Roses should have a little dry mellow earth placed round the stems when frost comes, or before. For clothing a steep bank there is nothing equal to the Wichuriana Roses. The newer forms are improvements on the type. One of the best is Jersey Beauty. During autumn and winter the scarlet fruits stand up above the glossy foliage, and are very attractive. The plants grow rapidly, and their propagation is easily effected by cuttings or layers. The latter method is very easily accomplished as the branches creep along the ground. After frost all small or recently-planted things should be examined and the soil pressed firmly around the stems. During open weather planting can be carried on, and all kinds of earthwork, such as the formation of rockeries and clearing sites for Ferns, or any other

special feature which it may be desirable to create. Before planting creepers to cover the stems of trees, the soil close to the trees should be improved to give the plants a start. If Roses are planted, select the most vigorous climbing or Rambler for the purpose. Caroline Pillar does well in such positions.

Fruit garden.—All fruit houses should be thoroughly cleaned before the buds have the least inclination to start. This is doubly necessary where there has been red-spider or mildew during the past season. Mealy-bug again is a terrible pest in a vinery, and where Vines are infested a strong effort should be made to clear it out, and when everything in the house has been thoroughly cleansed with soap-and-water and hot lime wash and sulphur, and the surface of the border renewed, a close watch must be kept upon the Vines all through next summer for stray insects. At least, such has been my experience. I am satisfied that mealy-bug can be cleared out in one season if a strong effort is made, but stove plants must be kept out of the vinery. Mildew is very often caused by dryness at the root, and in very bad cases one of the first things to be done should be to examine the condition of the borders. It often happens when an insidile border has been permitted to get dust-dry that the water will not penetrate the dry spot till the soil has been broken up, and where the roots have been lifted and made comfortable, the mildew may be more easily combated and driven out. It is not often there is any spare liquid-mannure, unless one has access to a farmyard tank, but if there is it may be profitably utilised among fruit-trees and bushes which are well laden with fruit. A good way of doing this is to make holes with a crowbar to receive the liquid.

Vegetable garden.—Most of the seed lists are now in, and if not already done seed orders should be made out and sent in. If any old seeds are left over from last year it will be a very easy matter to test them by sowing a hundred seeds or so of each kind in pots, and counting the percentage of growth. Last season was not a good ripening season, and many of the new seeds were not got in in good condition, and the price will be a little higher, and I notice some seedsmen recommend the seeds to be sown a little thicker. As a rule, many sow the seeds too thickly, and not only waste the seeds, but, unless thinned in good time, injure the crop. But, under any circumstances, it is a mistake to sow seeds which have been tested too thickly, as even if thinned promptly the plants are more or less weakened from overcrowding. The early borders should be forked over again, and made ready for cropping. If very fine Onions are wanted, sow a box or two of seeds now and place in heat, and hards off for planting out on well-manured ground in April. This is a good plan for anyone who has been troubled with the Onion-maggot, or whose a few very fine Onions are wanted for exhibition. Cauliflowers, both early and late, may be sown now in heat to follow the autumn-sown crop, or to supplement the latter should any failures occur. Continue to make up hot-beds for Potatoes, Carrots, Radishes, Lettuce, &c. E. HUDNAY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

January 10th.—We have commenced potting off young cuttings rooted in autumn, and shall give them a little heat to start them, and in March, or as soon as the weather is safe, they will be moved to cool-pits and frames. This will give room in houses for potting off the spring rooted cuttings, which will require attention. All plants from which cuttings are wanted are now receiving more warmth to hasten the growth and produce cuttings abundantly. Sowed more Tomato and Cucumber seeds in warm-pits.

January 10th.—Unmilled Peaches on walls ready for pruning and cleaning. We have been overhauling seed Potatoes, and some of the early kinds have been placed in trays as far as the trays permitted, the remainder being laid thinly on the floor of a stable not at present in use, where they will be safe from frost. Planted more French Beans in 8 inch pots for forcing. Space is left in the pot for earthing up; only four Beans are placed in each.

use this size because it is a convenient one for the shelves. We generally plant No Plus Ultra for first crop, and then Canadian Wonder.

January 21st.—Sowed more Mignouette for blooming in pots. Planted cuttings of Honey-suckles, Jasmines, Ivies, etc. Planted the last lot of Briers for hudding, and mulched with stable-mannure. Rearranged conservatories, and filled vacant places with plants from forcing-houses. Baskets filled with Begonias are still very bright. Bushy plants of Gloire de St. Reine are excellent for this work, the base of the basket being covered with creeping plants. *Viola elegantissima* is useful for this work in winter. Shifted on Ivy Geraniums, and moved to warm-house for early flowering.

January 22nd.—Planted a few early Potatoes in a border in front of a forcing-house. This bed comes in before the frame Potatoes are all finished. They will be sheltered if frost comes. This is done by hooping the bed over with long Ash or Hazel rods tied together, and when frost is expected the bed is covered with frigidomo. The borders in front of the house are very useful for other early crops, such as Cauliflowers, Carrots, Lettuces, Radishes, etc., and later crops of early things will be planted early next month on the borders in front of a south wall. Put in a lot of Vine-eyes in sods of turf on pipes in early vinery.

January 23rd.—Relays of Strawberry plants are placed in warm-house every fortnight, so that there may be no break in the supply. All vacant land is dug or trenched as soon as possible after the crops are cleared. The arrangement of the season's cropping has been marked on a plan. This, in fact, was done before the land was manured to avoid mistakes, as land for tap-rooted plants is not manured now. All shrubby borders are being forked over lightly, as Snowdrops and Aconites are now visible.

January 24th.—Moved more Rhubarb and Siskale to Mushroom-house. A few roots of Chicory have also been potted and placed in the dark. Mushrooms are fairly plentiful now. The best way to ensure a constant supply is to keep all bed spaces filled up, and then if one bed does only moderately there is another close behind it that will compensate us; at least, I have found it so. Plenty of white, crisp Siskale will be appreciated now, and there is never likely to be too much Asparagus. Broccoli turning in will require watching now.

BIRDS.

Two dead Canaries (*Mica Du Lincolne*). Both these birds were very thin, and had evidently been ailing for some time. The internal organs were in a very diseased state, the immediate cause of death appearing to be consumption of the bowels, which may be attributed to the effects of a severe chill or unsuitable food. No particulars are furnished as to diet and general treatment of the birds. Many of the bird seed mixtures as sold in packets contain Inga, and this seed if partaken of in any quantity is very injurious, containing as it does much oil, and an active principle (ingaline) which is poisonous. The staple diet should be Canary-seed. Other seeds should be added, such as Rape, the best being the smaller kind, which is of a purple or reddish hue. This, being cooling, may be given with safety. A little white Millet-seed may be given occasionally, while Linseed is very useful in helping these birds over their moulting—indeed, a little may be given at any time. Hemp-seed should be used sparingly, as it is of a very fattening nature. The small kind of Hemp, of a bright grey colour, is the best. The green food may consist of Groundsel, Chickweed, Dandelion, and Lettuce, but should be given in small quantities, and fresh, although not immediately after gathering. Any not consumed within a couple of hours or so should be removed from the cage, stale green food being injurious. A piece of cuttlefish-bone placed between the wires of the cage for birds to nibble at tends to keep them in good health. The old-fashioned plan of putting a rusty nail in the drinking water is very good, as thereby a mild tonic is provided. It would be desirable to regulate the diet of your

remaining bird. Put it on plain food, giving a little fresh bread-and-milk occasionally, but on no account sweets of any kind.—S. S. G.

POULTRY.

Turkeys laying in the winter.—I have two hens (last year's birds). They each brought up a brood of young ones, and they both started laying again about the middle of October, and have continued (with one and then a days interval) ever since, and I had up to December 8th 82 eggs. Is not this very unusual?—F. E. Dymchurch.

Death of Orpington Cock (*Esquiver*).—There was a large collection of fluid in the cavities of the body of this bird. This complaint, known as ascites, or abdominal dropsy, according to the situation occupied, is of rare occurrence among poultry, and, as it generally arises from a diseased state of the internal organs, it is incurable. It would be well to change the diet of your fowls, as a constant use of Indian Corn is sure to bring about disease. A warm meal in the morning is the right thing—during winter, especially—but to give Indian Corn as a second meal, day after day, is altogether wrong. This should be discontinued, or very much reduced in quantity, and good, sound Barley, Wheat, or Buckwheat substituted, and given in turns. A frequent change of food is much to be recommended, being far better than the constant use of one kind of grain. The more exercise your fowls can get the better will be their health. If they are not on a Grass-run, supply them with plenty of vegetables, both raw and cooked.—S. S. G.

AQUARIA.

Plants for fish-pond.—I shall be obliged if you can tell me the name of some aquatic plant for a fish-pond about 1 foot deep, with instructions how and when to plant? The pond gets a fair amount of light, but no sunshine. The fernery in which the pond is kept at 50 degs. to 55 degs. in winter. The water is rather hard. The fish die after a few months, which I think is from want of a plant. They are fed on varmicelli.—E. S.

[You will find your fish will be more healthy if the pond is furnished with a few aquatic plants, but no fish will live long in hard water. Clear pond water or river water should be supplied. The bottom of the pond should be covered with about an inch of coarse sand, well washed to remove all impurities; upon this should be placed a thin layer of shingle or coarse gravel. There should be added the aquatic plants, such as the Water Crowfoot, the Water Milfoil, the Anacharis. To start these they only require a stone to be tied to the roots, and some sand added to keep them in position. It would be well to introduce a few water snails to your pond, as some species of these feed upon the green growth that collects upon the sides of the pond and upon decayed vegetable matter, and are consequently very serviceable in keeping all clean and bright, while their eggs and fry provide the fish with food. It is well to be careful in the selection of these, as some of them will consume the healthy growing plants. A very suitable species is *Planorbis cornus*, the shell of which is flat-coiled in shape, of a dark reddish brown colour, sometimes almost black, and about an inch in diameter. It is to be found in slow-running or stagnant water.—S. S. G.]

LAW AND CUSTOM.

A gardener's claim for compensation.—I have taken a house and garden on a lease for five years. The garden is in a very neglected state, not having been cultivated for two years. If I improve the place can I claim compensation on quitting? I propose to erect a lean-to greenhouse against one of the walls, and grow plants in it to sell. I can't remove it on the expiration of my lease? What kind of heating apparatus could I put in which would be removable?—CANNON.

[If in the lease the place is described as a market garden, or if the lease permits you to cultivate the place as a market garden, you may on quitting claim compensation for the greenhouse and heating apparatus, but your right to remove it would be doubtful. If the lease does not describe the place as a market garden and contains no provision for cultivation as a market garden, you may on quitting remove the greenhouse and heating apparatus as trade fixtures, although you could not claim compensation for them. You could not, on quitting, claim compensation for "general improvement" of the garden.—K. C. T.]

CORRESPONDENCE.

Questions.—Queries and answers are inserted in GARDENING free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF GARDENING, 17, FURNIVAL-STREET, HOLBORN, LONDON, E.C. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Fungus in soil (F. Goodchild).—The sample of soil that you send is badly infested with the spawn of some fungus that lives on decaying vegetable matter. It probably originated from some decaying wood which was infested by the fungus. We would advise you to clear it out and substitute some fresh loamy material, over this placing a inch of some rotten manure to encourage the growth of the roots.

Old stools of Chrysanthemums (F.).—Yes; the old stools of Chrysanthemums are available; but they are never so satisfactory as newly-struck plants. In old plants you will get only crowded and small, inferior blossoms, whereas newly-struck cuttings produce large flowers and healthy plants. The shoots throw up from the roots of your compound are available for striking at any time between now and March.

Pellaea adiantoides (R. H. P.).—Your specimen was very badly attacked with thrips, which cause the withering and curling of the fronds. Vaporising with the XI. vaporiser will kill them without injuring the young growth. The atmosphere of your greenhouse is undoubtedly too dry for this Fern, which accounts for the insect pest making such headway. We should certainly recommend you to try removing it into your cooler structure, where your troubles with it will probably vanish.

Lithospermum purpureo-ceruleum (Rockery).—The Lithospermum may be cut down to the ground at once, and could have been so treated in October or even earlier. It is a true perennial, producing annually its stems and blossoms, the former decaying when flowering is completed. Fresh shoots in a tuft appear at the base. Beyond a mulching of calcareous soil each year firmly placed about the base, the plant requires no further special care. This may be done when flowering is past. The central crown tuft should not be so covered.

Relaying Box (Coila).—It often happens that box is neglected and not kept hard clipped, the result being that it gets tall and ragged. Trim back from the edge all the gravel some 12 inches wide, then take the Box away and lay it in by the roots. Fork up the ground where it grew, adding some fresh soil and manure. Strike a line, chop down a straight furrow some 6 inches deep, have the box, if very lanky, hard trimmed, tops and roots, to about 7 inches, retaining some of the roots, then plant it thinly and evenly so as to form a perfect edge. Put back the soil against it, tend firmly, and then replace the gravel.

Bulbs in pots (F.).—Daffodils and Tulips put into pots and stood outdoors, covered up with ashes, should there remain until the crowns have thrown up quite an inch and the pots are found to be fairly full of roots. Then you can take them into a greenhouse or frame, either at intervals, as you may want to bring them on, or all at once. Do not subject them to heat, if you propose to do so, directly; rather do it gradually. The time of blooming will materially depend on the warmth given, but if the house or frame be cool, your bulbs will not bloom for some time. Keep them near the glass, or the leaves will be drawn.

Chrysanthemum blooms damping in centre (F.).—The cause of your blooms falling to open in the centre, and afterwards damping, is, we should think, probably due to the low temperature maintained in your greenhouse. The Japanese flowers more particularly need a temperature of about 50 degs. to develop satisfactorily, and if the weather be damp and foggy, and a free circulation of air through the greenhouse be not allowed, the blooms are very likely to damp off in the manner you describe. Again, drip from the roof will sometimes fall on the blooms, and this in a very short time will render them useless.

Cocoa-nut-fibre (Rockery).—The Cocoa-nut-fibre sent is the ordinary fibre refuse obtainable. The longer fibre is used for manufacturing purposes. If you wish for a coarse sample, your best plan will be to sift what you have and retain the rough. By using a quite fine sieve and getting rid of all the fine dust, you would have a useful article in the residue. We think if you mix the ordinary fibre, such as you have, with an equal amount of rather dry, fibrous turf, and a similar quantity of old mortar passed through a 1/2-inch sieve, mixing the whole together, you would have an excellent mulch for your rock plants. The material should be firmly piced around the tuft as a mulch, and not upon the tuft of leaves.

Roses for low fence (Beginner).—Seeing that there is a bank near your fence, you could plant nothing more suitable than the charming Wichuriana Roses. These would quickly cover the hurdles and trail over the other side and down the bank, suppressing the latter's upon your premises. Six best varieties are: Early Beauty, Gardening Illustrated Rose, Frigate, King of

Wichuriana rubra, and René Andre. They will outflower a second time in the same year, but they make ample amends for this in the rich protuberance of their glistening foliage, which is almost evergreen. Should you, however, desire Roses that bloom in autumn as well as summer, Cheshunt Hybrid, Ames Vibert, W. A. Richardson, Ulrich Brunner, Conrad F. Meyer, and Longworth Rambler would be very suitable.

Asparagus plumosus from seed (Coila).—Fresh seed of this will germinate freely in a good hot-bed in the spring. The best soil in which to sow it is sandy peat, which must be kept constantly but moderately moist. As soon as you can handle the seedlings, prick them out singly into small pots, using sandy peat and leaf-mould, returning them to a moderate hot-bed until they are well established and growing freely. This Asparagus does best in the warm, mainly shaded part of a cool stove or intermediate house, lightly shading it from hot sun. If you have any old plants and wish to increase your stock, you can do so by division. A crown or two with a few roots attached will soon make a strong plant in a warm-house. It also does well in an unheated greenhouse during the summer.

Rose cuttings striking in water (F. E.).—Such cuttings as have roots as you describe would be best potted off into thumb pots in a sandy compost, taking care that no manure is present in the compost. Place the cuttings when potted under a bell-glass or a small frame constructed with four panes of glass. Remove the glass each day for a few minutes, and wipe off any moisture condensed thereon. From this small pot repeat into next size when roots are freely formed, and then plant out in the open in May if weather is genial. If, of course, you need not keep the potted cuttings under the glass more than about two or three weeks, but they should be placed on a shelf near the glass. Although they must not be allowed to become dry at the roots, very little water will be required. Spraying over with a fine sprayer on sunny mornings will supply them with as much water as they require for a considerable time.

Brugmansia arborea (F. C. Harvey).—It is quite natural for plants to lose all or nearly all its leaves during the winter, at which time it will not need much water, but enough must be given to keep the soil slightly moist. In order to flower it in a satisfactory manner, it will need a pot or tub from 15 inches to 18 inches in diameter, or even larger. Being a liberal feeder a mixture of two parts loam to one part of well decayed manure, with a little sand, will suit it well. Should the loam be of a heavy nature, a little leaf-mould may, in addition to the above, be mixed with it. It will be much better out-of-doors during the summer than under glass. Early in June it can without risk be stood out in a sunny spot. Of course, it will need attention in the matter of water, and as the pot gets full of roots a little liquid-manure occasionally is beneficial.

Campanula isophylla alba (Rockery).—The Campanula may be shorn of all its stems close to the crown tuft if you wish, but so doing you will not have the length of flowering stalk for another year, though the plant may flower freely enough from the crown growth. It is not in all districts, however, that the plant will survive the winter. It may do so in your case if protected from much wet. Any of the fresh green tips will root readily if made into cuttings of 2 inches long or less. Prick these bits or shoots when cut to a joint with a knife into pure sand or very sandy soil, placing the pots on the greenhouse shelf, and give one good watering and no more for a week. The system of constantly sprinkling such things overhead is often very bad. A good way is to get some clean pots well drained and three parts filled with sandy soil. Above this place some pure sand, and make firm. Prick the fresh green tips into the sand and treat as stated. Only the fresh tips are suitable; at least, these are much the best. Each one will make a good plant if grown on quickly after having been rooted.

Nephrrolepis (Rockery).—It is most likely the barrenness referred to is the result of over-dryness. This fern is a vigorous grower, making large quantities of root fibres, any such fibrous root-dryness would be detrimental to the well-being. Cleanliness of course is very desirable, and the mealy-bug should be kept in check. We do not, however, regard this as a primary cause. It is quite possible in the repotting of the plant the old ball of earth was not loosened sufficiently, and may even have not been wet enough at the time. It is best, when repotting old established plants of such things that a thorough soaking of the ball should be given, and the repotting done when the water had drained away. In this way the plant is sustained until new roots get away. If the plant is very bare and rough looking, the worst fronds may be cut out. Do not now keep the plant too wet, but in the growing season take care it does not suffer from lack of moisture. As the plants are infested with the bug, we would suggest cutting out and burning the worst fronds, or giving a mild fumigation. If this were done now and again before the new fronds appear, you may perhaps get rid of or reduce the mealy-bug, which in early spring increases at a tremendous rate. Sponging with soft-soap to which some paraffin has been added, mixing the whole with rain-water, would also be good. One tablespoon of soap dissolved in a quart of water and one dessertspoonful of the oil make a good mixture. A temperature rather warmer than that of ordinary greenhouse is best for this plant, say 55 degs. If tower than this keep the plant fairly dry.

TREES AND SHRUBS.

Plants for border (W. M. N.).—The following should answer your purpose: Esculus, Ametancher, Catalpa, Double Cherries, Cotoneaster, Crataegus, Halesii, Kalmia, Laurus, Magnolia, Malus, Mespilus, Pavia, Prunus, and Viburnum.

Pruning Rock Cistus (Rockery).—In respect to the Cistus, we are not sure from your description whether the plants referred to are Gum Cistus, i.e., Cistus proper, or Rock Cistus, so called—i.e., Helianthemum. If the variously coloured forms of the latter, prunings may be done now at any time, though we do not consider 8-inch plants to be in need of pruning at all. Old bushes of these when getting bare at the base are often freely clipped over with shears in October, when they break again from the stems, but they flower less well the next summer.

FRUIT.

Manuring fruit-trees (M.).—Only when fruit-trees are in a stunted, starved condition would it be justly the removing of 6 inches of the top soil over the trees for a radius of 3 feet from the stems, and adding 4 inches of stable-manure, re-covering with soil. If your trees were in fair growth previously there is danger that such manure-dressings may drive them into coarse, leafless wood-production, and render their latter state worse than the first.

Apples for Exmoor (M. G. Clark).—The following Apples should stand you in good stead: Cooking, Keswick Codlin, Lord Suffield, Potts Seedling, Eddingville, Tom Patt, Duchess of Oldenburg, Cox's Pomona, Frogmore Prolific, Warner's King, Golden Spice, Stirling Castle, Seaton House, Cellini Pippin, Lord Grosvenor, and Bismarck. Dessert: Mr. Gladstone, Irish Peach, Devonshire Quarrenden, Beauty of Bath, Lady Saxeley, Worcester Pearmain, Red Astrachan, Rivers' Early Peach, Brambling, James Grieve, and Cardinal. We would advise you to procure bush-trees on the Paradise-stock, planting 12 feet to 15 feet apart, and securing the trees to stout stakes the first few years or until established. Good early Peas are found in Heurre Giffard, William's Le Christieu, Louise Bonne of Jersey, and Heurre d'Amiens grafted on the tree stock.

Fruit-trees in small garden (A. M.).—As you long strip of garden ground which you propose to divide equally with a path down the centre runs north and south, you should plant your fruit-trees on the east side of the path, as then you will exclude but little sunshine from the western half. You may plant, say, six standard trees down the middle of the strip. These may be of Apples Cox's Orange Pippin, Stirling Castle, Duchess of Oldenburg, and Lane's Prince Albert, one Plum, Victoria, and one Damson. Partridge Peaches will be easy to get apart. On each side of these plant bush Apples, Peas on the Paradise or Quince-stocks, the Peas on the east side, and between you can have rows of Gooseberries, Currants, Raspberries, and Strawberries. Rows of these bushes may be 6 feet apart, Raspberries 4 feet, and Strawberries 3 feet. If you like, a row or two of bush Plum-trees may be planted instead of the dwarf kinds. Preferably fill one side with fruit, keeping the other half solely to vegetables.

Planting Logan Berry (Massachusetts).—If you get on your west wall a fair amount of sunshine, then as a reason why both the Logan Berry and the Japanese Wax-berry should not do very well against it. Both these Brambles like ample sunshine to ripen the growth and fairly holding soil. But you could hardly nail the best foreign shoots made each year to the wall, and it would be better if you could fix on its face a wire trellis 3 inches from the wall, the wires 9 inches apart, to which the long Bramble-like growths could be tied. Failing that, you would be better to plant 3 feet from the wall, and train the long shoots to tall, stout stakes, flatwise, like an espalier tree. When wood has cropped for a year or two, it is best to cut some of those portions out in the winter to make room for the strongest of the previous summer's shoots. Spur back to one bud any small side-shoots. Give mashes of manure in the summer. Three or four plants to be trained flatwise are ample for your length of wall.

SHORT REPLIES.

Lincolnshire Ltd.—Not a gardening query.—John Williams.—Quite impossible to say.—A. W. Child.—Any seedman will procure for you the Tomato you inquire about. You will also find it advertised in our column. See article on "Raising Tomatoes," in our issue of Nov. 23, p. 425. We do not reply to queries by post.—Analethe.—Kindly read our rules as to questions by correspondents.—F. Rich.—Not at all unusual. We have frequently figured such specimens.—R. E.—You will find an illustration with full description in our issue of Jan. 10.—R. H. R.—Kindly repeat your query.—P. I.—Your best plan will be to raise a bush from seed, and then you will get exactly what you want. No one grows such forms as you mention.—A. E. Spar.—The blue-tinted Gentians are not, we think, in cultivation.—Francis.—All depends on the size and condition of the bulbs. Bulbs are, as a rule, sold by the dozen.—W. Jenkins and Twenty Years' Reader.—Chrysanthemum Tuckwood White can be had of Mr. B. Tolmie, Tuckwood Farm, Norwich.—Fair Play.—The material I mention is of no value whatever for a lawn.

NAMES OF PLANTS AND FRUITS.

Names of plants.—W. W.—1, Yellow Beech; Gazania ringens; 2, Epiphyllum truncatum; 3, R. R. F.—1, Adiantum cucullatum Jacquin; 2, Adiantum hypoleucum; 3, Pellaea adiantoides.—G. Dunlop.—Arbutus Uvedalei; 2, Leucostaphyle formosa; 3, Cupressus thuyoides.

Names of fruits.—D. E. Prothero.—Eddon Pippin.—North.—1, Mère de Néage; 2, Not recognised.—G. Shepherd.—Kindly number each fruit. It is quite impossible to be certain to which fruit the figures refer when you put the numbers on the box.—Vis Eboracensis.—1, Wadhurst Pippin; 2, Sturmer Pippin; 3, Golden Greening; 4, Not recognised.—Ellen Bignard.—Ash's Farm's Pippin.

Book received.—"Chrysanthemums and How to Grow Them to Perfection," by E. H. Potter, F.R.H.S., Published by the British Fertiliser Co., 5, Cannon-street, Birkenhead.

Catalogues received.—Hase and Schmidt Erlurt.—General Catalogue of Seeds and Plants for 1903.—W. G. Woodhead, Lymouth, Devon.—Catalogue of New and Select Chrysanthemums.—B. Soddy, 23, Waterloo-road, S. E.—Seed List for 1903.—John Peed and Son, West Norwood, London, S. E.—Seed List.—Barn and Sons, 12 and 13, King-street, Covent Garden, W. C.—Seed Guide for 1903.—Edmondson Bros., 10, Dame-street, Dublin.—List of Seeds for 1903.—Rivoire, Père et Fils, Lyon, France.—Seeds and Plants for 1903.—W. Bell Brydon, Darlington.—Seed Guide for 1903.—W. Bell Brydon, Chelsea, London, S. W.—Catalogue of Seeds.—J. Backhouse and Son, Limited, York.—List of Vegetables and Fruit Seeds.

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FRUIT.

STRAWBERRY BEDS IN WINTER.

DETRIM: The winter months, especially after severe frosts and cold, drying east winds, the Strawberry-bed often bears a forlorn appearance when left in a natural state. A little surface cultivation may improve it, though in the case of old-established beds some judgment is necessary in dealing with the roots of the plants. Winter treatment differs according to the means and convenience of cultivators. Some like to see the manuring done early, others leave it until late in the season, and some apply no manure at all. The last certainly is not the course to be commended, because poverty of the soil is sure to set up mediocrity in the crop. Spring manuring may suit some land, while earlier applications are better for others. An open, gravelly soil is of necessity poor unless kept well fed, but it would be a waste of effort to be in great haste in applying manure to such land, because it is soon conveyed by rain to the drains or lower stratum of the soil. Manures, it will be seen, need to be given consistent with the nature of the soil to which they are applied. Heavy soil would be made colder and retentive of water by an early winter mulch, especially of cow-manure; the latter is better for light soils, and can be put on earlier, because of its compact nature it is transmitted to the soil more slowly than horse-manure. When this is put on in a fresh state, incorporated with strewy litter, it needs some length of time for it to become washed clean enough for the ripening fruit to rest upon. There is no doubt about the benefits following the application of cow-manure on poor or shallow soils, but there must be sufficient strawy matter in it to combine a fertilising manure and a protection for the fruit. In soil of ordinary quality horse-manure fresh from the stables is used to good purpose. The greater proportion there is of droppings the greater value they possess for the plants and the land. In the meantime, pending the winter mulch, the surface can be skimmed with the spade, when seedling weeds which may be present can be turned in. The ground should not be disturbed more than an inch in depth. This surface digging will be found useful in that it makes neat what has been an eyesore in the garden probably for some lengthened time. If artificial manures are employed, or a dressing of burnt refuse, wood-ashes, or soot is given, and it may be repeated these all have a value in adding fertility to the soil, they are each placed more easily within reach of the roots by adopting surface tillage. Deep digging, which I have sometimes seen in amateurs' Strawberry beds, is fatal to good crops, because by nature the Strawberry is surface rooting, and there certainly must be a loss if these are cut off by deep digging. When occasion requires it, Strawberry runners can be replanted early in the New Year with marked success, provided it is done with care, and every possible root preserved.

W. S.

CANKER IN APPLE-TREES.

TO THE EDITOR OF "GARDENING ILLUSTRATED."

SIR,—In your issue of January 10th there is a very interesting article on "American blight in fruit-trees." Is this pest the same as that known as canker? Again, in your issue of July 5th, 1902, there was a letter signed "G. D. Hunt," giving a remedy for canker. He stated it consisted in painting the affected part with a paste made of clay mixed with chlorydric acid. I wrote to a droggist ordering some of the acid, and I received the reply: "Yours received, but as we take it chlorydric acid would be hydrochloric acid, which we have heard of being used for this purpose—viz., disease in Apple-trees—we could not, of course, post any, as it is an article not sent in this way, in addition to which, of course, it must not be used concentrated, but would have to be diluted several times, otherwise it would damage the trees." Would Mr. Hunt, or some of your other correspondents, kindly say is this hydrochloric acid the correct article, and what quantity of water should be added? If this is so certain a cure for canker as Mr. Hunt asserts, it would be a great boon to fruit-growers in this district, as canker on Apple-trees is widespread. SAM. D. LITTLE, *Moghira, Co. Derry, Ireland.*

[No. American-blight is quite different from canker.—Ed.]

GOOSEBERRY BUSHES.

(REPLY TO "N. DEVON.")

WE surmise your Gooseberry-bushes were attacked by red-spider last summer, as you say they were decoloured of foliage, though it is usually during very hot and dry summers that this occurs. Get the necessary pruning done, keeping the centre of the bushes fairly open, shortening the very longest shoots to an upright bud, pendulous varieties to an inside bud, spurting the bottom shoots well back, as the fruit on these young shoots, which oftentimes reach the ground when laden with fruit, gets very dirty. After the prunings are cleared away, get some fresh-slaked lime toned down with a little soot, passing all through a fine mesh sieve, and add sufficient water to make it pass through the nozzle of a garden syringe or fruit-tree sprayer, if you have one. Choose a dry, calm day, and well syringe every part of the bush. This will not only kill what red-spider may be lurking on the wood, it will also prevent the birds (though it may require to be done two or even three times) from picking out the buds, which they did with us the first week in the New Year. Then manure the quarter and fork in the same, when all will be clean for the spring. On the other hand, your mention of Hellebore-powder rather points to the Gooseberry saw-fly, or caterpillar, which, if left undisturbed, in early spring quickly devours the foliage, leaving the bushes devoid of all leaves, consequently the fruit does not ripen. These flies, which they are at first, appear in March sometimes and usually in April. The eggs are deposited on the under side of the leaves, and as soon as hatched, in

about ten days, commence to eat away at the foliage—then is the time to wage war into the camp by searching for the tiny caterpillars and picking off the few leaves at first commenced on, placing a bag or two under the bush to catch those that fall, or the bush may be well shaken and the caterpillars smashed up, or the bushes may be syringed with Hellebore, putting 1 oz. or a little more into 4 gallons of cold water, well mixing together, or dusting with the Hellebore-powder, but as this is more or less poisonous, care should be exercised when gathering the berries, that should any trace remain the fruit is well washed before using. In very bad cases it is wise to take away the soil, say 4 inches of the surface around each bush, and bury it deep in a trench in another part of the garden, replacing with fresh soil, or give a heavy dressing of quick-lime now and dig it pretty deeply in the hope of burying the cocoons, and early in March beat down the soil very firm around each bush and thus enlavour to prevent the flies from coming through the soil, should any be about. In our case, should they appear, we always put four men to look carefully over each bush, and destroy every one that can be seen, and it is seldom we have to search the second time. J. M. B.

NOTES AND REPLIES.

Mildew on Vines.—I have some Vines in a cool-house which had mildew badly this year, and I am told they have had it for some years. The Vines are about fifty years old. The border is a rich loam. The roots are very deep, and there does not appear to be any drainage. Considering the age of the Vines, should you advise the roots being lifted and the border drained, or should they be left alone?—P. WILLIAMS-FARMERS.

[The age of your Vines and the nature of the border are fatal to the prospect of much improvement. We can scarcely comfort you that by an attempt at root lifting you would be successful. With Vines so old the roots probably have gone yards away from the actual Vine border, and the fact of the roots being deep and the border ill-drained makes it difficult to combat mildew. If the border is lush in the house, we should advise the laying of a rod or two on to the surface, so as to encourage an independent root service. If all the rods are so large that this course is impossible, cut down one or two to a convenient point, which will cause the issue of a new cane. Allow this to grow up the roof the first year, and in the following winter when the leaves have fallen gradually bring its point down to the border, fix it there by a peg, and cover a portion, say a foot, with new turfy loam mixed with a little bone meal. Vines when they are so old and ill-rooted need expert treatment to bring them round, but layering as described has been the means of entirely renovating some that had hitherto been almost worthless. Sulphate of iron powdered and spread on the surface of the border, an ounce to the square yard, is a good antidote for mildew given twice a year. Much, too, may be done by careful ventilation to prevent or to encourage its presence. Drought in the border or an opposite extreme will cause it; so, too, will a close, stuffy atmosphere. Air should always be admitted into the house before the sun has

raised the temperature 5 degs. in the morning; indeed, in summer it is even safer to leave a little ventilation on all night. In the meantime, procure a mildew specific and dress the rods while they are dormant, first removing loose bark, tendrils, air-roots, or any appendages there may happen to be; in short, clear away everything possible in the house that will encourage the mildew spores. Probably if you examine your border you may find but few fibrous roots on the surface. If this is so, then search for the large thong-like roots, cut some V-shaped notches in them here and there, and surround them with fresh soil; by these means you could replenish lost roots and restore vigour to your aged Vines.]

Orowing Melons.—I have been trying to grow Melons for the last two years, and have mostly failed. I can only get about one fruit on each plant. If there are two, one of them is not more than half the size of the other. They are grown under glass, with plenty of sun all day. The soil is fibrous loam. Can you give me a hint? If the roots came at all within the influence of the light would that injure the plant?—R. H. K.

[To grow Melons well requires some practical knowledge. You give us no information as to the treatment you have applied, but we may say that Melon flowers require to be fertilised to ensure the resultant fruit to follow. Sometimes by chance Melons will flower, swell up their fruits, and advance to a mature stage, but this is more by accident than custom. Lime is most important in the growth of Melons. Without it in some form they do not everywhere succeed. The fact of the roots coming to the surface would not injuriously affect them, but usually when this happens we advise a light top-dressing of fresh soil to encourage a further extension of this surface root-action. Unless, too, the fertile flowers are open three or four at a time, there is almost a certainty that the first fruit to set and swell will cause the rest to collapse. It is important always to so regulate the growth that several flowers are open together. This can be done by pinching the shoots to encourage fruiting lateral growths. They should never be allowed to become dry or, on the other hand, be over-wet at the roots when grown without artificial heat. Manure-water or anything over-stimulating is fatal if given in their earliest stages of growth. This should be withheld always until sufficient fruits are set and swelling to give a promised crop, say three to a plant.]

Wash for Apricots, Cherries, and Peaches (N. Devon).—Loosen all your trees from the wall and thin out the wood if ill-ripened or unduly crowded, which it may be after such a cold, unless summer as last, though the best time to use the knife on the Apricot and Cherry is during summer, and all that should be necessary now would be to shorten back the breastwood or those shoots pinched to form spurs beyond where they were shortened in summer. The Peach bearing principally upon wood made the previous year, it is necessary to train in a certain amount to take the place of any that ought to be cut clean out soon after the fruit is gathered in early autumn. As a wash for such trees we always use sulphur, soft-soap, and a little Quassia extract. Take a four gallon pot or pail and make a thin wash, thoroughly mixing the soap and sulphur together, squeezing it up with the hands and adding half a pint of the Quassia, keeping it well stirred while painting the trees, which should be done with a soft painter's brush, pulling the latter towards you on wood bristling with fruit-buds, or if used the other way the buds are more likely to get rubbed off. Keep a watchful eye on the trees for aphid, especially on the Cherry and Peach; they are often found before any foliage is visible. Duet with Tobacco-powder on its first appearance, as if allowed to get a footing early in the season it is a difficult matter to eradicate them after; in fact, the trees ought to be inspected every week, twice would be better, as it is very much easier to get rid of these enemies before the young foliage and flowers expand than it is after. After training the trees, loosen the surface border with a fork, take away 2 inches of 3 inches of the loose soil, and replace with good loam well mixed with lime or mortar rubble, wood-ashes, and a little bone-meal, and give a mulching of some well-rotted manure.

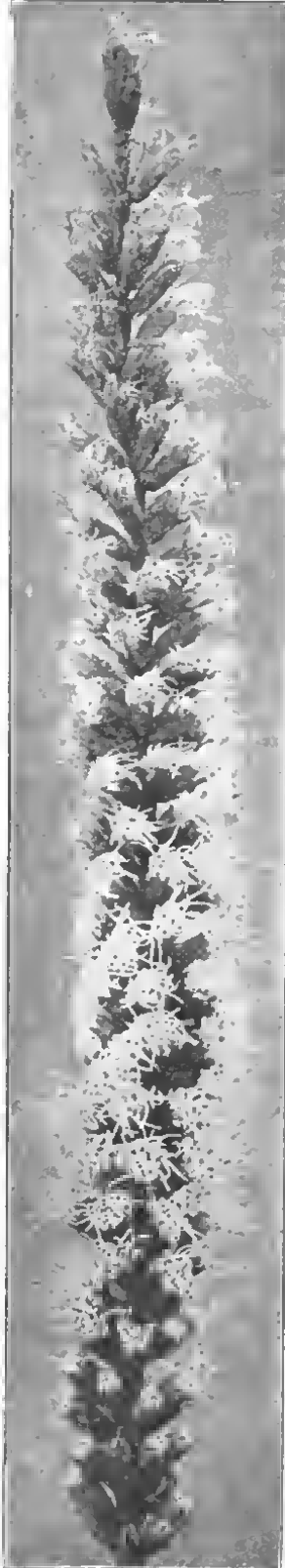
J. M. B.

PLANTS AND FLOWERS.

OUTDOOR PLANTS.

LIATRIS.

If not wholly neglected so far as their cultivation in British gardens is concerned, this



Liatris graminifolia dubia.

is neglected in proportion to its merits, and still more in regard to the exceptional tone of colour as seen in the few species of which the genus is comprised. It is a group of North American plants of probably some half dozen or so species, that in form no less than in colouring bear a strong resemblance to each other. It is just possible that in the first-named characteristic—i. e., form—we get a glimpse of what in the garden picture may be regarded as formal, and in the semi-towering inflorescences, though perhaps more especially in their extended columnar outline, may we find cause for complaint. But in these *Liatris* this peculiar form of the flowering spike is so distinctly a part of the genus that it would appear a reason for their liberal cultivation. The term "liberal" is here employed in lieu of grouping, though by common consent the irregular group is among the best ornaments of the hardy plant garden. And if in these *Liatris*, when grouped, we get a formal assembly, so do we by the same token obtain exceptional colour contrasts in the garden as rare as the colour tone itself among good hardy flowers. We have no plants that can compare with these in the early autumn. No gardener would attempt to dispute the value—the exceptional value—of a group, thinly planted, of *Liatris* some 10 feet or more across. Rather, if such a group were seen, would any good gardener anxiously inquire what it was that produces so warm a shade of colour just at the moment when it tones with the many-hued leafage of trees and shrubs all so well-known in the garden. The scraps—the aborted spikes—of these things so generally seen at exhibitions, serve but little to attract those ever on the alert for the useful and beautiful. If, however, the self-same plant were cut at something near ground level, and so displayed somewhat of its true character, there would assuredly be more demand for these things than is now the case. Now and again we see the right thing done, singularly enough with the kind given in the illustration to-day, which at both the Fruit Show at the Crystal Palace in October last and at a subsequent meeting at the Drill Hall, was set up in excellent condition. Indeed, there was something like 4 feet of its blooming stem on view, and as more than half of this length was the flowering portion, the effectiveness of a well-disposed group needed no further demonstration. As garden plants these things are not only hardy, but easily cultivated, growing freely in any ordinary good border soil. The root-stock is peculiar and at ground level, or thereabouts, not unlike so many crowns of *Seakale* incorporated in one. For some few inches deep these crown-thongs or root-stocks remain intact, when the root fibres are more freely distributed. All the kinds are readily increased by division of the root-stock—an operation best performed in early spring—or by seeds that may be sown soon after maturing. There is so little difference in some of the kinds from the garden standpoint that we do not propose to detail them, albeit botanically the species are quite distinct. The general leaf character is long lanceolate or shortly lanceolate, now recurving, at other times rigid. In the flowering some shade of purple, usually of a reddish tone, is seen, the spikes usually columnar or cylindrical. One peculiarity of the flowering in these plants is noteworthy—viz., the tendency to commence opening at the upper parts, and descending instead of the generally reverse way. The following are the best kinds:

L. ELIOGANS, 3 feet to 4 feet high, flowers purple on erect spikes.

L. GRAMINIFOLIA, 3 feet, purple flowers.

L. G. DUBIA (see illustration), height 5 feet or more, flowers purple in long cylindrical spikes.

L. PYCNOSTACHYA, one of the most showy and desirable, 5 feet.

L. SCABIOSA.—This is, perhaps, the largest-flowered kind, 4 feet high.

L. STICATA has dense, close spikes, and grows 3 feet or more high.

L. SQVARROSA, flowers bright purple, stems 2 feet high.

All the kinds named flower in September or October.

CACTUS DAHLIA KRIEMHILDA.

In this new Cactus Dahlia we have a flower of perfect Cactus form, with a tendency to curl inward. The colour of the outer florets is a beautiful clear rose-pink, the centre florets pearly-white. The flowers are borne on long, stiff stems, and show well above the foliage.

needed at all for the herbaceous things, but in all probability it would be requisite for the Roses, and for these the best plan would be to have dug it into the soil at planting time, that is, provided the Roses are of the H.P. class. If of the T. or H.T. class, a good mulching may be given now instead, though for the latter we would prefer digging in very old

Generally speaking, road-scrappings are serviceable by reason of making more workable certain classes of close heavy soils, and are thus useful.]

Polyanthuses. — It is interesting to observe how very froely strong plants of garden Polyanthuses have been throwing up flowers during the open weather we have for some time experienced. How few plants, whether raised from seed or propagated by division, will do that at this time of the year. Because the summer was so cool and generally damp, Polyanthuses retained their leafage wonderfully well, hence now the plants are more than usually robust, and have strong flowering crowns. Some premature bloom does not at all detract from the plant's capacities to flower freely later in the year, especially from the middle of March until the middle of May. Seeing that by making a sowing of seed early in April, on good soil, it is possible to secure scores of strong plants to put out in July, and which will bloom finely the following spring, it is a matter for wonder that Polyanthuses of the fine border strains now in commerce are not plentiful in all gardens. To get extra strong flowering plants the best course is to sow seed outdoors in August on a sheltered border, thus having fine seedlings to transplant early in May.—A. D.

Herbaceous Lobelias. —

I quite agree with what "S. W. E." advances in your current issue as to these plants. Here, in Hampton, I have always had trouble in keeping them through the winter, notwithstanding the staple soil of the district is what is generally termed a light, warm, sandy loam overlying gravel. In other parts of the country, and where dry soil obtains, the plants usually pass the winter quite well, the tufts showing no signs of distress when the hard weather of the winter is past. Frequently I have bought stock to replace that I have lost here, and for years my source of supply was a west midland town, where the soil, judging by that adhering to the tufts, may have constituted good brick earth. I do not remember losing any plants in localities where the soil is opposite to what it is here, but I think other things go hand-in-hand with the soil in these matters. About Birmingham, for example, I had no trouble with these Lobelias, and not only was the soil heavy, but we were at a different elevation. Nearly or quite 450 feet higher was this district as compared to Hampton, and I believe this difference has more—far more—to do with failure and success than any soil. I have had much the same experience with double white Rockets — plants that are vigorous in the extreme in some places, but which in our light soil here can hardly be kept alive. — E. JENKINS, Hampton Hill.



Cactus Dahlia Kriemhilda. From a photograph by G. A. Champion.

NOTES AND REPLIES.

Top-dressing border. — I have a small town garden, the borders of which were well dug last autumn before being planted with Roses, Lilies, bulbs, and herbaceous plants. I shall be glad to know whether road-scrappings would be a suitable top-dressing to put on now, as no manure was used when the digging was done. The soil is fairly heavy. Is it necessary for the Roses to have stable-manure? — M. J. B. L.

[It would depend entirely upon the condition of the soil in the border whether manure was

manure. Much, however, depends upon the amount of soil at disposal, and with a great depth of soil available manure becomes a secondary consideration. Road-scrappings are useful in some soils and for affording better drainage generally. As a rule, however, they are too weedy to be much employed for mulching. If you have knowledge of the quality of the road-scrappings and the class of roads they are taken from, this should help you to decide.

Twitch Grass. — I thought it might be interesting for your readers to know the loring power of Twitch, which you will see by the two bulbs enclosed. In digging over a very old bed I came across two bulbs, through the centre of which you will see that the Twitch has forced its way. — LAWRENCE MORLEY

Levelling and planting (M. R.). — We are not aware of the existence of any uniform charge per man in such matters, which of necessity vary with circumstances. As a rule, the more satisfactory way of levelling and planting is by contract, the varieties of plants and shrubs and their numbers and sizes being clearly defined.

CHRYSANTHEMUMS.

CHRYSANTHEMUMS FOR GROUPING.

WHEN TO INSERT THE CUTTINGS.

(Reply to "AN OLD READER," *Walthamstow*.) Your object appears to be that of keeping your plants as sturdy as possible, and you also prefer to cultivate the thirty varieties you mention, with the object of retaining first crown-buds. Speaking generally, first crown-buds in the season of 1902 have given by far the best results. This is quite contrary to the usual experience, and if you were to treat your plants next season in the same way, it is just possible failure would follow. You hope to keep your plants dwarf by propagating the different sorts as late as possible, hoping thereby to defer the development of the first crown-buds to some extent. In this you may, to a certain degree, succeed, and in order to assist you we suggest that you treat your plants as follows:—Insert cuttings of Mrs. J. C. Neville, Mr. T. Carrington, Henry Weeks, Miss Elsie Fulton, Mrs. J. Bryant, Charles Longley, Duchess of Sutherland, Ethel Fitzroy (late), George Carpenter, Meredith, Madame Paola Radacelli, Mafeking Hero, W. H. Whitehouse (late), Mrs. Henry Emmerton, and Princess Alice de Monaco, in the latter part of January, and, when rooted, pot on and grow them strongly. Let each plant break naturally, and secure the first buds (first crowns) when they develop on the resulting shoots. As far as we can judge, the buds should appear at a suitable period. Any plants which have not made a natural break by the latter part of May should be pinched or stopped, and three of the strongest succeeding shoots taken up. The following sorts—Mrs. Greenfield, George Laurence, Bessie Godfrey, Mrs. T. W. Pickett, Calvat's 99, Lord Alverston, Exmouth Crimson, Lord Ludlow, Princess Brancovan, end Mrs. E. Thirkell—should be propagated in mid-February, and subsequently accorded treatment similar to that prescribed in the first instance. The third and last series represents Mrs. Mileham, W. R. Churchill, Mrs. J. Lewis, Miss Alice Byron, and the Princess, the cuttings of which should be inserted in early March, securing first crown-buds, as recommended for the earlier series. Give the plants plenty of room on the standing ground all through the summer and early autumn, and when the time comes for housing them, avoid crowding. By these means the foliage should be retained on the plants down to the pots, and in such a position they should be ideal for the purpose you require them. E. G.

LATE-FLOWERING CHRYSANTHEMUMS.

THE value of Chrysanthemums for cutting at Christmas can hardly be over-estimated, and they are, in fact, almost indispensable where large quantities of flowers are required at that season for house and church decoration. Such being the case, they are now grown in great numbers in many private gardens as well as by market growers to flower at that particular period, and to have a house of Chrysanthemums in full bloom the last week or so in the year is as easy as earlier in the season. Of course, owing to the efforts of our Chrysanthemum raisers, we have at the present time a much wider range of late-flowering varieties to select from, and in addition to this it has been proved by actual experience that many of the large-bloomed Japanese or exhibition sorts are, when specially grown, particularly useful for this purpose, so there is no difficulty in this direction. The two chief essentials to observe in the cultivation of these late-flowering Chrysanthemums are not to propagate the cuttings earlier than mid-March, and to keep the plants outdoors as long as possible before housing them. I erect a temporary structure over my plants, consisting of posts to form uprights, on which laths and wires are fastened, the whole when finished forming a kind of skeleton span-roofed house. Mats are used to afford the necessary amount of protection at night, and on several occasions the mats had to be left on during the day, and here the bulk of the plants remains until the second week in December, when they are housed. By this it will be seen that as far as accommodation is concerned they

make little or no difference, because by the time they need housing the bulk of the large-flowered varieties will have passed out of bloom and the stools be removed elsewhere for propagating, so that they simply take the place of the latter and prolong the Chrysanthemum season well into the New Year.

Regarding the most suitable of the large-flowered Japanese varieties to grow for late flowering, the following have yielded splendid results, and can, therefore, be highly recommended—viz., Madeline Davis, H. Wseks, R. Hooper Pearson, Chatsworth, Bonnie Dundee, and Mutual Friend. When to these are added the true late bloomers, such as L. Canning, Niveum, Roseum superbum, Souvenir de Petite Ami, Caprice de Printemps, Princess Victoria, Rubrum perfectum, Boule de Neige, W. H. Lincoln, Mrs. S. Filkins, and the three following single-flowered sorts—Eucharis, Golden Star, and Cannell's Perfection, it can be seen what a really brilliant display may be had. Of course, the large-bloomed sorts come quite out of character grown in this way, but in the estimation of many this is looked upon rather as a gain than as a defect, as they are considered to possess a higher decorative value than when grown as single blooms for exhibition; at any rate, there can be no question as to their utility where quantities of flowers are in demand at the festive season. A. W.

SOME JAPANESE NOVELTIES OF THE PAST SEASON.

THE undermentioned list of new Chrysanthemums should follow the selection of novelties described in the issue of GARDENING ILLUSTRATED for December 27th last. Twelve superb exhibition varieties were described in detail on the occasion referred to, and the present set is also worth attention.

MISS E. RICHARDS.—A large Japanese bloom of a clear yellow colour, reminding one of the blooms of Edith Tabor, but not so long in the petals as the flowers of that excellent variety. The petals are broad and of good substance. Two plants were shown before the N.C.S. floral committee on September 22nd last, these being dwarf and sturdy.

NETLY BLAKE.—This is not an exhibition variety, but useful for decoration in late September and early October. The colour is a lovely terra-cotta-crimson, with a golden reverse to the fairly broad petals. It is said to be a seedling from Mme. C. Desgrange, though far superior in every respect to that variety. Height between 3 feet and 4 feet. It was exhibited before the N.C.S. floral committee on October 7th last, and was awarded a F.C.C.

BLACK PRINCE.—The blooms of this are too small for exhibition, but for conservatory decoration, and in cases where a free display of medium-sized blooms is desired, a special note should be made of this variety. The colour is a rich deep crimson, with golden reverse. In appearance the blooms somewhat resemble those of Edwin Molyneux. Height about 3 feet, free flowering. Awarded F.C.C., N.C.S., October 7th last.

MARY PERKINS.—A very refined type of incurved Japanese, petals long and fairly broad, slightly curling and incurving at the ends. Colour a beautiful canary-yellow. Useful for the earlier exhibitions. Awarded a F.C.C. by the N.C.S. October 7th last.

SIR WILLIAM AGLAND.—This is a large flower of even and drooping form, with long (8 inches), twisted petals. Colour reddish-bronze.

COUNTESS OF HARROWBY.—In the blooms of this variety we have what may be regarded as a chaste and beautiful type of exhibition Japanese. The petals are long and drooping, slightly curling and incurving at the ends; colour a lovely shade of soft pink, lined and suffused with a deeper shade of the same colour, with a yellowish centre. The blooms are very large and full.

GRANDEUR.—This is said to be a seedling from Mons. Chenon de Leche, and it must be admitted the blooms partake of the form of that excellent sort; colour rich chestnut, deepening towards the centre, with a bronze reverse.

Mrs. HARRY EMMERTON.—This is an Australian raised seedling of great promise,

developing well from any bud, and giving good blooms when grown in the orthodox fashion or on single stems in 6-inch pots; colour amber-yellow, slightly richer in the centre. The petals are long and drooping, and of medium width, and build up a full bloom of large size and even and drooping form. An ideal exhibition bloom.

LADY CONYERS.—Little has been seen of this variety, but it will doubtless play an important part in future exhibitions. It is an English-raised seedling, and may be described as full and of massive build, the petals broad and of splendid substance, incurving at the ends. Those who have seen the blooms speak of their being somewhat in the way of those of Mrs. Geo. Mileham, but larger and with more substance than that variety; colour inside, and this is always apparent, good rosy-pink, with a silvery-white reverse.

EXMOUTH RIVAL.—A very striking Japanese reflexed bloom of good form, petals evenly arranged and drooping, and of medium width. The colour is a rich crimson.

VISCOUNTESS CRANBOURNE.—This is the finest yellow of the season. In the open classes for six blooms of one variety, this was the best at the great November show of the N.C.S. last season. The petals are long and drooping, broad, and of good substance, and they are also slightly pointed, and intermingling pleasingly.

CAPT. PERCY SCOTT.—This is an incurved Japanese bloom worth noting. The bloom large and of massive build, and also of good substance, petals of medium width, curling and incurving at the ends; colour rich, clear yellow.

WILFRED H. GODFREY.—A very nice Japanese flower, with long, somewhat drooping petals of medium width and pointed, incurving at the tips; colour rich, rosy, chestnut-crimson, with bright golden-bronze reverse. A striking flower.

COUNTESS OF ARHAN.—Another lovely and refined Japanese, petals quite 8 inches long, and also broad, developing blooms of drooping form quite 9 inches across; colour cerise-pink on a pale creamy-buff ground. W. V.

Chrysanthemums—stopping and timing (Manner).—The dates given below for stopping your plants, and the kind of bud you are to retain in each instance, are given especially for growers in the Midlands, which will answer your purpose just as well. Growers in the neighbourhood of London, and those also further south, should commence operations a week or so later than the dates given in this reply. If this rule be carefully observed the interests of both districts will be studied.

Chas. Davis—when to stop or pinch plants, natural break; which buds to retain, any buds in late August; approximate height, 5 feet.

Florence Davis—May 21st, first crown, 5 feet.

Jane Molyneux—March, 1st week, second crown, 4 1/2 feet.

La Triumphant—natural break, second crown, 5 feet.

Mrs. Barkley—April, first week, second crown, 4 feet.

N.C.S. Jubilee—March, last week, second crown, 5 feet.

Oceana—May 21st, first crown, 4 1/2 feet.

President Borel—March, last week, second crown, 5 feet.

Pride of Madford—May 21st, first crown, 5 feet.

Rayonsble—natural break, second crown, 5 feet.

Secretaire's Pierrea—end March, second crown, 5 1/2 feet.

Sir Redvers Buller—March, last week, second crown, 5 feet.

Soleil d'Octobre—natural break, second crown, 5 feet.

Souv. de Petite Amie—natural break, any buds in late August, 3 1/2 feet.

W. Seward—natural break, second crown, 5 feet.

Mons. William Holmes—natural break, any buds in late August, 4 feet.

Roi des Precoees—natural break, terminal (decorative variety), 3 1/2 feet.

Vesuvius—natural break, terminal (decorative variety), 3 feet.

Miss Lucy Cheesman—March, last week, second crown, 5 feet.

Vivian Morel—natural break, any buds in late August, 5 feet.

Mr. L. Fryett—about May 21st, first crown, 4 1/2 feet.

Source d'Or—natural break, terminal (decorative variety), 4 feet.

Alice Byron—May, last week, first crown, 5 feet.

Edith Tabor—May 21st, first crown, 6 feet.

Eda Prase—May, last week, first crown, 5 feet.—E. O.

Request to readers of "Gardening."—Readers, both amateur and in the trade, will kindly remember that we are always very glad to see interesting specimens of plants or flowers to illustrate, if they will kindly send them to our office in as good a state as possible.

ROSES.

ROSES AND FOXGLOVES.

In many portions of the garden the happiest effects are gained by informal planting, and numerous herbaceous perennials, annuals, and biennials, as well as flowering shrubs and trees, are specially adapted for enhancing the beauty of the semi-wild garden. In the accompanying illustration we notice the charming effect of white Foxgloves flowering against a verdant background, while in the open space in the foreground bush Roses are blossoming profusely. Until a few years ago old-fashioned roses, such as Maiden's Blush, York and Lancaster, and the Cabbage Rose, all of which make fine bushes, were rarely seen outside cottage gardens; but now that the fashion for so-called "Garden Roses" has set in, these old

the summer, when they are laden with countless flowers. The tall-growing Evening Primrose (*Oenothera Lamarckiana*) is a fine plant for the informal garden, and is very effective, as the sun sinks, grouped at the margin of shrubbery and coppice, or in open spaces verging a woodland path. The Bergamot or Bee Balm (*Monarda didyma*) is valuable for its deep crimson colour, and if a large mass 20 yards or so in length, and 3 yards or 4 yards in breadth, is planted, it has a bright effect in the landscape, even from afar. White Honesty (*Lunaria*) and the single Rocket are two good plants for massing, forming clouds of white if viewed at a little distance. The white Japanese Anemone is an excellent plant for the informal garden, since its flowers are beautiful, and if once well established it possesses sufficient vigour to hold its own in the absolutely wild garden in the face of the strongest oppo-

many pages of GARDENING ILLUSTRATED would be requisite if a full list were to be given. Though space does not admit of a consideration of dwarf plants, attention may be drawn to *Erysimum Peroffskianum*, an annual with brilliant orange flowers growing from 1 foot to 18 inches in height, which will succeed on slopes of poor soil if a packet of seed is sown broadcast and the surface-soil lightly raked over after the sowing is completed.

S. W. F.

NOTES AND REPLIES.

Liquid-manure applied in winter.

It is not generally known that Roses benefit considerably by copious applications of sewage or other liquid-manure poured on the ground during the resting period. It is lamentable to witness the waste in some establishments of good liquid-manure that could be used now as a fertiliser to beds of Roses. Lightly fork up the surface beforehand, then pour it on the ground, not immediately near the plants but between the rows. The spring rains will take down the fertilising material ready for the requirements of the plants when needed. Such applications are safe, whereas there is always an element of danger in the indiscriminate use of liquid-manure when the plants are growing, besides which the liquid is more readily applied now than later on. If a more reasonable method of manuring were adopted there would be no need to resort to doubtful artificial stimulants which appear so enticing in print, but which, if recklessly used, are a source of positive danger.—**ROSA.**

Protecting Roses.

The recent spell of wintry weather must have made many Rose-growers feel anxious as to its probable effect upon their plants in the open ground, especially the Tea Roses. Many are the devices of the cultivator for keeping the frost at bay and providing a warm covering during the winter months. Plenty of dry leaves or Bracken is the remedy advised, but to those who, like myself, live just on the outskirts of London the latter article is not readily obtainable, but there is a very good substitute, although I have not seen it mentioned by your valued contributor "Rosa," or any of your other correspondents. It is the long rough Cocoa-nut-fibre refuse from 4 inches to 6 inches in length, which, if carefully spread between the rows of our Tea Roses, affords them a splendid protection, as the fibre in this condition throws off the heavy rains and does not, like the ordinary fibre, consolidate, which is a most important factor. This long rough fibre is sold by weight, and as it is very light a considerable quantity can be obtained for a few shillings. I should much like to know whether any of your readers have tried this stuff as a protective, and if so, with what result?—**FIBRE.**

Rose Sir Joseph Paxton.

Among all the interesting and profitable contributions which "Rosa" has supplied on Roses and their culture, I cannot recall any mention of one variety which has served me better than that which for a long time has been grown by me. I refer to the old H.P. Sir Joseph Paxton. I think I must have got my plant forty years ago, and for a long time I did not do it justice, but seven or eight years since I took it in hand, split up the clump into which it had grown, and made four or five plants of it. It has repaid me liberally for cultivation. From early June, if not before, to the end of November it is never without blooms; sometimes a long, strong shoot of the previous year is laced with them. Old as it is, it is well worth notice for cutting for the house. Teas and their hybrids do not answer so well with me as Hybrid Perpetuals. Varieties of the former seem to have been raised and sent out of late years for "button-hole" purposes, regardless of perfume, so that



Roses and Foxgloves. From a photograph sent by Mrs. Dumas, Reecdale, Walton-on-Thames.

varieties are again sought after, and have found their way back into many a garden. The Cabbage Rose stands unrivalled for perfume, and a large bush thickly set with flowers spreads its fragrance afar on the summer air. Such great bushes, over whose heads many seasons have passed, may often be found in the humble plot of the cottager, whence, loaded with blossom in "the month of the Roses," they wait a welcome greeting of the most delicious of scents to the passer-by. Many of the more vigorous Hybrid Perpetuals, Teas, and Hybrid Teas, if intelligently treated, will form good-sized bushes, and, although the standard Rose as ordinarily seen cannot be recommended for artistic effect, such a strong-growing variety as Gloire de Dijon will make a head 3 feet and more through and afford a pleasing picture, while some of the summer-flowering Roses grown as standards will form enormous heads, beautiful for a few weeks in

sition. It has been known to conquer even the Coltsfoot, one of our most rampant weeds, where the leaves of the latter were from time to time picked off. Solomon's Seal is easily naturalised in open spaces in woods, and succeeds in moist soil by the side of rivulets. It is pretty when bearing its pairs of drooping flowers, and in the autumn its dying foliage assumes attractive tints. The grand *Acanthus latifolius* is a noble plant, far better fitted for the semi-wild garden than for the border. Its deeply-cut, arching leaves are perfect in contour and poise, and in vigorous specimens the flower-spikes are thrown up to a height of 7 feet or more. Perennial Starworts or Michaelmas Daisies are indispensable among autumn-flowering plants, and the strongest of them will hold their own well in the wild garden. The plants already mentioned do not form a third of the strong-growing subjects suitable for use in the informal garden, but

Shakespeare could not now use the Rose as the embodiment of sweetness. Mrs. W. J. Grant is very useful with its umbel-like inflorescence, each bud with a sufficiently long stalk. But for fragrance as well as for late blooming, commend me to the H.P.'s. I had four or five of them before me the first week in December, among them Ulrich Brunner, and on Dec. 3, after the frost and cold of yesterday (mark the date), cut quite a pretty partially-expanded bud of Annie Wood, of the richest colour. How strange it is that the celebrated "Her Majesty" will not expand here, indoors or out, or, as I have ascertained, in the gardens of a nobleman in the South of Devon.—C. R. S., *South Cornwall, Dec. 6th.*

INDOOR PLANTS.

THE GRASS GUM-TREE

(*XANTHORRHEA HASTILIS*).

THE Australian Grass Gum-trees, of which there are about a dozen known species, are rarely seen in cultivation in European gardens. They are really sub-arborescent Rushes, with more or less sharp angled leaves, each 18 inches to 2 feet long, borne in tufts at the top of the Fern-like stems, 2 feet to 20 feet in height. The flowers are very small and whitish, borne on dense spikes 2 feet to 10 feet high. The stems exude a dark-red or brown resin, which was at one time used in the making of picric acid. Two species, *X. hastilis* and *X. quadrangulata*, have been grown in the Trinity College Botanic Gardens, Dublin, our illustration showing a plant of the former which flowered last year for the second time since it has been in the gardens thoro. Some very fine specimens of the Grass Gum-tree, and of which we had charge for some time, were sent from Australia to the Colonial Exhibition which was held in the gardens at South Kensington in 1886. They were received in large tubs, and were growing in what seemed to be pure sand.

NOTES AND REPLIES.

Old potting soil.—Someone asked me the other day what I did with my old potting soil — soil, once used. My reply that I never used it again for potting seemed to cause surprise. The fact that I am in a position to get what loam I require without much trouble accounts for it, but I think to use over again for potting, soil that has stood in a pot perhaps for a year or two is unwise. The best use for old potting soil in my opinion is not in the house, but out-of-doors in the border where it can be incorporated with stronger material. Some plants lose vigour after a time in pots, through the soil having become spent.—TOWNSMAN.

Justicia calycotricha.—This is a valuable winter blooming plant, the colour of the flowers being scarce among plants of this class. It forms an upright, sparsely-branched specimen, and is terminated by a cluster of pleasing yellow flowers. The calyx segments are long and narrow, and, being gathered together in a compact head, form quite an effective feature, which is enhanced by the flowers that protrude therefrom. The individual flowers are only about an inch long, and remarkable for their pubescent character. It is of easy culture, but as the plants are apt to become leggy, frequent propagation is necessary to ensure good specimens. Cuttings of the young growths strike readily during the spring, and, if grown on freely during the summer, will make good flowering specimens the following winter.

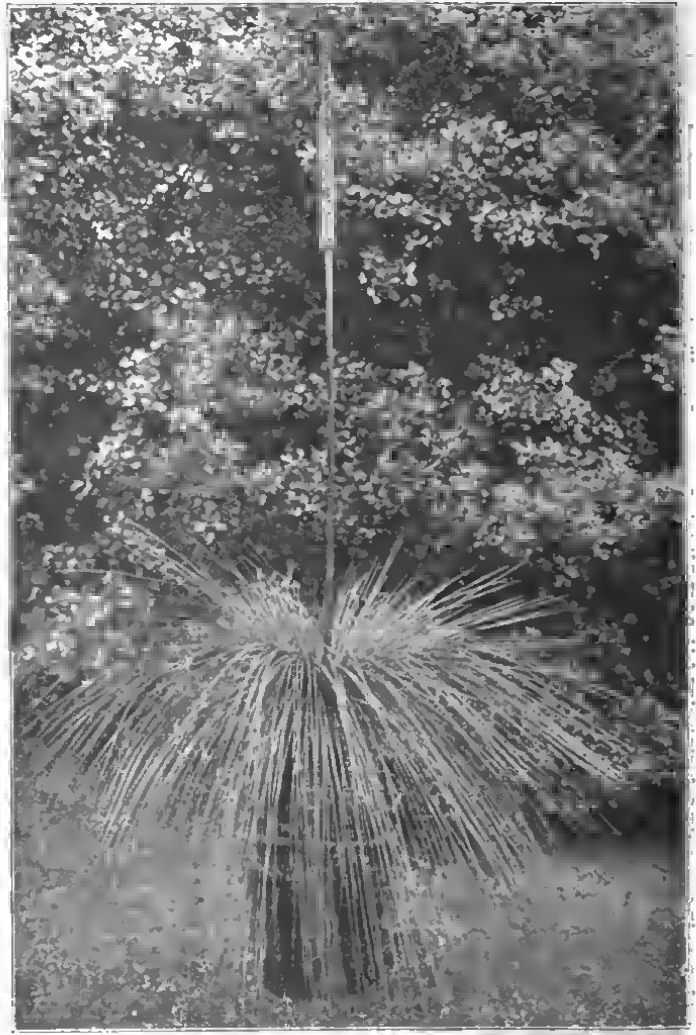
Indian Azaleas for house furnishing.—Indian Azaleas have much to recommend them to small growers; not the least is that they may be obtained at a very small cost, and from now onward for the next three months may be bought of any florist or at the auction rooms. Last year, calling on a friend in a large garden he showed me plants in 6-inch pots a mass of bloom, and he told me they did not cost 2s. each. Another merit these have is that they are not quick growing, taking up a lot of space; added to this they will bear several degrees of frost when dry, and (at least) few things stand house furnishing better than

these when brought on cold. Last autumn a large plant stood in a big, dark room here for six weeks and continued opening its blooms. These Azaleas may be had in bloom the greater part of the year if their growth is arranged accordingly. I have had them for eight months, being favourites here. They are not difficult to manage provided they are not allowed to suffer from want of water and are kept clear of thrip.—J. CROOK.

Campanula pyramidalis.—I am sending a photograph of *Campanula pyramidalis* alba, grown according to the directions given in *GARDENING ILLUSTRATED* of July 6th, 1901. The seeds were sown in February of that year, but I did not know how to treat them until the article appeared. The photograph is, I fear,

3-inch pots, filled with silver-sand and leaf-soil in about equal parts, and put in a close case, avoiding too much moisture, or the tender shoots may damp. In choosing the cuttings avoid any that are showing flower, as these fail to throw up shoots from the base and never make good bushy plants. Some increase their stock by the leaves, placing these in pans of similar compost, but not keeping close as in the case of cuttings. I have had better results from cuttings than from leaves, so stick to this process for increasing my stock each spring.—J. M. B.

Anoiganthus hreviflorus.—Some of the South African bulbs do not readily conform to pot culture, a charge which cannot be brought against this *Anoiganthus*, as with



The Grass Gum-tree of Australia (*Xanthorrhoea hastilis*), which bloomed in 1902 in the Trinity College Botanic Gardens.

too small for printing, but may give you some idea of the beauty of the plants, though not of their size. The tallest measures 11 feet from the ground, including pot, the others 8 feet and 9 feet. Placed in a staid entrance hall they were greatly admired by visitors, and remained there from July 27th to October 9th of last year. The old blooms were picked off as they withered, and the plants were watered twice a week with soot and water.—(MRS.) E. D. BAIRD, *Castle Mains, Douglas, Lunenburg.*

[Well grown plants, but reduction too great for reproduction.—ED.]

Increasing Begonia Gloire de Lorraine.—A few of the earliest to bloom should be cut fairly hard back and kept on the dry side, but syringed daily, when new growth will soon push. The cuttings should be taken off when about 3 inches long, and inverted in

reasonable care and attention it will both grow and flower well. The fact that its usual season of blooming is during the first two months of the year is another point in its favour. It forms a solid brownish bulb, from whence the erect leaves are pushed up to a height of about a foot. They are just overtopped by the flower-scape, which is terminated by a loose umbel of blossoms. The individual flowers are nearly a couple of inches long, but so curiously constructed that they appear at most to be half opened. They are of a pleasing light orange-yellow colour. It succeeds with ordinary greenhouse treatment, and during the growing season should be watered freely, but must be kept dry when dormant. A compost made up of two-thirds good loam to one-third well decayed leaf-mould, and a liberal dash of silver-sand, will suit this *Anoiganthus* well.

FERNS.

WOODWARDIA RADICANS.

Thus, of which an illustration is here given, is one of the noblest of the few plants belonging to the genus. It is a native of Europe, being found, it is said, in Spain and Italy, but is more generally regarded as a native of Madeira and the Azores. It is certainly the best Fern that can be used for a large vase or pedestal. When planted a little above the line of vision, its broad, rich, bright green, pendulous fronds have a beautiful effect, or planted in an elevated pocket in the fernery (as here shown) it is quite as effective. This Woodwardia is easily grown, requiring good drainage and soil consisting of turfy loam and peat in about equal parts, to which must be added a fair proportion of sharp sand. When growing freely abundance of water is necessary, so as to keep the large fronds in good condition. It will do quite well in a cool fernery, care being taken it is not given too hot a position, as then the fronds are liable to the attacks of black strips, which spoil their appearance, changing them to a nasty brown colour. It obtains its specific name from its rooting and forming a young plant near the tip of the frond. We have seen plants with fronds of considerable length. The rhizome is creeping, and clothed with large brown, chaffy scales.



Woodwardia radicans.

VEGETABLES.

FORCING ASPARAGUS.

This is one of the easiest vegetables to bring forward, and may be had in season from November until heads are cut from the open in April. It is useless to expect good grass, unless roots of three or more years' growth are to be had, and then much better results would be forthcoming had no cutting been practised from these said roots after the middle of May the previous year. Many ways are devised by gardeners to bring in this delicious vegetable, but none are more satisfactory than the old hot-bed system of three parts freshly collected leaves (Beech, Oak, and Spanish Chestnut are the best and most lasting), and one part long stable litter—the last more or keeping the bed together than heating, as a good bed of new leaves will maintain a good lasting heat throughout the spring, unless the winter is exceptionally cold, with much snow, and then new linings to the frame occasionally will put matters right. After the crowns are exhausted and cleared out the bed in the frame should be deeply forked up, working in fresh leaves and a little short manure from the stable, when another batch of roots may be introduced. A couple or 3 inches of leaf-soil should be put over the bed, and about 4 inches of the same material over the crowns, first passing it through an inch sieve. Pack the crowns closely together and keep the frame closed until the grass appears, when give a chink of air whenever the weather is favourable. Cover the glass lights with mats at night whether frost threatens or not. When forced in this way it is seldom any water is necessary, but should it be, let it reach 85 degs. or 90 degs. applied with a rose can, and not heavy waterings, or they would cool the bed. A space of 10 inches or 12 inches must be allowed from the glass for the produce to push up.

J. M. B.

the seeds singly in small pots—large thumbs for preference—filled with nice sharp soil, in which leaf-mould largely predominates, and place in a propagating case on a hot-bed or over the hot-water pipes, covering the pots with a sheet of glass in the two latter cases. If the soil is in a moist condition, water will not be required until the seeds have germinated, the application of much water at this early season causing the seeds to decay instead of germinate. When through the soil, remove the plants to a light position in the warmest part of the house—a shelf over the hot-water pipes being an excellent position—and shift them on into 48 sized pots so soon as the plants have made a pair of true leaves, using as compost on this occasion nice turfy loam, with a little spent Mushroom-dung and leaf mould added. Place a stick for the support of the plants, and tie them thereto and return them to the shelf. Perform the potting in the house in which the plants are growing, and use the compost in a warm state to avoid chilling the roots. In the meantime, prepare the house or pit in which they are to be grown, taking the precaution to give the structure a thorough cleansing. With regard to varieties, most

quickly-maturing varieties, which are termed forcing Cauliflowers. Sow the seed thinly in a pan or box, and raise them in a cool greenhouse, placing them close up to the light to ensure dwarf, stocky plants, and prick off into other boxes or a frame when large enough to handle.—A. W.

Broad or Long-pod Beans.—Whilst few persons now sow Long-pod Beans in the early winter, they can be sown at any time now, provided the soil be dry enough to enable drills to be drawn without unduly hardening the ground. Whilst it is sometimes advised to sow these Beans thus early on warm borders, it must not be overlooked that ere the plants carry pods warm weather will have set in, and a south border may then prove to be much too hot for them in June. Better sow out in the open quarters of the garden, where the plants will have better chance to resist heat later on. These Beans do best when ground is trenched and manure buried down to induce deep rooting. Failing general trenching, then it is well to make trenches for each row, as for Celery, putting the manure deep. In this case the trenches can be noarly filled with soil, and the rest can be added after the plants have got into bloom, and if the soil be dry have had before the rest is added a good soaking of water. Sow the Beans thinly—that is, fully 6 inches apart. Two very fine varieties are Green Long-pod and Green Giant.—A. D.

GARDEN PESTS AND FRIENDS.

THE CURRANT BUD-MITE.

FOURTEEN years ago, when we came to our present garden, the Black Currant-trees were thick with this pest; we picked them off, spending an hour or so at odd times, and got a large crop of good fruit. Thinking we could clear it out, we dug the trees out, burnt them, and got a new stock from a place where it had not appeared, planting them in new ground as far as possible from where the Currants had been before. In three years they were as bad as the old stock, and we kept on the system of hand-picking, the result being that every year we had enormous crops of fine fruit, the branches having to be supported to prevent breaking down with the weight. Our next neighbour tried cutting down and burning, with the result of total loss of crop for two years, and a small one for one or two years after; but the pest reappeared at once as soon as the plants began to bear. Practically three years' crops were totally lost without the slightest benefit, whilst we had and have very heavy crops every year except the last, when the flowers were destroyed by late and hard frosts. We have tried and seen tried for the last fourteen years everything which has been recommended, and all the experience goes to show that nothing more is needed than hand-picking at odd times. What we lose in numbers of bunches is gained in the size of the remainder; and the crops are, with the one exception mentioned, as heavy as the trees will or can carry with the help of props. We could not wish for better crops or finer fruit, and the present system is very little trouble. If anything, it is a distinct advantage, like the thinning of Grapes; what we lose in numbers we gain in size and quality of fruit.—THOMAS FLETCHER, *Grapenhall, Cheshire*, in "Gardener's Chronicle."

Blight on leaves.—Can you kindly tell me whether the blight affecting these two leaves is one and the same thing, and also the name of it and the remedy?—L. B.

[The two leaves you sent are not affected by the same "blight." The Geranium-leaf is attacked by a fungus belonging to the genus *Cercospora*, I believe, but the fungus is not in a condition in which it can be named with certainty. Pick off the infected leaves and burn them, and keep a good watch on the plants, and as soon as you see the slightest reappearance of the pest, spray the plants with dilute Bordeaux-mixture once a week till there are no further signs of it. The leaf of the India-rubber plant has apparently been subjected to some change of temperature or drip. You cannot find traces of any fungus, and the above mentioned causes often discolour the leaves of this plant.—G. S. S.]

gardeners have their favourites, but for early fruiting one of the prolific, early bearing kinds, such as Rochford's Market, Market Favourite, and Everday, give the best results.—G. P. A.

Early Carrots.—Where young Carrots are in demand as early in the season as they can be produced, no time should be lost in making up a hot-bed on which to grow them, unless a heated pit can be set apart for the purpose. The hot-bed should consist largely of tree-leaves, and be well consolidated by treading as it is made up. After placing the frame in position, put in from 9 inches to 12 inches of light rich soil, and after the heat has subsided sow the seed either broadcast or in drills drawn about 9 inches apart. Suitable varieties for this purpose are the various types of Forcing French Horn offered by the leading seed firms, one named Inimitable being particularly good and early in coming into use.—G. P.

Early Cauliflowers.—Owing to the mild weather, autumn-raised Cauliflowers are in rather too forward a condition, and the earliest plants will, unless they receive the needful check from colder weather, hardly be worth planting. In any case it is well to be prepared with a batch of younger plants; and to do this sow now one of the compact,

GARDEN WORK.

Conservatory.—Freesias are not particularly showy, but they are sweet, and consequently attractive for the drawing-room, and a group in the conservatory never lacks admirers. They are easily grown and flowered if the bulbs are fine and well-ripened in the sunshine. The best place for this ripening is on a shelf near the glass, and in this condition they can remain till they have had a good roasting in the sunshine, and early in August the bulbs should be repotted, placing about eight or nine bulbs in each 5-inch pot. They may be started in a cold frame with the lights off till some progress has been made. When taken indoors place on shelves near the glass, where there is a night-temperature of 50 degs. if wanted in flower. But they will flower just as well in a lower temperature, only, of course, they will not be so early. Among variegated shrubs which may be grown in pots suitable for a cool conservatory, *Coprosma Baneriana variegata* is worthy of notice. It is rather slow of growth, but having secured it will annually increase in size and usefulness. The best way to propagate this plant is to set out an old plant in May and peg it close down into the soil, which should be of a light sandy nature. Every bit of shoot, where it comes into contact with the soil, will form roots. I have seen failures with cuttings, and when they root they are a long time about it. *Eurya latifolia variegata* requires somewhat similar treatment, and when grown to specimen size is very useful as a foil to other things. There is plenty of flowers now in Azaleas, Camellias, Lilacs, Deutzias, Arum Lilies, Mignonette, etc. Liquid-manure in a weak, clear condition may be given to any plant coming forward for bloom, and which has filled the pot with roots. *Chorozema Lowii* and others are very useful winter-flowering plants, and the *Epacris* are coming on now. *Genista fragrans* lasts a long time in the conservatory, but it is one of the worst plants to take indoors, especially where gas is burnt. Those who have only grown this plant in a pot have no idea what can be done with it planted out in the conservatory, and when planted out it never ceases altogether to blossom winter or summer. Cut back winter-flowering Heaths when they go out of bloom. This has not been a good season for *Erica hymalis*. The wood failed to ripen well and flowers are thin.

Stove.—We want more sunshine, and doubtless with more sunshine will come frosty nights, but anything is better for the plant-grower than the dark, gloomy days of the past month. Where the temperature of the stove has ruled low the plants will now be in a better position to respond to warmth. It wastes the energies of the plants to force hard when there is no light to harden the growth. The quiet season is now near its close, and with more sunshine more activity will be visible, not only in the condition of the plants, but among insect pests if any are present on them. The experienced man knows how to deal with these, and he knows also that a supreme effort should be made now to get rid of mealy-bug. Personally, I dislike brown scale worse than bug, and if I had any plants badly infested with scale I should destroy them at once and start again with clean plants. The vaporiser will destroy most of the insects in the stove if used occasionally. Including a few Orchids, there will be a good show of flowering stuff now, and the bright foliaged plants which are now so numerous will add their quota of colour. Early-starting Gloxinias will be moving now. I have had them in flower in February, and they are more useful than later. Seeds of these and Begonias may be sown now or shortly.

Early Melons.—A low, warm house may be planted any time now. There must be a bottom-heat of 85 degs. or so to start with, and a top heat of 65 degs. to 70 degs. at night. Very little ventilation will be required at present, but, still, as the days lengthen, air must be given to ensure sturdy growth. Melons want a rather strong, adhesive loam to do them well. They will grow in lighter soil, but the finish is not often satisfactory. Good yellow loam mixed with a little boned soil, all that is required at the start. Later, when

the fruits are swelling, especially if the crop is heavy, liquid-manure can be given. One or two good top-dressings of the same kind of loam can be given during growth and pressed firmly round the plants. Every Melon-grower has his favourite sorts, and at least one good scarlet and one good green-fleshed variety should be grown.

Roses under glass.—A house of Roses breaking into growth is always interesting. There are so many shades of colour among the young growths, and this is more noticeable when the plants are in pots and grown in a house where is a bed of leaves in a pit, and the pots plunged or partly plunged therein. If I were building a house for Roses in pots I should build a span-roofed structure with rather a flat roof and a pit to be filled with leaves in the centre. It is a good many years since I first saw Roses grown in this way, and I have never seen them so well done under other conditions, nor yet so free from insects and mildew. Roses recently potted up will not stand forcing, but they will flower well if pruned rather hard back and allowed to come on quietly, especially if helped in a leaf-bed.

Vines in bloom want careful management. Shake the rods daily, or distribute the pollen in some other way. Night temperature, 65 degs. Give air when required at the highest point of the roof only. There must be no cold draught through the young foliage. The syringe should be laid by for a time, but the atmosphere of the house should not be abnormally dry or overheated, or the flowers may not set so well. Genial conditions are best for a perfect set.

Window gardening.—Ferns, especially Maiden-hairs, are usually kept drier during winter. Sometimes the Maiden-hairs are dried off, and if the temperature is low the new fronds come away strongly when the days lengthen and are improved by the rest, but the time is coming now when a little more water will be required; at any rate, as soon as growth is visible moisture will be required, and the chill should be taken off the water for indoor plants now.

Outdoor garden.—At this season, when other things are not so pressing, and one is taking stock of the resources in the way of bedding-plants, one generally glances at the seed lists as they come to hand to see if we can utilise anything in the way of annuals and perennials that will flower the first season if sown in heat. *Lobelia fulgens* Victoria makes a beautiful mass, and comes true from seed, and if sown in February and helped in heat the plants will be ready to go out in May. Several beautiful crosses have been obtained, but they are rather scarce yet. Sweet Peas sown thinly now, or singly in small pots and planted out when the weather is suitable in March, will flower early. Navy Blue, Lovely, Maid of Honour, Mars, Mont Blanc, Mrs. Eckford, Novelty, Othello, Orange Prince, Peach Blossom, Prince Edward of York, Sadie Burpee, Venus, Waverley, Prince of Wales, are among the best. But there are now far too many varieties. There are many beautiful varieties now of hardy Primroses, including white, blue, and other shades of colour, and there is a *Polyanthus* Primrose, which is good either for massing in the border or for growing in the cool house. *Primula rosea* may be grown from seed, and this is a delightful plant on a shady rockery, or in a pot in a cool house. Sow the seed in gentle heat, and when large enough prick out on a shady border, and the plants will flower twelve months from sowing. We generally sow blue bedding *Lobelias* in autumn, and grow them on steadily in the seed-boxes till February, and then prick off. Many delay sowing till January or February, and give more heat. Many seeds, such as of *Lobelias*, *Petunias*, and *Begonias*, are minute and should be covered lightly, the soil in the pots or pans being pressed down firmly and evenly before sowing the seeds, and again after the covering has been applied. We generally cover fine seeds with sand, and sprinkle with warm water from a fine-rosed pot, and then place on shelf in warm house till germination takes place.

Fruit garden.—There is room for more good Peare—I do not mean exactly more kinds of Pears, although, of course, a good new Pear

is always valuable, but it is wonderful how long it takes for a new Pear to get known. The truth is, planters, at least very few of them, plant Pears they know little or nothing about, and the Pears I am now planting and intend recommending are not new. If I had room I should like to try more of the new varieties, about which I know so little. I should like also to raise seedlings from the best varieties, even though I might never see them bear fruit. The raiser of seedling Pears knows that when his seedlings bear fruit, as they will some day in the future, if the fruit is worthless he will have a strong, robust stock upon which he can place a head of *Doyenne du Comice*, or *Marie Louise*, or any other good variety that will bear in a short time bushels of fruit—supposing, of course, the soil is suitable. A good, deep loam, reasonably drained, is the best soil for Pears on Pear-stock. Where the soil is naturally cool and moist, the *Quince* is a good stock for the Pear, but all Pears do not do well upon it. *Marie Louise*, for instance, is not often found on the *Quince*. Among the best known Peare are *Doyenne du Comice*, *Marie Louise*, *Jargonelle*, *Williams' Bon Chretien*, *Pitmaston Duchess*, *Clapp's Favourite*, *Glou Morceau*, *Darondeau*, *Louise Bonne*. The planting and pruning of Peare should be on its way and completed as soon as possible. If fruit is wanted on pyramids do not over-prune the branches but look to the roots.

Vegetable garden.—The proper rotation of crops and the proper application of manure are important matters, and should, in a sense, be linked together. It has been said that when the manure supply is abundant, the labour efficient, rotation becomes less urgent. No doubt there is something in this, though it is quite possible to make too much of it. We know that Potatoes and Onions have been grown year after year upon the same land without showing much deterioration, but these two crops occupy the land but a comparatively short time. Potatoes are planted in March and lifted in September or October—a mere matter of six months. Onions are cleared off in even less time, and as the land generally remains dormant the remainder of the year it gets thoroughly rested. But when land is planted with Cabbages or other greens year after year, the soil gets no rest without a rotation. The simplest rotation is Potatoes and then Greens, afterwards Peas, Beans, and Celery, then tap-rooted plants, such as Carrots, Parsnips, Salsify, Beet, etc. Of course, a suitable rotation should be marked on the plan before the land is manured, so that a prospect can be secured for the tap-rooted plants, otherwise the latter may be spoiled by forking out, as it is termed. If land is manured for tap-rooted things the manure should be buried very deeply. The finest lot of Salsify I have ever seen was sown over manure, but the manure had been placed in the bottom of a trench.

E. HODGKIN.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

January 23th.—Put in cuttings of Tree Carnations in sandy soil in heat. Auriculas are kept free from dead leaves and dry, or nearly so, at the root; but with longer days more water will be given, and soil is being got ready for repotting. Carnations in frames are kept on the side of dryness at the root in the dark weather we have had. Plants are free from disease. All cold-frames are opened fully in mild weather when not raining. Placed Mint and Tarragon in heat for using green.

January 27th.—Before Cinerarias get forward in bloom the plants are vaporised. A little higher temperature when the flowers are opening improves the colour and adds to size of blooms. Light top-dressings of warm soil are given to Cucumbers rather frequently now. Planted a warm, low house with Melons. We usually start with a scarlet-fleshed kind, as the growth is hardier, and we think the fruits set better. We have grown a selection from Scarlet Gem for many years.

January 28th.—Special care is taken with the conservatory now in keeping the atmosphere genial and everything clean and in order, faded plants being removed often and others

brought in. Bulbs and forced things generally are coming on fast now. Made up more hot-beds for Asparagus, Potatoes, Lettuces, etc. Planted Potatoes in early border. Sowed Horn Carrots, Lettuces, etc., under like conditions outside. Planted several beds of Giant Rocca and other autumn-sown Onions.

January 20th.—Tronchøst and mounded a plot of land for Asparagus. We intend planting in rows 3 feet apart and 18 inches between plants. The seeds will be sown immediately singly in small pots, and be grown in gentle warmth under glass till May, and then planted out, watered, and mulched. Planted Peas and Long-pod Beans on warm border. Sowed Basil and Sweet Mirrjoram in pots in heat to gather green for use early. Radishes have been sown on worm border and covered with straw.

January 30th.—Finished potting show and fancy Pelargoniums. Placed a collection of new Fuchsias in heat to induce growth for cuttings. Sowed seeds of Patunias, Verbenas, etc., in heat. Sub-tropicals, such as Castor-oils, Solanums, and other fine-leaved things that require time, have also been sown in a warm house and will be grown on in heat. Trained Peaches on south wall. Put in cuttings of Geraniums of various kinds in heat.

January 31st.—Vines in second house are now breaking, and the weak eyes that are not required have been rubbed off. Peaches have set well in earliest house, and a few of the surplus shoots have been dibbled. Night temperature now 50 degs. to 55 degs. Air given freely on fine days. Water is rather hard, so syringe is not used much, but paths and borders are damped freely when required. Mero Strawberries have been moved to forcing-house.

LAW AND CUSTOM.

THE MAINTENANCE OF BOUNDARY FENCES.

On page 558 (Dec. 20th), in reply to a question about "Trespassing sheep," you say: "If the fence belongs to your neighbour, then it is a question whether your neighbour is bound to maintain the fence against the farmer's stock." Is this correct law? I have seen several reports of actions in the county courts where damages have been used for under similar circumstances, and in each case the judgment has been for the plaintiff. In one or two cases the Judge said: "It need be considered law that the owner of the fence is liable for its repair, and if a neighbour's sheep or cat trespasses and did damage through the bad state of the fence the owner of the fence was liable for the damage, but such is not the law, as every owner is bound by law to fence against his own cattle or sheep." The question is an important one to country residents, and shall be obliged for an early reply.—W. J. S.

The advice given was to inquire whether the owner of the fence was under any liability to maintain it against stock belonging to the occupier of the adjoining land, and the advice was perfectly sound. You evidently assume that the county court judge meant that under no circumstances was the owner of a fence liable to maintain that fence against stock lawfully on the adjoining land, and, if that is your assumption, it is inaccurate, as the county court judge would not and could not mean any such thing. The words you quote may warrant your assumption, but there would be some qualification or reservation in the judgment which you have omitted to mention and which may not have been set out in the report you have seen. Ordinary newspaper reports of judgments are very rarely complete or trustworthy, although the report of the facts of the case may be perfectly accurate and the broad effect of the judgment may be correctly given. The common law rule is, and always has been, that the owner of stock must keep his stock from straying, and if through his default the stock trespass on the land of another and do damage there, the owner of the stock is liable in damages. This is a statement of the rule in its broadest form, but to the rule there are certain exceptions which in practice are found to be exceedingly numerous. The owner of a fence may be bound to repair and maintain that fence against stock lawfully on the adjoining land in various ways, the principal of which arise (1) By statute. (2) By grant or covenant, or contract. (3) By prescription. To deal with these separately: (1) Where the obligation is statutory. A familiar example is the obligation upon railway companies who are bound by the Railway Clauses Consolidation

Act, 1845, and by their special Acts, to make and for ever maintain fences against the stock lawfully upon the lands adjoining their railways. There are other companies and corporations and owners of undertakings similarly bound by statute. There is another class of statutory obligations which is of even greater importance to the ordinary landowner. A large part of the country has been enclosed under the old Enclosure Acts, and these require that the several allotments awarded thereunder should be fenced and ditched by the allottee or other person or persons directed so to do by the Enclosure Commissioners, and that such fences and ditches should be for ever afterwards maintained by such allottee or other persons and their successors in title. (2) Obligations by express grant or covenant. There are many cases where land has been sold or granted, and it has been an express condition of the grant or sale that a certain fence (or fences) shall be erected and for ever maintained by the grantor or the grantee (as the case may be) and by his successors in title. Or it may be that the condition was that certain existing fences should be for ever hereafter so maintained. Covenants of this kind are often inserted in conveyances, and are, of course, binding upon the covenantor and his successors in title. Then, too, what may be called an obligation by a simple contract may arise, perhaps binding only upon the parties themselves, and not upon their successors. A familiar example of a common obligation by contract arises where two persons hire adjoining lands under the same landowner, and the dividing fence belongs to the land of one of them. If both tenants enter into contracts with their landlords to keep in proper and efficient repair all the fences on the lands let to them, the contract ensures also for the benefit of the tenants, and the one who takes the land with the dividing fence is bound to maintain that fence against his neighbour's stock. This proposition has been doubted, but it has been upheld by more than one county court judge in cases where this has been the issue between two parties. (3) Prescriptive obligations. These are comparatively rare and are difficult to prove. Shortly put, it may be said these can only arise where the owner of a fence does not require it for the purpose of his own stock, but has maintained it for at least twenty years for the benefit of his neighbour, and has from time to time during that period repaired the fence at the request of his neighbour.

Sufficient has now been said to justify to the full the advice given on page 558, to inquire as to the liability. For instance, it may be that the garden in question formed part of an allotment allotted under an enclosure award, and the very fence through which the sheep passed may have been directed to be for ever maintained by the allottee and his successors in title. If so, the occupier of the garden is bound to maintain the fence, and not only can he recover no damages from the farmer, but he is liable to the farmer for any injury the sheep sustain in their trespass. For instance, if they eat any poisonous shrubs or plants, and are poisoned thereby, the farmer may recover damages from the occupier of the garden. It may be that the garden originally formed part of the field and was sold off by a previous owner, and the purchaser covenanted to maintain a fence between the garden and the field. This binds the present owner and occupier of the garden. And if neither of the positions just instanced arises, but, say, thirty years ago, the land where the garden stands was ordinary land, and the owner sold off a building plot, and the purchaser formed a garden and built a house and erected a fence (or maintained an existing fence), and has ever since maintained a fence between the garden and the field, and has repaired that fence from time to time at the request of the occupier of the field, the obligation arises and will continue. It will be no answer to any action by the farmer that the present owner or occupier has only recently obtained possession, and was unaware of any such obligation; if the obligation exists, it is binding and is perpetual. This question has been shortly discussed in these columns some time ago, but as it is of considerable importance to the many readers of this paper in general, and to the occupiers of gardens in

particular, and there is a very great amount of misapprehension on the subject, it has been fully dealt with on this occasion.—K. C. T.]

A gardener's notice.—I was engaged as a thoroughly experienced working head gardener (one man under me) at 2s. a week, paid weekly, with house, coal, light, and vegetables found. There was no stipulation as to notice, written or verbal. Am I entitled to a month's notice, or to only a week's notice?—ANON.

[The point is a little doubtful, but I think the circumstances do not warrant a week's notice, and if you are dismissed on a week's notice, you may claim three weeks' further pay.—K. C. T.]

Release of mortgage.—Some time ago I borrowed some money, and gave a mortgage of a house and garden; three years ago I paid off the mortgage to the executrix of the mortgagee, and was given in return a receipt stamped with a penny stamp. I am told that I ought to have had a release or reassignment of the mortgaged property. Is this so? If so, what must I do?—J. K.

[Yes, the property should have been reconveyed to you. The omission will not peril your title, as between the executrix and yourself, but it may be of consequence if you wish to sell or re-mortgage the property. You can still have a reconveyance effected, but the whole cost of reconveyance will fall upon you, as it would have done even if it had been effected when the mortgage money was repaid.—K. C. T.]

BIRDS.

Death of Canary (C. Kirk).—This was a case of phthisis, a form of tuberculosis attacking the lungs, in the substance of which small Millet-like bodies of cheesy consistence and of a yellowish-grey colour were found. This disease is often met with in cage-birds as a sequel to liver complaint, and in this case the liver was far from being in a healthy state. A bird suffering from phthisis passes badly through the moulting season, has a dry, husky cough, and shows symptoms of gradual emaciation. There is no cure for this complaint—the patient slowly wasting away. From the dull plumage of this bird it appears to have been kept in an impure, smoky atmosphere. To maintain the health of cage-birds abundance of fresh air is essential, together with the best food and pure water, while a supply of sharp grit-sand should never be omitted.—S. S. G.

BOOKS.

"TREES AND SHRUBS FOR ENGLISH GARDENS."

This volume, which belongs to the "Country Life" Library, is specially devoted to a phase of gardening which has, perhaps, not hitherto had adequate treatment in the numerous garden books that have appeared of late years. At this time of day it appears to be still necessary to teach people that they can have shrubs quite as hardy and vastly more attractive than Laurel and Privet, and, of course, admitting of much greater variety of treatment. With this aim the book may be cordially recommended for study by owners of gardens great and small—in particular those who are responsible for the laying out of public gardens. Not the least useful part of the book is the tables of flowering trees and shrubs suitable for the British Isles. The book is nicely printed and profusely illustrated with reproductions from photographs.

United Horticultural Benefit and Provident Society. The monthly committee meeting of this society was held at the Caledonian Hotel, Adelphi-terrace, Strand, on Monday, January 12th. Mr C. H. Curtis presided. Twelve new members were elected: four of these, however, being over 35 years of age, are elected subject to the production of their birth certificate. Nine members were reported on the sick fund. The death certificate of the late Mr. W. S. Cornford was produced, and the amount standing to his credit in the ledger was directed to be paid to his nominee, Messrs. W. Gunner and T. H. Puzey were re-elected to audit the accounts for the past year.

"Trees and Shrubs for English Gardens," by E. T. Cook & George Newnes, Ltd.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in GARDENING free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF GARDENING, 17, Furnival Street, Holborn, London, E.C. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Treatment of Chrysanthemums (B.).—It is always best to root fresh plants each year, and the growths now pushing up will give good cuttings. Do not attempt to root them until the middle of next month; and when you have secured sufficient, we would advise you to throw away the old stools. Young plants take up much less room, and are not so much trouble.

Ammonia (Follow).—The various preparations of the kind you refer to would certainly be of some benefit, as they would supply ammonia, which has a good effect on the foliage of plants; but they are sold for household use, and are naturally dearer than would be ammonia in forms equally suitable for plants. You had better buy a little nitrate of soda or sulphate of ammonia, or some of the proprietary manures sold for the use of plant growers.

Azalea indica (Church Stretton).—Six choice single scarlet-flowered Azalea indica are: Stella, orange-scarlet; Flambéau, crimson; Countess of Beaufort, vermilion; Eugene Mazel, orange-scarlet; Duchesse Adélaïde Nassau, flamed scarlet; La Victoire, orange-scarlet. Six choice single white-flowering varieties are: Louise Vervane, early flowering; Princess Alice, pure white; Konigen der Weissen, alabaster-white; Mlle. Marie Planchon, very large flower; Mlle. Marie Lefebvre, pure white; Mme. Hermann Seidel, very large and handsome.

Fuchsias, pruning (Prior).—We presume your plants are in pots, and that they are underneath the stage and getting but little water. Leave them thus until early in March, when they may be pruned hard back, and after standing a day or two be placed in a temperature of 55 degs. Here, with an occasional overhead watering, growth will soon move, when the supply of root moisture may be slightly increased. They may be putted on when growing freely, taking care not to overwater until the roots have begun to run freely.

Potting Lilliums (Flora).—Pot the bulbs as soon as you can get them. Drain the pots well, and about three parts fill them with a mixture of light fibrous loam, peat, well-rotted manure, leaf-mould, and some coarse sand. Cover the bulbs with 3 inches of soil, which should be fairly moist, as no water must be given after potting. Place the pots on a hard ash bottom, and cover with a good thickness of leaf-mould or Cocoa-fibre. When the plants have made about an inch of growth remove them to a sunny greenhouse, and water sparingly for a time.

Mossy wall in house (A.).—If your Cucumbers house is now empty, you can burn it in, when close shut up, sulphur dusted freely over red-hot cinders, but the moment it is laid on the fire you must get outside. If the house be close shut for twelve hours, everything living in it, vegetable or insect, should be killed. If you may apply whitewash made with water in which soft soap and soda have been liberally mixed. The whitewash should, however, be dabbed on whilst boiling hot, if possible. We fear, however, that the wall has not had any damp course of slate put into it, and that if you kill the Moss for a time, it will soon grow again.

Tulips (A. R.).—The cause of the flower-stems of your Wouvenman Tulips failing to lengthen out is owing to your having forced them into flower rather too early. Had you allowed them more time for development by bringing them along more gently all would have been well with them. If you require Tulips at this time of year, select only the very earliest flowering or forcing varieties another season, such as the Duc van Thol varieties and others. Wouvenman is a splendid sort, and is what may be termed a midseason flower, and not suited for hard forcing.

Cineraria leaves, insects in (M. E. B.).—Your Cineraria leaves have been attacked by the Marguerite Daisy-fly, which burrows in the leaves of these Daisies, Cinerarias, and other composite plants, and feeds on the inner surface. When many leaves are attacked in this way the plants are not only rendered unsightly, but they also suffer in health. The best way of destroying this pest is to cut off the infested leaves and burn them, or, if the attack has only just commenced, to pinch the leaves where the grubs are. Spraying with an insecticide assists little, as this would not reach the grubs, but if done at the right time it might probably prevent the flies laying their eggs.

Arum Lily decaying (A Reader, Lymouth).—We can only surmise that the stem has been in some way injured in its early days, and the present decay is the natural outcome of the developing growth. Had you sent us a plant we could probably have arrived at something more definite. It was quite correct to pot it in September, and the subsequent treatment so far as stated appears correct. But there is a much more definite cause

for an injury so great and so unusual, and if many plants are so injured we would like to see a specimen as complete as you can. You say nothing of the temperature in which the plants are grown. If the plants have never been in a lower temperature than 40 degs. this is not the cause of failure. Much wetness at this low temperature would not be for good, however. We imagine the etou is have been injured in some way.

Good Cactus Dahlias (J. Casswell).—Twenty good varieties are: Freedom, crimson-scarlet; Mrs. A. F. Perkins, sulphur-yellow and white; Mrs. Mortimer, salmon-red; Mrs. Hobart, orange and salmon; Richard Dean, vermilion; Mrs. Edward Mawley, fine yellow; Clarence Webb, bronze-red; J. H. Jackson, crimson-maroon; Clie, creamy-salmon, etc.; Columbia, vermilion, with white tips; Gen. Buller, velvet crimson, white tips; Artus, dark apricot; Vesta, fine pink; Imperator, ruby-crimson; Cheals White, ivory-white; Fighting Mac, fiery crimson; Mrs. H. J. Jones, scarlet, edged cream; Kingdove, pink-fawn or dove colour; Lord Roberts, white; Eclipse, sulphur-yellow; Arachie, centre white, petals margined crimson; Feuillet, salmon-pink; Keyne's Walle; and Lady Penzance, purest yellow.

Gazania ringens (W. W.).—This is only hardly enough for our summers. It is most useful on warm soils, and should always be placed in open sunny spots and among dwarf plants. Cuttings strike freely in a cold-frame in August, but later require bottom-heat. Unless struck very early, spring-struck plants are almost worthless, so that it is best to put in the stock in August and let them stand in cutting-pots till potting-off time in spring. They will then come well into flower when put out in May; whereas, if they are topped for spring cuttings, both lots will be small and late. Short young tops should be used for cuttings, and may be inserted pretty thickly in the cutting-pots. When established, they must be just protected from frost, and kept in dry, airy quarters. If kept warm they grow too much, and are in spring poor, lanky plants that can hardly be handled; but cool, airy treatment keeps them short and sturdy.

TREES AND SHRUBS.

Planting Privet (H. B. Smith).—You can plant it at any time now when the weather is open.

Mistletoe (P. J.).—You should sow the seed at any time when ripe—say, from February to April, according to circumstances. Put the seeds just under the bark on the underside of the branch of the Apple-tree on which you wish to grow it, or press them on the bark (on the underside), and protect them from birds. Grafting may be carried out in May. Most failures are due to late sowing seeds and to neglecting to afford protection from birds, which are very fond of the seeds.

Transplanting Jasminum nudiflorum (Ben).—Given good open soil, the sooner your Jasminum is transplanted the better, though in the event of frost you must wait till it is all completely cleared away. When transplanting, the very strong shoots may be shortened, but do not cut the plant back too hard. Cotonaster microphylla is a very desirable subject for clothing a wall or fence of the height you name, and its dark green leaves form an admirable setting to the winter Jasmine, but it is a slow-growing plant, and we think that probably the Fire Thorn (Crataegus Pyracantha) would suit your purpose best. The bright red berries of this Thorn form a beautiful autumn and winter feature, and afford a marked change from the golden flowers of the Jasmine. Cotonaster microphylla is naturally of a creeping or spreading habit of growth, and we secured to the wall or fence that it is intended to clothe. The Penzance Sweet Briars in the position named cannot fail to please.

FRUIT.

Table Apples (Church Stretton).—Six best varieties of table Apples, to grow as espaliers, 800 feet above sea level, are Kerry Pippin, Red Ingaltrie, Cox's Pomona, King of the Pippins, Adam's Pearmain, Court Pendu Plat.

Vine resting (B.).—In asking how long a Vine should be allowed to rest, you ask a question that has considerable interest. We know, for instance, of houses of Grapes kept hanging until March, the glass being covered by sheets to exclude the sun's rays, and new growth has begun when the entire crop has been cut. It is hard to understand where the rest comes in there. If you have tender plants in your greenhouse you must keep up a temperature of from 45 degs. to 50 degs. of warmth. If you have none, then throw open the house when the weather is open, just closing it in very hard weather. Fire up a little at night early in March, and then start the Vine generally.

Mildewed Grapes (F.).—If your vine is heated by pipes or brick flue, get milk or soft-soap solution, stir into it flowers of sulphur, then get the pipes or flue hot with a fire, and when so heated well wash the pipes or brickwork with the mixture, kept well stirred; then, so soon as done, shut up the house close for twenty-four hours. Also prune your Vine hard back to good buds near the main stem; then well wash the stems with a soft-soap solution, and whilst damp dust the wood thickly with sulphur. Well wash all the brickwork, throughout clean glass, and, if possible, paint wood work. Have all the trimmings burnt. Next spring and summer, should mildew appear, heat pipes and wash with sulphur-wash, as advised. This is cleaner and more efficacious than dusting the Grapes and leaves with sulphur.

Vine dressing (A.).—It need not be a matter of great necessity do not think of starting your Vines into growth until February. If you do so now, you will have the growth, leaves, and bunches developing in the duldest of weather, and that will cause them to be weaker than if started fully a month later, as the days will then be lengthening and the sun will be getting power. Gishurst-compound is a capital dressing for Vine-roots, but we advise adding to it some clay and paraffin paste. Filling that, put 2 lb. of dry clay to 1 lb. of paraffin, into a tin, and add 2 lb. of Gishurst-compound and make the soil absorb it. Then add 2 lb. or so of Gishurst-compound and some warm water, and well mix the whole, painting the Vine-rod well with a half-worn paint-brush, but not dressing the eyes or buds; wash these carefully with soapy-water only. You can mulch inside border if you like to help feed the roots, but a good mulch will do more good after the Grapes are

thinned. A good soaking of water now may do much good inside, but not outside.

VEGETABLES.

Improving dry land (W. H. Airey).—Salt must be very sparingly used on garden soil, as otherwise it would become harmful to crops. You may strew about between rows of any vegetables about 3 lb. of well crushed salt per rod, applying it when the weather has become warm. If applied in the winter or spring it is to make the soil very cold. But your best remedy is to lay with a chisel subsoil, in throwing out the top soil from a trench 18 in. wide and 12 inches deep, well breaking up the chalky stratum 10 inches deep, then adding a dressing of well decayed and wet manure, especially cow manure, and throwing on to that the next top spit of 12 inches deep and 2 feet wide, breaking up the bottom of that trench, manuring it, and serving all the rest of a breadth of ground in the same way. On ground so treated crops would endure drought for longer than if it were only just dug. If, after crops were well up, and had been thoroughly hoed between to kill weeds and loosen the surface, you could then give a mulch or coat of manure, very much indeed would be done to help retain moisture in the soil during the summer.

SHORT REPLIES.

A. Wright.—Soil to hand quite dried up; we could not find any worms.—Prior.—The only thing you can do to get the bushes.—Cromford.—Sorry we are unable to trace the article to which you refer.—Constant Reader.—You will find the article you refer to in our issue of Dec. 15, 1891.—Geo. Clark.—Apply to the Economy Fencing Co., Billiter House, Billiter-street, E.C.—F. F. Hayes.—We should say that "Hobday a Villa Garden," from this office, price 6s. 6d., would answer your purpose. We know of no books dealing specially with the subjects you mention. If in doubt, we are sure glad to help readers. Kindly read our rules as to correspondence.—Dudley.—Yes, the Aspidistra fern. You will find the flowers on established plants just on the surface of the soil.—T. S. R.—Why not try anthracite coal, which is lasting and good? You must have, however, good draught in your furnaces to burn this. If your house is large we would not advise the use of potatoes.

NAMES OF PLANTS AND FRUITS.

Names of plants.—W. A. Birks—1, Cypripedium villosum; 2, Flower too shrivelled up; please send fresh bloom.

SWEET PEAS.

Aberystwyth, March 9th, 1902: "Mrs. E. P. has won the FIRST PRIZE with your Sweet Peas at the Aberystwyth Show against great competition. Mrs. E. P. also won FIRST PRIZE for best Garden Bouquet with your Sweet Peas."

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- Dorothy Tennant, rose-mauve
- Edith of York, pink
- E. Eckford, rose, striped
- E. Henderson, white, early
- Hon. F. Bouverie, coral-pink
- Invincible Bling, blue
- Invincible Scarlet, scar. red
- Little Dorrit, carmine & white
- Lottie Hutchins, pink, cream ground
- Maid of Honour, blue, white ground
- Mars, fiery crimson
- Mikado, orange-cream
- Miss B. Ferry, red & white
- Lady M. Currie, orange-pink
- New Countess, light lavender
- Oriental, orange-salmon
- Primrose, pale yellow
- Princess Beatrix, carmine
- Princess May, heliotrope
- Queen Victoria, yellow
- Red Riding Hood, pink and white
- Royal Rose, rose-pink
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VEGETABLES.

EARLY PEAS.

It is the ambition of every owner of a garden to have Peas ready for gathering as early in the season as position and climatic conditions will allow, and to achieve which it is necessary to sow the seed during the present month. The weather, unfortunately for those who cannot raise the seed under a frame or cold-pit, will not always allow of the seed being sown outdoors during January, and the only thing is to wait till a favourable opportunity presents itself, and then sow without further delay. On the other hand, if a pit, frame, or a Peach-house or viary that is resting is at command, then the seed can at once be sown. This may be done in various ways, either in pots and boxes or on turves, the first and last methods being preferred by me. Five and six inch pots are suitable sizes in which to sow Peas. Boxes should not be more than 6 inches in width and about 2 feet in length, and made so that one if not both ends can be detached, to allow of the plants with the mass of soil about the roots being easily slid out into the drills when planting time arrives. Turves must be cut specially for Pea sowing, and should be of a uniform thickness of not less than 3 inches, 1 foot in width, and 3 feet in length. Three drills, one down the centre and one near to the outside of each turf, should be scooped out to the depth of 2 inches with a trowel. In these drills the seed should be sown thinly and covered with a light, rich compost. For pots and boxes the latter should consist of two-thirds loam, and the remainder equal parts leaf-mould and spent Mushroom-dung. Five sound seeds will be an ample quantity to sow in each pot, and with regard to the boxes and turves, sow them also in much the same proportion. If the compost is moist, water will not be required for some few days, and the position the pots, boxes, or turves are placed in, so long as it is quite cool, will not signify much until germination takes place, after which they must have all the light and air available to ensure dwarf sturdy growth. As soon as the plants need support, place pieces of partially worn-out Birch brooms round the pots, and on either side of the drills, as the case may be, and this should suffice if they are given quite cool treatment, and afforded plenty of air on every favourable occasion until they are planted out. When sowing on turves is adopted, it should be remembered that each turf at planting time is cut up and divided into three strips, each having a row of Pea plants in it. One turf will, therefore, furnish enough Peas to plant a row 3 yards long, and this should be taken into consideration when calculating the number of turves required. The outdoor sowing ought to be done in the warmest spot in the garden, such as a raised border facing due south, covering the seed with some fine, dry soil if the staple is at all heavy or adhesive. As regards the distance apart at which the drills should be, this will be governed by the height of the variety selected, and whether the ground is to be cropped between

them or not. In the latter case let the Peas stand 6 feet asunder, and then two rows of early Potatoes may be planted between, or the ground can be utilised for early Spinach, Lettuces, Shorthorn Carrots, Early Gem and Milan Turnips, etc. If the plot is to be devoted to Peas alone, allow very dwarf sorts, such as Harbinger, 18 inches between the rows, and the taller ones from 3 feet to 4 feet. A. W.

ASPARAGUS.

WHERE home-grown crowns are extensively forced, the gardener must annually sow as well as plant a quarter to meet the demand, and as the preparation of the ground is more than half the battle, no pains should be spared to get this in good heart by the time planting time comes round. This choice vegetable requires an open, sunny spot having a dry sub-soil, artificially so, if not naturally, as, if much water is allowed to settle about the roots during the resting period, many of the said roots die away, and the result is, little or no Grass of any value. Asparagus will grow in almost any soil, but that which suits it best is good loam, not too retentive, with abundance of farmyard or stable-manure well incorporated with it, and the ground trenched from 2 feet to 3 feet deep, working in a good percentage of manure at the bottom, and again at 18 inches from the surface. If artificial drainage is necessary, place at the bottom of each trench 6 inches of garden refuse, such as Broccoli and Cauliflower-stumps, fruit-tree prunings, etc., and, over this, a good layer of long, strawy litter before returning the soil. Where the soil is stiff, it should be ridged so that frost and wind may pulverise the same by the time it is necessary to work it down.

PLANTING is best done towards the end of March or early in April just as growth is getting active, setting out the plants 1 foot apart in rows running north and south 2 feet asunder, taking the precaution that the roots are not allowed to get dried up while the work proceeds, and that no injury is done to root or growth when lifting, which must be performed with a five-pronged fork. Drills 4 inches to 6 inches deep should be got out for the plants, making the side nearest the line perpendicular, to rest the crown of the plant against, and evenly spreading out the roots, keeping the crown 2 inches or 3 inches below the surface, and making the soil firm about the roots with the foot as the work proceeds, finally raking over the surface and cleaning up the alleys. One or two-year-old crowns are the best for planting a permanent bed, and no produce should be taken from them until they have finished two seasons' growth, neither must they be lifted for forcing under that time.

SOWING THE SEED.—This may be done towards the end of February if the soil is in working condition, and where there is plenty of ground at command it may be sown direct into the permanent bed, dibbling in three or four seeds together 1 foot apart, retaining the strongest seedlings as soon as the little plants can lie hold of for thinning. The rows should be 2 feet apart as for planting. The seed may also be sown in drills 1 foot apart on

a sunny border, and thinned out to 3 inches apart, to be transplanted next spring. Crocker's Colossal is as good as any, and is still largely grown. EAST DEVON.

NOTES AND REPLIES.

Green Cape Broccoli (p. 507).—I have grown this for many years, and shall again this. I always get my seed from Italy, then you can rely on it being true. I find on many plants you can get side Broccoli heads, only smaller than the centre one. In my opinion the flavour is much more delicious than in the ordinary English Broccoli. The leaves are of a dark blue tint, the flower the same, differing in this respect from any other kind. From seed sown in early part of March I cut at Michaelmas. The flower should not remain till frost. Being a tender kind it is of little use afterwards. The Italian name is *Violetta de Navidad*.—E. VUKES, *Kingsworthy*.

Supplying family with vegetables.—Would it be possible, in a kitchen garden of 1 acre, to grow enough Potatoes—as well as other vegetables—to supply five people all the year round? Please tell me how much ground to give up to the Potatoes, and how much seed to use to a rod? I am told that Duke of York and Myatt's Ashleaf do well here, and think of getting Up-to-Date and the Crofter as well. Do you think that they would do well on this soil, which is mostly of a light, loamy nature, or will you recommend others instead? What proportion should I have of early and late kinds?—BLUE LIAM.

[No exact answer can be given to the question as to whether a family of five persons can get a supply of vegetables all the year round from half an acre of ground. So much will depend on the fertility of the soil, the way cropped and cultivated, the nature of the season, and the vegetable requirements of the people. But, all the same, we think that such an area of ground should suffice for the purpose, because if well trenched and manured, then kept freely cropped, the produce of half an acre of ground can be considerable. Potatoes, to have a supply all the year, or nearly so, should occupy fully one-third of the ground, or say at least 30 out of the 80 rods. If you could obtain so moderate a crop as an average of two bushels of good tubers per rod, that would mean 60 bushels—a large quantity. But to obtain such a crop you must grow but few of the early Ashleaf section. If you plant of these Duke of York and Myatt's Ashleaf, you would need 1½ pecks of tubers per rod, and if large ones be planted, then fully 2 pecks per rod. These plant in rows at 2 feet apart; also plant two rods with Beauty of Hebron or Early Puritan, both early and heavier croppers; then six rods with Windsor Castle, and the remainder with the Crofter and Up-to-Date, as you suggest. These last should be in rows fully 30 inches apart. Your soil ought to grow good Potatoes, the varieties named doing well. The rest of the ground you would have to apportion between Peas, Broad, Dwarf and Runner Beans; various roots, such as Carrots, Parsnips, Beet, Onions, Leeks; also Cauliflowers, Broccoli, Cabbages, Winter Greens of diverse descriptions, Rhubarb, Seakale, Asparagus, Herbs, Marrows, Tomatoes, etc.; all needing judgment in the quantities sown or planted. In all these matters a study

of the columns of GARDENING ILLUSTRATED, under the head weekly of "Garden Work," should render you valuable help in the cropping.]

TREES AND SHRUBS.

THE SWEET PEPPER BUSH (CLETHRA ALNIFOLIA).

This North American plant, introduced to British gardens in 1731, although a very ornamental, perfectly hardy, and free-growing shrub, reaching a height of from 3 feet to 5 feet, is rarely seen unless in choice collections in our large nurseries and hotanic gardens. The flowers, which are white and oppressively fragrant, are produced in short racemes at the tips



The Sweet Pepper Bush (Clethra alnifolia). From a photograph by G. A. Champion.

of the branches early in September. It is a moisture-loving plant, and should therefore be grown in a damp spot in the bog garden. It will also succeed fairly well in rather damp loam, to which a small quantity of leaf-mould has been added, and given a sheltered position. Pruning is important; indeed, to grow this Clethra well, it should be cut hard back at stated intervals.

NOTES AND REPLIES.

Propagating the Mistletoe.—In answer to "J. C. Usher," page 611, January 17th, I have large quantities of Mistletoe growing on Apple and Thorn trees. The berries will be ripe in March or April. I shall be able to supply any quantity of berries for propagating.—TAMMÁS TERLEV, Postmaster, Rochester, Staffs.

Shrubs for sandy soil.—I have purchased a plot of land on a hill, part of which is a sand-pit, and in fact, the ground is nearly all sand. Would you kindly advise me through the medium of your paper what trees and shrubs will do well in such sandy soil, as I wish to

plant the garden almost entirely with trees and shrubs?—PERFLEND.

[Many flowering shrubs and trees do well on sandy soil, better than in heavy soils. The Scotch Fir and Pines also do well, with the exception of the Spruce, which requires a damp soil.]

A supposed Desfontainea.—I am greatly pleased that your correspondent "W. T." has taken up the question of my friend's supposed "Desfontainea." I think there can be no doubt that "W. T.'s" explanation is the right one, and that the shrub is an Osmanthus. What he says tallies in every point with what I saw myself in the churchyard at East Budleigh, 2 miles inland. I shall not be there for some time, but shall be pleased to send a spring shoot from the shrub later on, when I daresay "W. T." will not have forgotten the incident. "Desfontainea spinosa"

bark all around the cut surface endeavours to heal the wound. The Stockholm tar, to a great extent, protects the wood from further decay, and also prevents the water or any fungus settling there. We also noted that in some had cases the wounding had been filled up with cement first—notably an old Crataegus, where a large branch had well nigh split the stem of the tree right down the centre, and yet the tree looks the picture of health, and is full of flower every summer. Fruit-trees having very large branches broken off may be treated in like manner. In the case of the Pines insignis, endeavour to train up a new leader by placing a stout stake to the main trunk, but making sure it does not cut the bark by placing between the tree and stake stout pieces of canvas or gutta-percha, and then, if the tree is not too old or the branches too stiff or brittle, gently pull in the nearest branch on the top. We have known this to be successful in several cases.]

Erica mediterranea hybrida.—This comparatively new yet most delightful hardy Heath, ushers in the New Year with its masses of rosy-purple blossoms, and till they expand again about Christmas next, there is little if any time without some members of the Heath family contributing to the floral display out-of-doors. Following on the just-named forms come the pretty little Erica carnea or herbacea, and its white variety (alba). Long before these are over we have the typical Erica mediterranea, with the larger-growing Erica codonodes, or Insitanica as it is often called. The St. Daboc's Heath (Dabecia polifolia), unfolds the first of its urn-shaped rosy-purple blossoms by the month of May, and maintains a succession till the autumn. The white variety is equally free-flowering. After this comes the Grey Heath (Erica cinerea), with its many varieties, usually at their best about mid-summer, while the latter part of August and the early autumn see the greatest glut of all, there being the Ling, or Heather (Erica vulgaris), with its varieties innumerable—Erica ciliaris, Erica tetralix, Erica vagans, and Erica multiflora. Considering the great beauty of the Heath family and the fact that the members of it will succeed in many places unsuitable for most shrubs, it is surprising that we do not see them more generally planted.—X.

How to improve faulty Yew hedges.—It frequently happens that Yews, when planted to form ornamental hedges with, do not give such satisfaction hereafter as they should do, through the bushes failing to fill up and forming a perfect screen from the base upwards. This invariably arises from want of careful selection of the bushes at planting time, for if they are well furnished with branches, as they should be down to the ground line, the objection mentioned cannot occur, and the hedge will not present a gappy appearance, such as it does when unsuitable plants are used. By the latter is meant drawn or attenuated bushes which have got into this condition through being too crowded in the nursery lines, and as a natural sequence have lost a goodly portion of their lowermost branches. Such are most unsuitable for hedge planting, and if used, no matter how good the soil and situation may be, it takes years to remedy the defects. Where hedges have been found with bushes of this description, the only way out of the difficulty is to grapple with it as soon as the growths are of sufficient length to allow of their being manipulated and drawn to where required to fill up the vacancies. The most convenient branches should, as a matter of course, be utilised, securing them with tarred twine to short stakes driven firmly into the ground. The hedge should be commenced with at one end and gone thoroughly through, first on one side and then on the other, throughout its entire length, and if the branches are secured in the manner indicated, they will become set by the time the twine and stakes decay and not move out of position again. If this is carefully and methodically carried out, the hedge will in time present an unbroken surface or face, but, of course, it is much better to employ well furnished examples at the outset, and obviate the necessity for resorting to the training and tying of branches to hide up inequalities.—A. W.

does flourish here. I have seen a large and beautiful shrub of it in flower on a friend's lawn, and not near the sea—perhaps half a mile from it.—M. A. H., B. Salterton, Devon.

Decay of tree-trunk.—I should value your opinion on following: 1. Best method of arresting trunk decay in forest trees, fruit trees? I have a handsome Liriodendron tulipifera which is holed by decay, result of branches having been cut off, and water lodging in apertures so created. 2. A Prunus insignis had leader recently broken off, and its gum persistently exudes. Can tar, paint, or anything be applied to effectually correct exudation?—INQUIRY.

[We remember, when visiting Bicton, Devonshire, a few years since, seeing in the Arboretum several of the Conifers whose branches had been broken or cut off. The wounds, after being smoothed over with a plane or chisel, were painted over with Stockholm tar, care being taken that it did not come into contact with the bark. If these wounds are examined once or twice a year it will be noted how the

PLANTS AND FLOWERS.

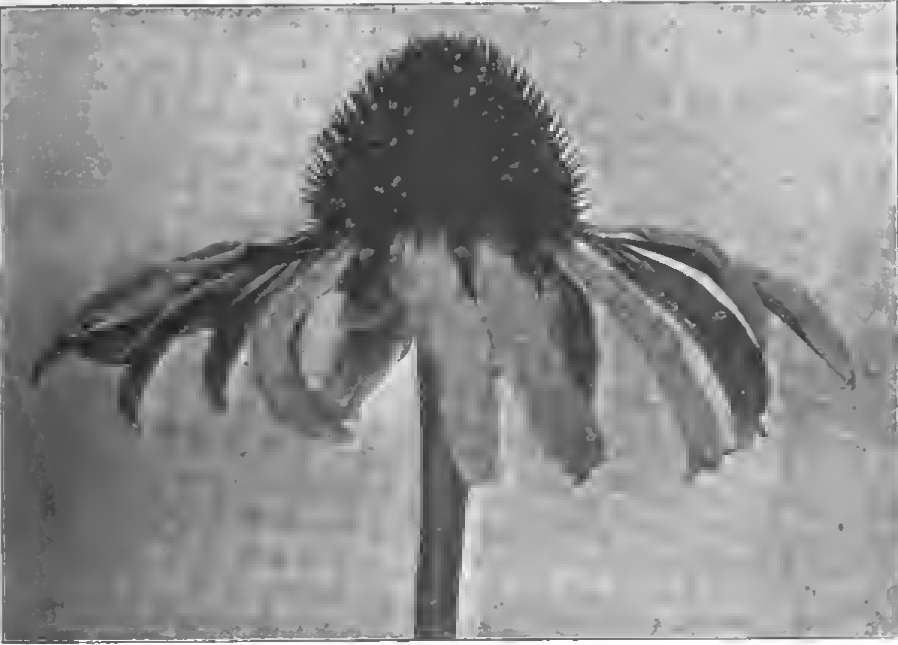
OUTDOOR PLANTS.

ECHINACEA PURPUREA (SYN. RUDBECKIA PURPUREA) AND ITS VARIETIES.

This is a native of Louisiana, and has been known since 1799. From seed several interest-

take is made is that so many of us want bloom as long as possible, and when plants are spent out we begin to think of seed. Seed harvested under such conditions is seldom, if ever, satisfactory, and if one is desirous of saving one's own seed, those particular plants should be reserved for the purpose. I think, however, for a moderate-sized garden it is best to procure a fresh supply every year from a good source. My experience is that it is cheapest in the end.

like flowers, is indeed an attractive plant, and having, like the *Gloriosa*, a prohemisile tendril to every leaf, it climbs with great facility. My old friend and former neighbour, Anderson Henry, of Clematis fame, had it growing over the front of his house for years, and the seeds dropped on the border underneath and vegetated freely. He gave me seedlings to train round my dining-room window. I should think there could not be much difficulty in procuring seeds from Peru or other parts of South America. I well remember Mr. Henry speaking of some florist friend going to the Andes and remarking, "Yes, he is off to the land of the *Mutisia*." Perhaps some of your readers may be able to inform me how seeds of this pretty climber can be obtained? I once saw near Edinburgh quite a square yard of a house wall a mass of these flowers.—A. B. HERBERT, *Morden, Surrey.*



Rudbeckia (Echinacea) purpurea.

ing forms of this plant have been obtained, these offering some variety in colour, and, in fact, a sensible improvement on the type. Even prior to these very distinct gains the two following forms were known—viz., *E. p. intermedia*, with flowers more displayed, rounder and more tufted than those of the type; and *E. p. serotina*, a rough-stemmed form with narrow florets. Of the new varieties, we give special mention to the two following:

- E. p. ROSA ELEGANS*, a hardy kind, bearing many blooms of a handsome light rose colour, the florets sometimes edged with yellow, and
- E. p. ATRO-PURPUREA*, with flowers deep red-purple in colour. We think that as the result of hybridisation and intelligent selection other variations will shortly make their appearance.

Like all Rudbeckias, this plant requires, in order to thrive, a good, deep, and well-drained soil, and not too much exposure to the sun. It is useful for borders to shrubberies, and looks well also in isolated tufts of three plants on the lawn, or it can be grown in the kitchen garden for cutting. As a cut flower it is a welcome addition to the plants, of which there are still too few available for this purpose. It is increased by division in autumn, or preferably in spring, and from seed. Sow the seed as early as May in heated frames if flowers the same year are desired, or in June, and preferably in cool-houses, and then transplant to the nursery for planting out in the autumn, or rather in the spring. This species is naturally variable, and among seedling plants of it there is much diversity of colour, varying from rose to purple. One may, therefore, expect to see varieties of this handsome plant occurring naturally.

JULES RUDOLPH (*Revue Horticole*).

ANEMONE JAPONICA QUEEN CHARLOTTE.

FOR many years the forms of *Anemone japonica* were three, and gave no sign of any increase in their numbers. Within the last few years, however, the three old kinds, the red, white, and pink, have been materially augmented, and in the pink and white forms more particularly. It is with the former of these two colours that we are now concerned—viz., the pink, which is distinguished by the name given above. Not only is this a novelty, it is a decided gain to garden plants, and to autumn flowers in particular. The variety has been before the public now for a year or two, and like all the forms of this race, the plants require to be fairly established before the full value or beauty is seen. It has been so with the present kind, which in not a few instances attained somewhat of its full beauty in the past year. Compared with the others of this shade of colour, *Queen Charlotte* surpasses them all, the blossoms being much larger, the petals more numerous, and more distinctly obovate and rounded at the margin. The colour is a good rose-pink shade, the handsome saucer-shaped blossoms about 3 inches across, and produced as freely as in the other kinds. The plant is very vigorous in its growth, and with liberal treatment will attain from 4 feet to 6 feet high. This worthy addition to good garden plants received the award of merit from the Royal Horticultural Society in October last, when it was shown in excellent condition.

E. J.



Anemone japonica Queen Charlotte.

Saving seeds.—Whether after taking everything into consideration there is very much to be gained in saving seeds, and especially flower seeds, is a question, I suppose, upon which there will always be a difference of opinion. Gathered early, there are some flower seeds one may save.

The Mutisia.—It has often surprised me that I never see in any nurseryman's catalogue a notice of the *Mutisia*, either as plants or seeds. In the "English Flower Garden" three species are mentioned, but I am familiar only with one, *M. decurrens*, and this, with its bright orange, star-

GARDEN EDGINGS.

I AM not an admirer of flowering plants as edgings for garden paths could we but find some hardy evergreen plants that in blooming did so for a long season, and in so doing did not leave behind unsightly dead flowers and stems. A Box edging is decried because it always needs clipping once a year; but where is the flowering plant that does not need to have its dead flower stems cut over once at least in the year? The complaint that Box edgings harbour vermin is true equally of all edging plants, whilst those which spread and grow close to the ground are worse in that respect than Box is. The former are close growing and spreading, the latter is narrow, neat, and relatively does not offer any great amount of cover for slugs and similar pests. Of living or plant edgings the three best are turf, Box, and Ivy. Turf edgings should be proportioned to the width of the paths

and borders they divide, but should never be less than 8 inches, so as to enable a narrow lawn-mower to be run over them once a week. If edged with shears once in two weeks, such edgings are neat, neutral, and give little trouble. Box edgings should not exceed 4 inches broad or 5 inches in height, and instead of having a flat top, should have the sides bevelled, so that the top forms a somewhat sharp ridge. No edging can well be

neater than is this, and it is not excessively stiff or formal after the summer growth has been made. Ivy should be of any small-leaved, close-growing variety, though none is better than the common Wood Ivy. This

needs some pegging into position during its earlier growth to get it well into line, but once growth is good, only an occasional side trimming is needed to produce a very pleasing edging that should be from 10 inches to 12 inches wide.

Of flowering plants, few are better to make a neat edging than are the Mossy Sedums, such as the green *Lyodium* or the silvery *glaucum*. To have these in good form the soil for the edging should be slightly ridged, the Sedum being in the early spring dibbled into the apex in tiny clumps 6 inches apart. Very soon the clumps extend and touch each other. It is then needful only to chop down the edges with a spade once a year. Such edgings will keep good for three or four years. Next come Mossy Saxifragas, although these do not always make so even a growth. Then comes common Thrift, a charming green-leaved plant, but giving some trouble as the flowers die off, and also in damping off, or otherwise disappearing. Common Pinks are for a long time untidy and need edging hard usually twice a year. A broad edging of any plants when in full bloom is formal, and kills, to a large extent, choicer flowers that may be blooming in the borders. London Pride gives a fairly compact base, but in bloom is very weedy and untidy. Aubrietia and Arabis will also make fair edgings, both needing some trimming of edges and flower stems. Auriculas are far from being objectionable edging plants, especially if the soil for them be slightly elevated. The flowers in decay can readily be gathered off, and the edges of the plants need little trimming. Daisies seldom keep perfect as plants frequently die.

There are other plants more or less suitable. It should be a primary consideration with garden path edging plants that they be fairly enduring, need little attention, maintain a good face, and be generally so far neutral that they do not kill border flowers with an excess of bloom. Of course, to be enduring they must be quite hardy. D.

GROWING ALSTROMERIAS.

Will the Editor of *GARDENING ILLUSTRATED* kindly give me information on the culture of *Alstromerias*? When and where they should be planted—in the open ground or in conservatory?—E. J. STREET.

[*Alstromerias* must have a thoroughly well-drained soil to prevent the tuberous roots from suffering from an excess of moisture. The best place is a south border, or along the front of a wall having a warm aspect, where, if the soil is not light and dry, it should be made so. Dig out the ground to the depth of 3 feet, and spread 6 inches or so of brick rubbish over the bottom of the border. Shake over the drainage a coating of half-rotten leaves or short littersy manure to prevent the soil from running through the interstices of the bricks and stopping up the drainage. If the natural soil be still, a portion should be exchanged for an equal quantity of leaf-soil, other light vegetable mould and a borrow-load of sand should be well mixed. The plants should be procured in pots, as they rarely succeed from divisions, and, once planted, should never be interfered with. Place them in rows about 18 inches apart, and with 1 foot from plant to plant. If planted during the winter, they should be placed from 6 inches to 9 inches deep, so as to keep them from frost; and a few inches of half-rotten leaves shaken over the soil. Should there be any difficulty in obtaining established plants in pots to start with, seed may be had; and this sown in pots or in beds where the plants are to remain. The seeds, being as large as Peas, may be sown 2 inches or 3 inches deep; with three or four seeds in a patch. If well treated, they will begin to bloom at a year old, and if not disturbed will increase in strength and beauty every season. When grown in masses in this way they are very beautiful, as every stem furnishes a large number of flowers, varying much in their colour markings. While growing and blooming they should have occasional watering, otherwise they get too dry, and ripen off prematurely. A good mulching of old Mushroom-dung or of leaf-soil is a great assistance while in bloom. When going out of flower carefully remove the seed-heads, otherwise the plants are apt to become exhausted, as almost every flower sets. In removing the pods do not shorten the stems or reduce the

leaves in any way, as all are needed to ripen the tubers and form fresh crowns for the following year. The stems should therefore not be cut down but die away naturally. Anyone having deep light sandy soil resting on a dry bottom may grow these beautiful flowering plants without preparation; all that is necessary being to pick out a well-sheltered spot, and to give the surface a slight mulching on the approach of severe weather. No trouble is involved in staking and tying, for the stems are strong enough to support themselves, unless in very exposed situations. They are quite worth cultivating for cut-flowers, as they last long when cut. The species in cultivation are:—

A. AURANTIACA (*A. aurea*), a vigorous-growing Chilean kind, 2 feet to 4 feet high, flowering in summer and autumn. The flowers are large, orange-yellow, streaked with red, umbels of from ten to fifteen blooms terminating the stems.

A. CHILENSIS.—This is a quite hardy kind from Chili, with many varieties that give a wide range of colours from almost whits to deep orange and red.

A. PELEGRINA.—Not so tall or robust as the last; but the flowers are larger, whitish, and beautifully streaked and veined with purple. There are several varieties, including a whits one, which requires protection. When well-grown it is a fine pot plant, compact and crowned with almost pure whits flowers. It is called the Lily of the Incas.

A. PSITTACINA (*A. braziliensis*).—Grows about 1½ feet high, each stem being terminated by an umbel of from seven to nine flowers, smaller than either of the preceding, and green and deep red in colour.

Other good kinds are the hardy variable-coloured *A. versicolor* (*A. peruviana*), and *St. Martin's-flower* (*A. pulchra*), this, however, requiring protection.]

NOTES AND REPLIES.

Coltsfoot in garden.—Will you kindly tell me the best way to kill *Coltsfoot* in a garden? The garden is many years old, and nothing has been done to it for years. There is 2 feet of soil above the clay, and there are clusters of *Coltsfoot* roots running on the clay. What will be the best to crop the garden with to make it pay, and get rid of the *Coltsfoot*?—W. J. C.

[The best course would be to trench the ground and pick out all the roots you can. After that keep the plants hoed off severely, especially the flowers, but in any case chop off with a hoe every bit that shows. That will kill it in time. No crop will kill *Coltsfoot*, as being so early it gets the start of crops. There are no other means of destroying it than we have advised.]

Ugly corners.—Many an ugly corner in a garden that for long has been an eyesore, because perhaps the situation is a sunless one and few plants will grow there, may be changed and made attractive if only one goes to work in the right way. Let us take the worst view of the case, and imagine no sunshine ever visits the corner in your garden, which you have given up in despair; there is yet a remedy. Why not try a hardy fernery? You may set about it at once, and so get it into shape for spring, when hardy Ferns can be planted. In country districts, at all events, one may often procure limestone or sandstone at a reasonable cost, and these, placed in desired positions with soil filled in between each, will be suitable for planting Ferns, *Ivies*, etc.—W. F. D.

Perennial Phloxes.—What a beautiful effect herbaceous *Phloxes* have in a border of hardy flowers. When in bloom, too, they remain in good condition for some time, and when cut they are exceedingly handsome; last, but not least, though one does not notice it referred to very often, they have an agreeable odour, a sweetness somewhat resembling the smell of honey. The earliest of them (*P. suffruticosa*) flower in May and June, and are dwarfier than the autumn-blooming sorts (*P. decussata*), which commence to open in July and August. These latter are, however, the showiest, and, indeed, are regarded as a distinct feature to a garden in autumn. If anyone is at a loss to know what to plant for back-row subjects for autumn blooming, I would suggest these, as they give little trouble the year through. Clumps in my garden had

their flowering stalks cut away in November and mulched with stable-litter. Moreover, *Phloxes* are easy to propagate. The best plan is by taking cuttings of young shoots, dibbling them into pans or a bed of sandy soil. This may be carried on any time in the summer, and plants thus procured are much stronger than where propagation is effected by division of roots. If one can spare a frame and make up a bed of leaf-mould and sandy loam, a nice stock of plants may soon be got together for blooming the following year. In planting them out in the garden, one should, if possible, give them a deep soil enriched with rotted dung, as they pay one well for liberal treatment and benefit greatly by a cool bottom, especially in a dry season.—WOODSTOCK.

Sweet Peas.—Questions are often asked as to the best time to sow *Sweet Peas*, but no hard-and-fast rule can be followed, so much depending upon the locality and season. A person in the south of England can, of course, commence to sow much earlier than one in the north, but both can be preparing the ground by digging it over, exposing it to frost, and thus making it as light and friable as possible. Further than this, a stack of well-rotted dung should be got together for use prior to sowing. Last year could not be considered an ideal season for *Sweet Peas*, as they made in many places too much growth at the expense of blossoms in consequence of the wet. Some of mine, sown in March, did not bloom any earlier than seed sown in May.—LEAHURST.

Single Pyrethrums.—Single *Pyrethrums* are preferable to double ones for indoor decoration, for the simple reason that they are lighter, and more varied in colour, some of the tints being soft, and harmonising better with the furnishing of a room. I have this on the authority of a lady who has had considerable experience in the floral arrangements of tables. With this view I agree, as however beautiful some of the double sorts may be, they are clumsy-looking in comparison with the single sorts. Most of us think of growing *Pyrethrums* from division, but seldom think of the less expensive way of propagating from seed. This may be done by sowing in a frame in March, or in beds in the open air in June. Plants raised thus will commence to bloom next year.—TOWNSMAN.

Herbaceous Lobelias.—Will the writer of the valuable and interesting note on herbaceous *Lobelias* in your issue of January 10th, kindly say whether they suffer if exposed to cold wind when the young shoots are coming up?—DALTA.

[Herbaceous *Lobelias* form rosettes of leaves around the tall stems in the autumn. When the flowering-stems are cleared away the leaves of these rosettes, generally of a deep crimson colour, may be seen lying close to the ground. In this condition they remain until the warmer weather in the spring, when the shoots are thrown up. In the severe winter of 1896, when for many weeks the ground was frozen hard, the little leaves of the *Lobelias*, which had only been divided and replanted two months previously, and were totally unprotected, shrivelled, lost their colour, and appeared dead, blooms of Christmas *Roses* in bud and half-expanded lay prone on the hard earth, and even the *Polypody* in the fork of an Elm was brown and withered. When, after many weary weeks of waiting genial warmth returned, the *Polypody's* leaves slowly gathered green, the stalks of the Christmas *Roses* stiffened and stood erect, the buds expanding as if they had not lain in a frozen trance for over two months, and the leaves of the *Lobelias* gradually regained their shining crimson, the plants flowering grandly in the autumn. This proves that herbaceous *Lobelias* can withstand severe frost without injury, while the young shoots of plants that have come through the winter in the open, unprotected, take no harm from the coldest of spring winds.]

Showy town borders.—What to grow to make a flower border in a town showy is a problem that many have to face. In some districts to attempt to grow some of our hardy plants is only fraught with expense and disappointment, but one can do a great deal to brighten up a place by showy annuals. *Godetias*, *Snagdragons*, *Shirley Poppies*, *Mignonette*, *Clarkias*, *Coreopsis*, *Candytuft* cost but little and make a good display. Sow in April, and in the meantime make the soil

light and sweet by turning it over, and, if necessary, adding manure. Town gardens need not be the poor-looking places often seen if only more annuals were sown.—TOWNSMAN.

HERBACEOUS BORDERS.

For many years hardy perennials were almost entirely banished from our gardens, their places being taken by tender bedding plants, which needed the shelter of glass during the winter, and made no display in the open until midsummer was past, after which time they provided flat surfaces of bright colour, mostly in geometrical patterns, for some three months before being finally removed from the beds. When things were at their worst, however, a reaction, chiefly owing to the efforts of the author of "The English Flower Garden," set in, and little by little the value of beautiful hardy plants that required no glass protection during the winter, but when once set in the soil increased in loveliness from year to year, began to be recognised. By slow degrees, for nurserymen, finding that there was no demand for perennials had almost ceased to cultivate

here encroaching over the gravel of the pathway, here showing a glimpse of the edging stone of the border, with a rigid row of glazed tiles or the almost equally stiff bordering line of clipped Box. Edgings are best made of rough country stone, immediately behind which dwarf-growing subjects with a spreading habit should be planted, when they will quickly hide the stones from sight. White Finks are excellent for this purpose, as their blue-green foliage is always pleasing to the eye, and when in flower they are snowy with blossoms whose delightful perfume fills the air. Other good plants for covering edging stones are Iberis, London Pride, Helianthemum, Arabis, Aubrietia, Aronaria montana, Alyssum saxatile, Mossy Saxifrage, and low-growing Sedums. Delphiniums are showy back-row plants, and Hollyhocks, where these are not troubled with the disease, have a fine effect when grouped, the single yellow Althaea ficifolia being a pretty species. Lupines, Galaga, Bocconia cordata, Spiraea Aruncus and S. palmata, Oriental Poppies, and tall Irises, with the more vigorous Starworts or Michaelmas Daisies and perennial Sunflowers in the

colours, they will produce not only a good effect in the garden, but all that can be desired in vases when picked. If not already done, seed should be sown at once, for the plants need to get deeply rooted before the warm weather comes on, and to last in bloom for any length of time the soil must be deeply cultivated and well manured. The best rows I have ever had were prepared like Celery trenches, by taking out the soil one spit wide and two spits deep, filling the bottom with good rotten manure, then returning enough soil to nearly fill the trench, scattering the seeds rather thinly over the surface, and covering so that the top of the row was a little below the ordinary level. Mulching, watering, and staking as soon as the plants are well above the soil are the main points of culture, and the flowers look best if some tops with buds and leaves are gathered with them.—J. G., Gosport.

INDOOR PLANTS.

SEED SOWING.

At the commencement of the new year no time should be lost in sowing a few choice flower seeds. Seeds of a choice strain of Gloxinias should be sown thus early; the young plants thereby raised will with good attention surpass a stock of old hulbs and flower profusely from June onwards to the late autumn. With the splendid selections of these beautiful plants now in cultivation, named varieties are not so much in request, with the exception probably of the pure white kinds. A packet of seed, if divided and sown at intervals of a few weeks, will give an abundant stock, from which selections may be made whilst in bloom for retention another season for early flowering. The object of sowing at two different times is not to guard against failure so much as to prolong the season of blooming. In sowing extra early there is rather more risk of a good crop of seedlings being obtained, but when secured the gain is obvious.

A fair amount of bottom-heat is a great assistance early in the season for raising these and other seeds requiring somewhat similar treatment. I have pipes for bottom-heat running through a propagating pit, overlaid with Coconut fibre resting on slates. By this means a genial heat is secured averaging from 75 degs. to 85 degs. For these and all other minute kinds of seeds I always prefer to cover the pot or pan with a pane of glass, which if cut in the shape of a hexagon will be all the better for round pans. This is much better than confining the seed-pan in a close pit or frame by which a greater amount of atmospheric moisture is precipitated upon the soil, in some cases to form a thin film which may eventually be productive of a minute form of fungid growth. A soil with a good admixture of silver-sand is the best. I prefer it to consist of sandy loam and leaf-mould in about equal parts. A great depth of soil is not beneficial; rather make up well with drains to, leaving a space of about half an inch between the top of the soil when the seed is sown and the glass which covers it. Hardly any water will be needed until the seed has germinated when covered with glass, a good watering having been given previous to the seed being sown. As soon as it is seen that the seeds are germinating, a close watch should be kept that none of the seedlings are lost by damp; a little air admitted during the day will generally counteract this. Seeds of the tuberous-rooted Begonias should also be sown early in January, and those who intend growing Streptocarpus should now sow some of the seed. Both of these just named will succeed well in the first stages under the same conditions as advised for the Gloxinias. If Amaranth seed of a choice strain is not yet sown, no time ought to be lost in sowing to



A Worcester-shire manor-house garden. From a photograph by Mrs. Ward, Chambers Court, Tewkesbury.

them, the old hardy plants resumed their rightful position in the garden, and as they increased in favour, their ranks were augmented year by year by the introduction of numerous handsome hardy perennials from foreign climes, until at the present time, with many hundreds of species and varieties at our disposal, the question is not so much what to use as what to dispense with, but now-a-days, when almost every garden, large or small, has its herbaceous border, or borders, the supply of hardy plants is fully equalled by the demand. Early summer is perhaps the season of the year when the mixed border attains its greatest loveliness, and this is evidently the time that the photograph of the Worcester-shire manor-house garden, here reproduced, was taken. On the right hand a long array of Flag Irises in full blossom stretches away into the distance, while in the broad border upon the opposite side of the path Delphiniums, Irises, and other flowering subjects of various heights present a charming example of informal grouping. The dwarf plants voiling the verge of the path with spreading cushions of bloom and foliage show the proper way of treating the edges of walks. Compare this wavering line of lowly flowers,

autumn, are valuable perennials for positions towards the back of the border, and bright colour may be obtained by the use of Cactus Dahlias and Cannas, which, however, will have to be lifted and stored during the winter. Many of the Campanulas are attractive border plants, among these being C. grandis and C. latifolia with their white forms, C. persicifolia, its white and double white varieties, as well as the semi-double C. p. Moerheimi and Back-house's fine new variety, while the allied Platycodon, P. grandiflorum and P. Mariens, and their white forms are particularly handsome.

Sweet Peas.—These have for some years past had a greater amount of attention bestowed on them than any plant that is annually raised from seed, and the inquiry already for seed for sowing shows no sign of falling off. The number of varieties now enumerated in catalogues is almost bewildering. For specialists they all have their merits, but for the ordinary amateur with a small garden a good mixture will produce nearly all the colours imaginable, and if a good successional stock of these is kept up throughout the season, with a few rows or clumps of pure white, scarlet, and other self

it. The compact variety of the common Musk is easily raised and comes true from seed. If sown early, good plants for bedding out will be had by May. An early sowing of the seed of *Toronia Fournieri* will give a useful lot of plants for flowering in June, even after having had one or two pinchings to obtain stocky growth. The stove Periwinkles (*Vinca alba*, *V. rosea*, and *V. oculata*) should also be sown early to get good plants the same year. Seeds of the winter-flowering *Begonias* of the *B. insignis* and *Knowlseyana* type should also be sown as soon as ripe; this will not be many weeks. The seed-pods in many instances will be already of full size. As soon as the seedlings of these *Begonias* are safe, the older plants may be disposed with to a great extent.

NOTES AND REPLIES.

Fuchsias.—Those who have old plants of *Fuchsias* should, without further delay, lock them up, for now is a convenient time to cut them back, bring them into heat, and propagate from the new growth which will speedily result. Cuttings thus taken will soon root if placed in a warm pit, and can then be put in boxes or potted as desired. Such plants make capital stock, either for the flower borders of conservatories. —LEAHCERT.

Creepers for house.—I have a glasshouse, where a little heat is kept. In the centre it was planted with Ferns, which do well. There are six supports holding the roof, on one of which a *Smilax* grows well. What flowering creepers would you advise for the other five supports? The supports are iron. And when would you plant the creepers? I do not want *Roses*. —W. D.

[You cannot do better than try a *Fuchsia*, *Clematis Indivisa*, *Hydrothamum elegans*, *Pasiflora Constance Elliot*, *Lapageria rosea*, and *Plumbago capensis*.]

Primula Sieboldi.—This *Primula* deserves greater attention than what is usually paid to it, as one may grow it well in an unheated greenhouse. The plants are best potted in November, as in the winter they form strong roots, and are much better shifted than in spring. Where plants are growing in sheltered nooks out-of-doors it is of great benefit to them if a hand-light can be placed over them, and the first spring sunshine brings them into bloom. Plants in pots should be placed in summer on a cool north border. —WOODBRISTWICK.

Bedding plants in winter.—In houses mainly devoted to the keeping of bedding plants during winter there is often a waste of coal, etc., and an unnecessary amount of heat. This obtains largely in amateurs' greenhouses. Only the other night, when the air was mild, a large fire was being kept up in a house where there was no need for one at all, as the plants consisted of *Pelargoniums* and *Fuchsias*, etc., only requiring to be kept free from damp and frost. The leggy appearance in spring of not a few plants is due to this cause alone, and during mild weather keeping the pipes warm to dispel damp is all that is really wanted. —TOWNSMAN.

Swainsonia galegifolia alba.—This, also known as the New Zealand Vetch, is a capital subject for clothing a portion of the back wall of a greenhouse, for planting in an odd corner of a Peach-house, or in similar positions. It may be grown in large pots, but succeeds much better planted out in a border of prepared compost, as it then grows more luxuriantly, and produces its flowers with greater freedom, both the size of the flower and the strength of the spike then being considerably enhanced. It begins to bloom about the beginning of May, and from then on onwards it is seldom without flowers until late autumn is reached. A compost of two-thirds loam and one-third leaf-mould, with a liberal addition of coarse sand, suit its requirements admirably. When in full growth the roots demand an abundance of moisture, and timely attention must be given to the regulating and tying in of the young growths as they become entangled and untidy-looking. During the winter months the plants should be given a thorough rest, consequently but little water at the roots is then needed. Before the plants start into growth they should be relieved of quite two-thirds of the previous season's growth, which makes them break strongly and imparts extra vigour to them. As it is a free rooter it is always prudent to afford a top-dressing of fresh compost each season as soon as the pruning and tying are completed. The flower-spike and blossoms are similar in appearance to those of the Everlasting Pea, but are not quite so

robust. They are very useful for cutting, as they may be employed for bouquet making, dinner-table and drawing-room decoration, with excellent effect, particularly if cut with a piece of stem and accompanying foliage. After the plants have done flowering the young shoots may be used in various ways, not the least of which is in mixing them with cut flowers in vases. If loosely and informally disposed they greatly add to the general effect of any arrangement, and such as it is almost impossible to obtain with the shoots and foliage of any other plant at this season of the year. —A. W.

Ferns and bulbs in baskets.—I am anxious to know when Ferns and bulbs should be planted in baskets and pots to be up in spring, and if they should be put in together or transplanted to the baskets later on? If it is too late this winter, could they be brought on by forcing? —BRAINER.

[A puzzling question, for nothing whatever is said as to the positions the baskets are to occupy. Concerning the bulbs, all thoughts of them may be at once dismissed, as they should have been potted at least a couple of months ago, and if you were to obtain bulbs now they would be too much exhausted from being out of the ground so long to flower in a satisfactory manner. The generally-grown classes of bulbs, such as *Hyacinths*, *Tulips*, *Narcissis*, and such things, should be potted by the end of October, or soon after at the latest, and then stood out-of-doors and covered with coal-ashes or Cocoa-nut-refuse to induce the formation of roots. When they are well rooted the pots should be removed from the covering material and taken into the greenhouse, when the plants will gradually develop and flower satisfactorily. If you desire to have baskets of Ferns in the greenhouse and possess young thriving plants available for the purpose, you can lie the baskets with Moss, so that they resemble a bird's-nest, and plant the Ferns therein, using a mixture of loam and leaf-mould or peat and a little sand for the purpose. This should be done early in March, as the plants will then grow away freely without a check. Again, hanging-baskets may be utilised for a summer display of flowering subjects, as if planted with such things as Ivy-leaved *Pelargoniums*, *Tuberous Begonias*, *Lobelias*, *Tropaeolums*, and such things, they will be very beautiful all the summer if carefully attended to in the matter of water, etc. Young growing plants of these things can be obtained very cheaply in May, when they can be at once planted in the baskets. You will find it a good plan to stand them on the stage of the greenhouse at first, as it is better to allow them to get somewhat established before hanging them up.]

Plants for cool-house.—I shall be obliged if you could tell me the most suitable plants, bulbs, etc., for me (an amateur) to grow? I have a cool-house, with a temperature of 45 degs to 50 degs. (more with sun-heat), and frames. I am particularly anxious to grow *Primulas*, *Liliums*, *Freesias*, and *Violets*. These are what I find most difficult. I do not mean that I ask for cultural instructions about these things, as I watch for anything referring to what I grow in *GARDENING*, and when found make a note of it. —CHARTER.

[In such a structure as you name there should be no difficulty in succeeding with *Primulas*, *Liliums*, and *Freesias*, but *Violets* are scarcely likely to give satisfaction, as they need plenty of air, and in a dry atmosphere red-spider will attack the leaves. The *Primula* seed should be sown sown in the summer for winter and spring blooming. Beside the ordinary Chinese *Primula* there are others that can be recommended, particularly the little golden Himalayan *Primula floribunda*, the sulphur-tinted *Primula verticillata*, and the mauve or lavender-coloured *P. obconica*. This last is a most persistent flowerer, but when handled by some persons the leaves cause an irritation of the skin. *Freesia* bulbs are sent to this country usually in the month of August, and their potting should not be delayed after the middle of September. A convenient way of treating them is to put about eight bulbs in a 5-inch pot, give but little water till they start into growth, and plenty of light and air whenever possible during their growing period. *Liliums* should be potted now, or, at all events, with as little delay as possible. The most likely to give satisfaction are *Lilium longiflorum*, *L. speciosum* in variety, and *L. auratum*. After being potted, the cooler they are kept short of actual frost the better until the new roots have taken possession of the

soil. *Lilium longiflorum* is particularly liable to be attacked by aphides or green-fly, which collect to the crown or expanding leaves, and unless one is aware of this peculiarity, they often greatly injure the undeveloped buds before their presence is suspected. Vaporising with the XL vaporiser is the most effectual way of getting rid of these pests. Of *Lilium speciosum* there are several beautiful varieties, notably *album*, a white flower with brownish tinged buds; *Kretzeri*, green buds, flower white, with a greenish centre; *rosaceum*, pink; and *Melpomene*, carmine with a white edge to the petals. *OFL. auratum* there is a good deal of variation among the ordinary importations. It is rather an awkward season to suggest plants for your house, as there are so many beautiful bulbous and other spring-flowering plants that should have been potted some time ago—for instance, the more generally grown bulbs, such as *Hyacinths*, *Tulips*, *Narcissis* of different sorts, and such things, while some of the hardy shrubs are delightful when brought on under glass, the best being *Azalea mollis*, *Lilacs*, *Deutzia gracilis*, and *Lemoinei*. The different herbaceous *Spiraeas* which are sent to this country from Holland in large numbers for forcing are cheap, easily grown, and delightful when in flower, but they should have been potted at least a month ago. For the forthcoming summer you may grow the numerous quick-growing subjects that flower at that season, such as *Tuberous Begonias* (of which dormant tubers may be bought cheaply now), *Pelargoniums*, *Fuchsias*, *Heliotrope*, *Flowering Cannas*, and a host of other things. A few *Chrysanthemums*, the scarlet *Salvia splendens*, and the blue *Salvia azurea grandiflora* may be grown out-of-doors during the summer and taken under glass in the autumn, when their flowers will be much appreciated.]

Aspidistras with short leaf stalks.—I have many of these plants, some with as many as fifty leaves. But on most of the plants the leaves are very short (no stem to them). Will any reader of this paper let me know what I can do to make them grow taller? Do they require heavy or light soil? I wish to have a large one in a window looking south. But I fancy they do better without so much light. —R. J. HAWAII.

[The *Aspidistras* that one sees in shops have been grown in heat, which has a tendency to lengthen the leaf stalks, but even when grown altogether in the dwelling-house there is seldom cause to complain in this respect. Your plants must be thoroughly starved for them to behave in this way, and we should advise a general repotting with the advent of the month of April. The large masses will in all probability be the better if divided, as there is a tendency for the rhizomes to come to the edge, and the centre is thereby completely starved. In the case of those plants with as many as fifty leaves, they will be all the better if divided into two or three, and repotted in good, sweet soil. There is a great tendency to put the *Aspidistras* in two large pots, and if such is the case with yours you will probably find the roots in a far from healthy condition. In potting, see that the pots are clean and effectually drained with broken crocks or oyster-shells placed concavo side downwards, and take away as much of the old soil as possible. A suitable compost is from one-half to two-thirds loam, according to its consistence, and the remainder peat or good loam-mould, with enough silver-sand to be readily seen throughout the compost when thoroughly mixed. Pot moderately firm, and afterwards give enough water to keep the soil fairly moist, but avoid excess. Above all, never allow water to stand in the saucers, as this is a fruitful source of injury. *Aspidistras* do well in full light, but dislike exposure to the sun's rays.]

Oleanders.—Many do not succeed with *Oleanders*, but anyone with an ordinary greenhouse where a general stock of plants is kept can grow them. Some people turn them out-of-doors after they have done blooming, and in many instances this means that they suffer from want of moisture at the roots, and a failure to bloom them often ensues. It is a good plan to let them have a course of open-air treatment, as it ripens the wood, but they should be brought under glass again before the nights get cold in September. Just at present *Oleanders* will need a warm, moist heat; indeed, the want of a little extra warmth is a common source of buds dropping off. —TOWNSMAN.

CHRYSANTHEMUMS.

POMPON CHRYSANTHEMUMS.

For freedom of flowering the Pompons have a special value. In the past the Pompons have more often been referred to in disparaging terms, and yet there is no class which gives a better return for a period extending over many months. To be seen at their best the plants should be partially disbudded. Some sorts require to be more severely dealt with in this respect than others. Where the buds are developed in clusters, which are too dense and compact, these should be thinned out sufficiently to enable each bloom to develop without crowding. Many of the plants are sturdy and branching in their style of growth, and give excellent results. The following represent a few of the better Pompons—

WILLIAM WESTLAKE.—In this the flowers are larger than in many other sorts, and their colour is golden yellow, sometimes tinged red. The plant is a profuse bloomer, flowers developing from almost every joint. In flower mid-season. Height about 3½ feet.



Chrysanthemum Pompon Sour Melanie.

WILLIAM KENNEDY.—An excellent companion to the last named, being equal in every respect to that variety. The colour is a lovely purple-crimson. Height about 3 feet.

Mlle. ELISE DORDAN.—This, when finished, is represented by a perfect ball of neatly formed and compact petals. Colour, pale rose-pink. It is a neat and pleasing flower when partially disbudded. In bloom in late October and early November. Height about 3 feet.

OSIRIS.—A refined flower of good form. Colour soft rosy pink, edged gold. The plant is free-flowering, and also has a nice habit of growth. A good, reliable mid-season sort. Height about 3½ feet or rather less.

ROSINANTE.—Although a very old sort, this is still worth growing. It is very free-flowering, but to see the blush-rose blossoms at their best the plant should be somewhat freely disbudded, as it produces its buds in dense clusters. Height rather less than 3 feet. Mid-season variety.

EVNSFORD GEM.—This is a pretty variety which merits more recognition than it usually receives from growers. The colour may be described as purple-rose, and as such should be

welcome. It is of dwarf and sturdy growth. Height about 2 feet.

PRINCE OF ORANGE.—In this instance, orange-amber aptly describes the colour. Height about 4 feet. Mid-season.

BLACK DOUGLAS.—For its rich, dark crimson colour, this, which has somewhat fimbriated petals, should be in all collections. In this case good culture is required, and careful disbudding also is needed. A well-grown plant will attain a height of about 4 feet. A useful mid-season variety. Keep a sharp look-out for mildew in the growing season.

DOLLY.—This is not by any means a large Pompon flower, but its quality is excellent. The colour of the blooms is a lovely canary-yellow, and the petals are fimbriated. Height about 3½ feet. Mid-season-flowering variety.

PRESIDENT.—This is a very old variety, and often seen in flower in cottage-gardens, and public gardens also. It is free-flowering and robust, and comes into bloom in the early mid-season. Height 3 feet.

SEUR MELANIE.—Although this is a hybrid Pompon, it is still highly regarded in this section. It is a profuse bloomer, and the plant

fimbriated. When the plant is partially disbudded the result is very good. In flower about the second week in October till the same time in November. Height 2½ feet.

LITTLE PER.—Little is known of this variety. A bunch was exhibited at one of the N.C.S. December shows. It is a small, neat flower, and the colour may be described as blush. Height about 4 feet. Late mid-season.

PERRY.—This is another of the little miniature sorts, and to be seen at its best, should be cut from plants which have been only partially disbudded. Plants treated in this way develop beautiful sprays. Height rather more than 2 feet. Late mid-season. E. G.

NOTES AND REPLIES.

Chrysanthemums classified (H. P. M. S.).—The four varieties Mrs. C. Down, Mlle. Theresia Rankouke, Mme. Philippe Rivole, and Letrier represent a splendid quartette of late-flowering white Japanese Chrysanthemums. They should be classified as Japanese-reflexed, in which form they are usually seen when grown freely for decoration.

Chrysanthemums—when to insert outtings for a first "crown"-bud selection (An Old Reader, Walthamstow).—

Your object appears to be that of keeping the plants dwarf, and with this object in view, you desire your plants to make a natural "break" and develop first "crown" buds at a suitable period. We take it you want the blooms at their best in the early days of November next. The first series should be taken in hand at once, and the cuttings inserted without delay. The varieties in this category are represented by Ethel Fitzroy, W. H. Whitehouse, Mme. Nagelmackers, Charles Longley, Mrs. J. Bryant, and Mme. Paola Radaelli. Cuttings of those in the second series may be inserted in mid-February, the following answering well under this treatment: Miss Elsie Fulton, George Lawrence, W. R. Church, Calvat's '99, Mrs. Greenfield, Bessie Godroy, Henry Weeks, Mrs. J. Lewis, Lord Ludlow, George Carpenter, Mrs. E. G. Fox, Princess Monaco, Mr. T. Carrington, Mrs. E. Thirkell, Lord Alverston, Exmouth Crimson, Mrs. J. C. Neville, Duchess of Sutherland, Meredith, Princess B. de Brancova, and Mafeking Hero. A March propagation should suit the following, which we will regard as the third series: Mrs. George Milham, Mrs. Greenfield, Mrs. T. W. Pockett, Mrs. Harry Emmerton, Miss Alice Byron, The Princess, and Mme. Waldeck Rosseau. It is just possible that 1903 may be of such a character that our ideas may be completely upset. For this reason we would advise you to pinch the point out of any of your plants which may not have made a natural "break" by the end of May or the beginning of June at the latest. Secure first "crown" buds in each case.—E. G.

Amateurs' Chrysanthemum.—

"North Cotswold," who claims to be a considerable grower of Chrysanthemums, and yet an amateur in knowledge, asks if some contributor would give a list of fifty to a hundred Japanese varieties that will give blooms under an amateur's mode of growth, of a fair size, three or four to a plant. Now I consider this to be a task altogether unnecessary and, from an amateur reader's point of view, bewildering. What is the average reader of GARDENING ILLUSTRATED to do with a collection of even fifty varieties if he grows, as he should do, at least two, and of some sorts more than two, plants of each? The capacity of many a gentleman's garden would not find space for such a number of plants, and why, I would ask, should an amateur grower confine himself to Japanese varieties alone? Surely this section does not afford all the interest there is to be found or obtained from Chrysanthemum growing. From a decorative point of view, I hold the single Chrysanthemum, the Pompon, and Anemone Pompon to be infinitely superior to many of the Japanese varieties. Is there not something to admire in the refinement of a Clus. Curtis, or the purity of a Ma Perfection, both dwarf and easy doors?—S.

Request to readers of "Gardening."—Readers, both amateur and in the trade, will kindly remember that we are always very glad to see interesting specimens of plants or flowers to illustrate, if they will kindly send them to our office in as good a state as possible.

ROSES.

ROSES FOR SHELTERED GARDEN.

Will you please advise me what Roses to plant in a sheltered garden and in situation open to the sun for three-quarters of the day, as most fully satisfying the following conditions? I want six for planting against wooden palings 6 feet high, and three dozen for the border in front of the same. They must be on their own roots, at moderate prices, of very healthy, robust constitution, sure and abundant bloomers, and of decided beauty of colour and form. I do not care about having an equal number of each of the different colours. I want the most attractive and reliable. What are the most suitable situations for the Penzance Briet Roses, and what is the most effective way of planting them? Are they best in shady or sunny positions? As isolated bushes, or as climbers, or as trailers?—O. T. LAMBER.

[We fear, from the tone of your letter, that you would be most difficult to please. Of what you would consider beauty of colour and form, another individual might have quite a contrary opinion. Many people go into raptures at the exquisite shape and smallness of the Polyantha Roses, others are charmed at the *negligé* style of the newer Teas and Mouthlies. Then, again, the prize bloom is the ideal of many, they overlooking the fact that perhaps only one flower has been allowed to develop on the one plant, or, perhaps, in cutting this one bloom very little of the plant has been left. Therefore, when you ask for Roses, moderate in price, robust growers, abundant bloomers, and possessing beauty of colour and form, and then desire them upon their own roots, we imagine you are asking rather too much. It would be far better to make your own selection from specimens that you can see growing in a nursery or private garden, or, if you place yourself in the hands of a good, reliable nurseryman, you would have no cause to regret his selection. We name the following as being six good kinds for the palings: Monsieur Desir, Germaine Trochon, Billiard et Barré, Gloire Lyonnaise, Climbing Mrs. W. J. Grant, and Gloire de Margottin, and for the border you should select, mainly from the Hybrid Tea group, such varieties as Mme. Abel Chatsenay, Clara Watson, etc., but, for brilliant colour and fragrance, the Hybrid Perpetuals, of the type of A. K. Williams and Mrs. John Laing, should be well represented. As to the best method of disposing the Penzance Briers, there is no more effective style than as isolated bushes, or, say, in groups of three or five of a kind. You can see beds arranged after this manner at Kew Gardens, and they are charming in June when bespangled with their exquisite blossoms. Most certainly give them a sunny position, if practicable.]

NOTES AND REPLIES.

Liquid-manure for newly planted Roses.—I want your advice about the use of liquid-manure for newly-planted Roses. When could I use it for them after being planted? Also kindly let me know what I ought to use it for established Roses?—H. H.

[Do not apply any liquid-manure to the newly-planted Roses until they show bloom, and even then it should be very weak. A light sprinkling of some good fertiliser, applied at the end of May, and hoed in just before rain, will be beneficial. Established Roses may receive liquid-manure in May, and once a week onwards until the colour is seen in the flowers. Much benefit accrues to the plants if liquid-manure be applied now, or at least as soon as the frost is out of the ground. A store of fertilising food is thus made available for the future requirements of the plants.]

Pruning Rose W. A. Richardson.—I have in my garden, on a wall facing west, a William Allen Richardson Rose. It was planted there two years ago. Last year it bore only about twenty Roses, and these were poor, but it has thrown out some good shoots. The ground was carefully prepared before planting, and has received attention since. I want to try it another year, and think of cutting it back rather hard, leaving only the best of last year's shoots and just toping them. Will that be right?—H.

[By all means preserve the strong shoots almost in their entirety, but do not be too lavish in cutting away the other wood. Spread out this plant as much as possible, and then, where the growths appear crowded, cut a few clean out. The remaining laterals shorten more or less according to their strength. Instead of twenty blooms, you ought to obtain two hundred or more, if you manage this properly. After the first flowering you may advantageously cut away some growths, and this will considerably help you to obtain another fine crop next year.]

Pruning newly-planted Roses.—I planted some Roses in November, and want to know if they should be pruned in March of this year or not?—H. H.

[It is best to prune newly-planted Roses the first season, but not quite on the same lines as when they have become established. Cut close all soft, pithy wood to the base in the case of dwarfs and standards, and cut the hard wood back to half its present length. The Hybrid Perpetuals may be pruned middle of March, but the Teas and Hybrid Teas end of March and early in April.]

Pruning standard Roses.—I have Niphetos and Souvenir d'un Ami Roses growing in my greenhouse. The greenhouse, which has fire-heat enough to keep out frost, faces east, and these Roses are against the west wall, grown on rather high standards so that they may be above the glare. They were planted in November, 1903, and bore a few Roses last summer. They have made long but not strong shoots. Will it be right to cut them back a good deal, and if so now or in March? Should I prune now or in March some Roses bought last November, some being in the garden and some in pots in the greenhouse?—H.

[As regards the two standard Tea Roses planted out under glass, we think there is something wrong with their roots, or they would have made more progress. However, as they are alive you should cut them back rather hard, say to within five or six eyes of their base, and endeavour to help them at the root by preventing the water dripping upon them. Stir up the soil and sweeten by sprinkling on a little lime. The pot-Roses you may prune now, but the established and newly-planted leave until March.]

Larch trellis for Roses.—I am making a small Rose garden, and propose enclosing it on two sides with a 7 feet high Larch trellis—Larch poles split and bark left on for the sake of appearance, as it will be seen from windows of sitting-rooms. But I am told the bark will harbour insects, and therefore spoil the climbing Roses I had intended training on it. Would 6 inches apart from outside to outside make too much draught?—PLANT.

[It is quite unnecessary to remove the bark from the palings. We have never found any trouble from insect visitations owing to the bark being retained. It is a good plan to give the plants a syringing now and then with petroleum emulsion, which effectually disperses injurious insects, and also arrests mildew spores upon the plants. Six inches to 9 inches apart for the palings will be right. You need not fear trouble from draught. Of course, you will only plant the hardier climbing and rambling Roses thereon.]

GARDEN PESTS AND FRIENDS.

LEAF CURL.

"EAST DEVON" is quite right in attributing the cause of "Leaf curl" to a fungus (*Exoascus deformans*), but he has not given "G. H. N." much consolation in the way of explaining how to deal with the pest. There can be no doubt that cold, wet weather in the spring, particularly if it follows much milder weather, is very favourable to the growth of the fungus, as the leaves become saturated and softened, their transpiration is arrested, and the vigour of the tree is considerably lessened, conditions in which the fungus revels. When trees have been once attacked, and the weather is unfavourable to their growth, I very much question if such slight protection as that afforded by $\frac{1}{2}$ inch netting is sufficient to prevent unfavourable weather having a detrimental effect on the trees, and so rendering them more liable to suffer from the attacks of this fungus. The leaves may become infested from two sources. Sometimes the mycelium, or spawn, remains dormant in the shoots, and in the spring grows into the leaves, causing the cells infested to increase considerably in size. As the midribs and larger veins are not affected they remain of their normal size, consequently the softer parts of the leaves are obliged to assume the well-known crumpled and puckered condition which is known by the name of "the curl." At other times the leaves become infested from spores which have remained during the winter on the shoots near the young buds. It seems tolerably certain that the leaves become infested at a very early stage. The germ tube which issues from the spore creeps across the leaf until it finds one of the stoma, or pores, into which it enters, and at once finding itself in a more or less congenial position, according to the condition of the leaf, it increases rapidly by branching among the cells of the leaf, those near the surface in due course forming cells containing

spores. These burst through the skin of the leaf, which give it the peculiar whitish velvety appearance so characteristic of this disease. When quite ripe these cells burst, and the spores are liberated into the air, and are carried about by the wind. It is clear that except by cutting off the infested shoots nothing can be done to prevent the leaves being infested from the shoots, but it is supposed that this is very rarely the case, and for the very good reason that, by taking proper precautions to destroy the spores, the disease can, as a rule, be kept under control. The French orchards in America, which are frequently of a very large size, suffer very much from "leaf curl," but it is found there that the disease can be kept all by spraying the trees just before the buds begin to open with Bordeaux mixture, this killing the spores just as they are germinating, which is the time the fungicide has most effect on them. It is better to do it at this time than later, when the leaves are beginning to open, as then it is quite possible that they may have already been infested, and the spraying would then be of little or no use, and the tender foliage might be injured by the fungicide. I am not aware that this remedy has been tried in England, but I should strongly advise "G. H. N." or anyone whose trees suffer from this pest, to try it. Bordeaux mixture gives the trees a white coating, on account of the lime that is in it, but this is rather useful than otherwise, as it can easily be seen whether the spraying has been properly done, for it is very essential that every bud, and the shoots on which they are, should be reached by the fungicide.

G. S. S.

FRUIT.

PEARS FROM BUSH VERSUS WALL TREES.

I HAVE read with interest the notes by "W. S." on Pears in a recent issue. I know the garden well over which he presides. I am of opinion that more light would be diffused on the behaviour of Pears if correspondents would follow "W. S.," who should go further and name the kind of soil and stocks the Pears are growing on, when they differ so much in flavour in the same garden. Regarding Beurré Diel, I quite agree with "W. S.," having had it in just the same condition in a garden on a light soil in Hampshire. When in West Norfolk this Pear used to grow to a good size, and the skin was smooth from bush trees, and kept well till the close of the year. I have it growing on a north wall, but the fruit is only fit for stewing. I am of the same opinion as "W. S." that Duchesse d'Angoulême is overpraised. With me the fruit from walls is large, but very poor in flavour. On comparing it with fruit from the continent I find mine are much clearer in the skin. The continental fruits are evidently from bush trees, and their flavour is far better. Glou Moreceau, grown as a bush in Norfolk, is of the highest flavour, and the fruit is clean. During the past season one of the very best illustrations I have ever had of the advantage of trying many kinds, both as wall and bush trees, has been with Louise Bonne of Jersey. I have an old tree in the open, and some twelve years ago I had the soil removed around the roots and good soil added. This brought its own reward, as this tree has since then given me fruit of average size, but always rough in the skin. In point of flavour no kind in this garden can outdistance it, and I prefer the smallest of these before large, clean fruit from wall-trees, which are worthless. I remember it was the same with trees in a large garden in Buckinghamshire many years ago. Emile d'Heyst, with me as a bush, is a success. The same may be said of Alexander Lambre, while Hacon's Incomparable, growing by its side, is not worth the room it occupies. I have eaten fruit grown in this way in Norfolk fairly good. At a keeper's house on this estate there is a grand tree. The fruit grows to an enormous size, but is tasteless, although the tree is against a wall. The soil it is growing in is a strong loam, and it is on the Pear-stock. Josephine de Malines is worthless here from a wall—it was the same in North Hants, while fruit from bush-trees was fine. Beurré Base is splendid from a low wall; the same may be

said of Beurré Hardy. I never had Old Colmar so good as this year from a west wall, and although an old kind, it surpasses many more modern sorts. In some places Pitmaston is thought highly of, but with me it is only fit to stew, and this from a cordon tree on east wall on Quince-stock. Recently, at Hackwood Park, I found it was only second rate. Marie Louise in this garden, from a fine, large tree on west wall, is of poor flavour, while in a garden within sight, fruit from trees in the open is splendid, although rough looking. Winton Nolis is always of fine flavour. This year my fruit was fine both in colour and flavour. Another good kind is Ollivier de Serres; with me the trees will not grow on the Quince-stock; but this autumn, at Hackwood, I saw it doing well as a cordon. J. CROOK.

Fortis Abbey, Chard.

THE LARGER APPLES.

THESE form a considerable class of themselves, and by far the larger number of them belong to the cooking section. This is, in fact, as it should be, for nothing beyond a medium-sized fruit is desirable for the dessert. The larger Apples are most useful in their respec-

culture, and is less liable to disease than some kinds. Belonging to the same category is Golden Noble, and, considering the many years it has been in cultivation, a kind which should receive far more recognition than it has hitherto done. Cox's Pomona is another reliable kind for autumn use, and small examples of this when well coloured may be used for the dessert. Stirling Castle and Ecklinville Seedling are two free-bearing varieties. Stone's Apple is of handsome appearance, bearing early, and not making too much wood. Waltham Abbey Seedling is another first-class Apple; this was formerly confounded with Golden Noble, but it is quite distinct from that kind. As an early sort Alexander can be recommended as a good orchard variety. Winter or Red Hawthornden is larger than the old kind, and is also a good cropper. Alfriston is an excellent late kind. Two first-rate Apples are Bismarck and Sandringham. Peasgood's Nonsuch is a very fine-looking Apple, but it cannot be considered a good keeping variety.

NOTES AND REPLIES.

Pear-tree slug.—To prevent the ravages of slugs next summer on my Pear espaliers, a friend has

bone-meal, or sulphate of ammonia are any good, please say what quantity to use, and when to apply?—BURN LANE.
[It is possible that your fruit is small because an old and poor variety. The manning you have given the rows may do good. Perhaps you allow the canes to stand far too thickly. If in clumps, from five to six are enough to each clump, and these canes should be fully 4 feet in height and stout. In good soils the canes sometimes are left when pruned from 5 feet to 6 feet in height. If you would like to try another variety, then get young canes of Superlative, our finest Raspberry. As to chemical fertilisers, make up a mixture of bone-meal and kainit in equal parts, using this at once, and just forking it in at the rate of 6 lb. per rod of ground. You may sprinkle on the same area 3 lb. of sulphate of ammonia, crushed fine, during June, when growth has begun. Mulchings of stable-manure applied during the summer help the plants greatly in hot, dry weather.]

GARDEN WORK.

Conservatory.—The Abutilon family is a very useful one at this season in the conservatory. The only fault to find with them is their tendency to become leggy and naked below. This can be obviated to some extent by hard pruning in July or a little later. This produces a lot of small shoots which burst into blossom in the autumn and continue through the winter. One of the most useful varieties is Boule de Neige, a rather close habited kind; at least, closer than many of them, with a profusion of pure white flowers. Canary Bird is a good yellow kind. These two we find the most useful, but there are many others with red, salmon, and rose-coloured flowers, but they are not so fresh as the two named above. The golden-leaved form, Thompsoni, makes a very pretty plant in a pot, and is still more useful in the garden outside in summer. I have had it exposed to 6 degs. of frost without injury. Baskets when well filled are very attractive in the conservatory. Lachonalia (Cape Cowslips) planted thickly round wire baskets and well mossed are very pretty. The bulbs should be planted thickly just as they begin to grow. Many plants not usually associated with basket work may be used for filling baskets in winter and early spring. Bringing things up to the light is a great encouragement to growth, and in lofty houses such things as Primulas, Strotocarpus, Begonias, and various Ferns, Grasses, and Mosses, if tastefully used, will be very attractive. Skillful or tasteful arrangement has a good deal to do with the general effect. Many good plant growers are rather poor hands at setting their plants off to the best advantage, and this requires study. We do not so much want a heavy bank of bloom as lightness and grace. It is well to have plenty of blossoms, but we want to tone down with light, elegant foliage. Of course, Palms will do a good deal, and the Kentias are among the best for this purpose, or to take into the house. Besides Palms, the Bamboos and Japanese Grasses are very suitable for taking off the far too common stiffness of conservatory arrangement. There is abundance of cheap materials within the reach of the gardener if only moderate means are placed at his disposal. At the time of writing the weather is severe, and it will be better not to strain the apparatus for the sake of a degree or two of heat, but frost must be kept out.

Propagating-house.—This is one of the most useful houses in the garden now. There should be plenty of bottom-heat, either from hot-water pipes laid in rubble in the bottom of the bed, or else an iron tank should run along under each bed and be connected with the boilers. For speedy work I like the tank best, but any method which produces a brisk bottom-heat will suffice. The bed can be filled in with Cocoa-nut-fibre or sand. I have used both, but the heat rises best through sand, though the fibre retains it longer and is more genial. This is the time for putting in cuttings. During February and March anything and everything can be rooted from cuttings or raised from seeds in a low span-roofed structure fitted with bottom-heat beds. Many thousands of plants can be raised in a small, properly constructed house if there are



Apple Warner's King.

tive seasons either for baking whole or for the well-known dumplings. Apples of large size (or rather under) are not so much wasted in paring, relatively speaking, as the smaller ones; hence they are in that respect rather desirable than otherwise. When speaking of "larger" Apples we do not allude to those of abnormal size, brought about by other than ordinary methods of cultivation. These may in their way be all very well, and as specimens of high-class cultivation reflect credit upon the growers of such, but such fruits will not, when extra attention in labour is considered, proportionately recompense the cultivator. Those Apples which attain to a large size without more than ordinary attention are certainly most desirable, when the sorts are of a relatively good constitution, and at the same time reliable croppers. Of such is Warner's King, known also as D. T. Fish and Nelson's Glory, well illustrated in the accompanying figure. This Apple is in good condition for use from October to January. When generally shown in October at the autumn fruit shows it is of a fresh green colour, but a few weeks later on the fruit changes to a rich yellow shade. The tree is a vigorous grower and a good bearer, being suited to either pyramid or standard

advised caustic-soda (3 lb. to 6 gallons of water), applied now. Is this not a very dangerous article? Your approval or advice will be much valued.—W. ANDREWS.

[The proper recipe for making a solution of caustic soda and potash is, 1 lb. of the former, not to be touched by the hand, put into a tub containing a gallon of hot water to dissolve, adding to it 3 lb. of pearl-ash or crude potash, and after dissolving 1 lb. of soft-soap in a gallon of boiling water, add that and 10 gallons of water. It is then fit to use. Spray it gently over trees now, as it is very destructive to insects, Moss, or any form of life. As, however, the chrysalides of the Pear-slug winter in the soil, the solution may have no effect on them. Better remove to a depth of from 3 inches to 4 inches the soil over the roots, bury elsewhere, and replace with fresh. If the slug appears next summer, dust the trees freely in the evening with fresh slacked lime, giving a second dusting two or three evenings later. After a few days syringe hard with clean water to thoroughly cleanse the trees.]

Manuring Raspberries.—I have four rows of old Raspberry-canes which bear well, but the fruit is small. I have given two of the rows a mulching of stable-manure. Can I do anything else for them—give chemical fertilisers? The other two rows have had no manure at all. If kainit,

other worm-houses to receive the plants as they leave the propagating-bed. Grafting also is another means of propagation which can be successfully carried on in such a house. Roses may be grafted on roots of the common Brier, potted so as to cover the union, and plunged in bottom-heat there will be very few failures. Towards the end of February I have dug up young Brier roots from the hedges just as the buds were swelling, grafted them with Roses of various kinds, and have had good plants ready to plant out in June.

Late vinery.—All Grapes hanging on the Vines may now be cut and bottled in the usual way. A dry, dark room with a temperature of 45 degs. or so will do for a Grape-room. Place a bit or two of charcoal in the water to keep it pure, and look round the bunches once a week, but, as a rule, there is less waste from decay in the Grape-room than when Grapes are left hanging on the Vines. After the Grapes are all cut, prune the Vines, wash the rods with Gishurst compound, using a brush, and topdress the inside borders with good loam and bone-meal. If there has been any shanking, or if the Vines are losing tone and the roots are in a bad way, they may be partially or wholly lifted and new borders made, and the roots placed properly and laid therein. Vines soon recover from the effects of lifting if the work is done carefully and promptly. If the borders or any part thereof are outside, cover with leaves and litter when the borders are completed. It is not often necessary when making fresh borders to fill in all the space at once. A bed of suitable soil 8 feet wide will be sufficient for several years. The remainder can be added as required. A Vine border must be well drained, and in heavy soils should be kept above the natural level.

Frame ground.—Where much forcing is carried on with hotbeds there is some saving in running the ranges of beds close together, so that one range of beds joins the next, and so on. There will be space enough between for a man to move when attending to the crops, and the beet will be more regular, and there will be less need for linings or renewals. The frames for Potatoes can be grouped together. Carrots, Radishes, and Lettuces may form another group, and if Melons and Cucumbers are grown on beds, then groups will be deeper and wider, as these require more warmth. Among the cold frames such things as Violets, Coughflowers, Carnations, and half-hardy plants should have all the air possible when the weather is mild, but keep out rain. Plants plunged in ashes or Cocoa-nut-fibre require scarcely any water in such weather as we have had lately. Of course, the time is coming when moisture will be required, but the time is not yet. Sperra frames, if any (which is not likely), may be moved to a shed and repainted.

Window gardening.—There will be bulbs of several kinds in bloom now, including Freesias, which are among the easiest to have in the window. The bulbs must be potted early in August to flower now. Tobacco-powder is useful for plants attacked with green-fly. A little dusted over the insects will make short work of them, and it can be sponged off with the dead insects. There is still need for care in the use of the water-pot.

Outdoor garden.—The Roses should be sorted up during frosty weather. If the collar of the plant is preserved the upper part is not of much consequence. Standards may be sheltered with a spray or two of Bracken drawn through the head to break the force of the cold wind. I think Bracken is better than Yew branches, which are sometimes too heavy, and check the circulation. Sow Sweet Peas in pots for planting out by-end-by-end. Hollyhock seeds are best sown outside about May, as the plants are hardier; but seeds sown now in heat and grown on quietly will produce flowering plants by August. The single-flowered plants are very bright, and appear to be more robust than the doubles. If the seeds are carefully saved from distinct colours the seedlings come fairly true to colour. In pruning well Roses cut away some of the old wood to make room for the young strong shoots, which should be laid in nearly full length, only the soft points being removed. At the time of writing the frost is rather severe, and as soon

as the thaw comes all recently set out plants should be examined and the soil made firm round the stems. Frost has great lifting power, and this lifting lacerates the roots.

Fruit garden.—A wall may be quickly covered with cordon Pears on the Quince; either single or double-branched cordons may be planted. There is no disadvantage in having very large Pear-trees, especially if the wall space is limited. In a garden occupied with large trees, many of the Pears, especially the early autumn kinds, decay before they can be used; but with cordons a much larger variety may be grown, and the season extended. Very few of the late Pears are grown in small gardens. One of the best-flavoured late Pears—Bergamotte de Espere—does well on the Quince. I have had it very good on a west wall. Winter Nelis, Josephine de Meines, and Beurre Rance are good late kinds, but Beurre Rance should have a good aspect—south, if possible. Another way of growing Pears on wires is to stretch the wires about 15 inches or 18 inches from the ground, and train horizontally. I have seen a south border covered with wires in this way, and the trees planted along the centre of the border and trained each way at right angles. I was in a garden a short time ago where a long line of Pears, chiefly early kinds, had been trained vertically, and were bearing freely, especially such kinds as Bon Chretien and Beurre Giffard. All pruning and training should now be finished.

Vegetable garden.—Those who have not sown Tomatoes for planting under glass in warm-houses should lose no time. Start them in a temperature of 60 degs., and grow them in a light position near the glass. Grow them as sturdily as possible until well established in 5-inch pots, and then transfer to troughs, pots, boxes, or whatever method of culture is adopted. Always have a few young Cucumber plants coming on now. A good form of Telegraph is as useful as any for early work. Continue to gather manure reasonably fresh from the stable for Mushroom-beds. Open air beds must be well covered with dry litter. If water is required, have it warm, and add a little stimulant. Salt is a stimulant for Mushrooms, used in moderation. In bad weather wheel on manure, and prepare Pea-sticks. Sown in seed lists, and, when the seeds arrive, unpack, and keep ready for use in a cool, airy room. There is no advantage in sowing anything till the land is in a suitable condition. It is a good plan to have a besp of warm, dry soil under cover for the purpose of covering small seeds. This can be arranged in the clearing up of the rubbish-yard. This is a good season for making up hot-beds for all kinds of forcing. Do not forget to sow a few seeds of a good kind of Onion, also Leeks, Cauliflowers, and Brussels Sprouts in boxes in heat, to be afterwards hardened off and planted out. E. HOBDAV.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

February 2nd.—Sowed a few seeds of a good strain of Brussels Sprouts in a box for early planting. A few seeds of Leeks and Cauliflowers have also been sown, and Ailsa Craig Onion is now coming up in boxes for planting outside early in April. This is a sure way of getting a good crop that will be safe from the maggot. Strawberries in bloom are looked over daily to fertilise the blossoms. Peaches in bloom are also receiving attention in a similar way.

February 3rd.—Advantage has been taken of frost to wheel on manure and smother-burn any rubbish and cuttings which have accumulated in the place assigned for them. Pea-sticks have been pruned. We find cuttings of the young shoots of Apples and other trees useful for stakes for various things. These are tied in bundles and dressed ready for use in bad weather. Seeds of Begonias and other things have been sown in heat, the pans covered with glass.

February 4th.—Fern spores of various kinds sown in autumn in worm-house are now being transplanted into shallow boxes, still keeping them in heat. Lillies, Bermuda and others, now making growth freely, require watching, for green-fly will make its appearance in the

centre of the plants. We find a pinch of Tobacco-powder dropped among the insects very efficacious, and the remedy is cheap. As fast as Azaleas come into bloom they are moved to the conservatory. The forcing-house is kept constantly filled up now.

February 5th.—After frost all recently planted things are looked over and soil made firm round the stems. Lawns and walks are rolled. Our Tea Roses were all earthed up sufficiently to protect the collar before frost set in, and will remain in this condition till the spring till the Roses are pruned. A south wall covered with Roses will have the pruning seen to as soon as the weather is favourable. All the long strong shoots will be trained in and some of the old wood cut out.

February 6th.—Early crops of most things required have been sown in small quantities, but we shall wait for other sowings till the land is in good workable condition. Crops of Early Potatoes, Carrots, Lettuces, and Radishes are coming on in warm frames. There are no better Lettuces than those grown on a bed of loaves in a frame, where there is just warmth enough for steady growth. Cuttings of bedding Lobelias are being rooted in boxes in heat. Dusted a little more lime and soot over Gooseberry and Currant-bushes to keep off birds.

February 7th.—The plot of ground intended for Onions has received a further dressing of short manure, and been forked over. In this condition it will remain till the Onions are planted. We always raise a fresh batch of Asparagus annually for forcing. The quickest method is to sow seeds in small pots singly, and plant out end of April or May when the weather is snitable. If we had room enough under glass, we should raise all our plants in this way, as so much time is gained thereby, and the plants never look back, but we cannot always do this.

BIRDS.

OUTDOOR AVIARY.

(REPLY TO "H. BROWN.")

CANARIES bred in an outdoor aviary are always stronger than those reared in breeding-cages, and the reason is evident, as both parents and offspring obtain better air and more exercise in the former. You must not, however, put your birds up till the weather is warm and settled, say about the middle of May. The best time for pairing your birds would be towards the end of April, and it is well to mate a two-year-old hen with a yearling cock, as the maturity of the hen will help her in any unfavourable changes in the weather after laying has commenced. The birds will pair better if each occupies a separate cage (but placed side by side) for a time before introducing them to the aviary. Two or three nest-boxes or wicker baskets should be placed in various positions; sometimes an evergreen, such as a Fir or Box, growing in a pot or tub, will attract the builder, and the nest will be constructed in its branches, edging much to the interest of the aviary. Some old mortar should be pounded and mixed with the grit-sand for the floor of the aviary, to assist in the elaboration of the shells of the eggs. Materials for building must also be supplied, either placed in a small net-bag or straw upon the floor for the birds to gather up. These may consist of dry Moss as a staple, mixed with a little soft meadow hay, cow-hair, and fine short wool, and just one or two small downy feathers to finish off with. The hen is usually the nest builder, the male acting the part of labourer, bringing the materials to his mate. A pair of Canaries will breed two or three times in the season, the number of eggs varying from four to six. The period of incubation is thirteen days, and when the chicks are hatched the male supplies them with food, and continues to do so till about the thirteenth day, when they begin to peck alone, the hen continuing to brood over her young as long as they remain unfledged. Just before the young are hatched the following supplies should be given, in addition to the ordinary food: A quarter of a hard-boiled egg, minced fine and rubbed through a sieve, and mixed with a little stale bread, steeped in water, and afterwards

well pressed, or stale bun crumbs. When the young birds are a day or two old a small quantity of Rape seed should be added, which has been boiled or scalded, and then washed to remove its acrimony; this should also be crushed. These supplies must be given in a perfectly fresh state, for if the food be sour the nestlings will become sick, and die. Although the young birds begin to peck at about three weeks old, the cock continues to feed them till they are fully able to cater for themselves; the hen often begins to nest again when the young have arrived at this age. Let your aviary face south, and be well sheltered; it need not stand so high off the ground as 4 feet, and the lower it is the more sheltered it is likely to be. Take care to always cover the front at night with some thick material, and, above all, beware of cats. The half inch mesh wire-netting will be suitable for covering the front of your aviary. S. S. G.

LAW AND CUSTOM.

Trespassing fowls.—I rent some pieces of ground for gardening purposes, and at the side of them is some Grass land, on which the occupier turns his poultry. My fence is of wire netting and of barbed wire, and is not in very good order, and my neighbour's fowls come into my garden and injure my crops. I have complained to my neighbour, and he says I have no claim against him. Is this so? Or must I fence against his poultry?—H. D.

[You are not required to fence against your neighbour's poultry; under no circumstances is an occupier of land bound to fence against poultry. Your neighbour is responsible to you for the damage done by his poultry, and you may recover the damages by action in the county court.—K. C. T.]

Cat and doves (R. C. C.).—Doves are not destroyed by the "watching" of a cat, so we presume your meaning is that the cat has actually killed them. If you catch the cat in the act of injuring the birds you will be entitled to take measures to save them, but you will not be justified in destroying the cat because she has offended, and if you do kill him its owner will be able to recover penalties. You can, however, sue the owner of the cat for damages, for a cat has no more right to trespass than other animals, and it is the owner's duty to keep it within bounds.

A partnership matter.—A friend and myself contracted to lay out a new garden for the sum of £40. I commence work at 8 o'clock each morning, but he does not come until 9.30, and sometimes later, and some days he does not come at all. I have told him that if he does not work as long as I do he cannot expect to receive half the contract money, and he says he shall not expect to, but I cannot prove this statement, as there were no witnesses. I am entering in a book the full time each of us works. Can he claim his £20 and keep it, or can I recover from him for the extra time I have worked?—A FIVE YEARS' READER.

[Your better plan will be to arrange to receive the whole of the price of the contract, and to afterwards pay him a share proportionate to the time he has worked. If for any reason you are unable to do this, and he receives half the contract money and refuses to hand over to you the further share to which you are entitled, you may recover the same by action in the county court. The book you are keeping will be of the greatest service if you have to bring an action, as it will be a record of the time worked by each.—K. C. T.]

Gardener and Chrysanthemums.—A singular story was told to Judge Mansel Jones at Rotherham County Court, on Dec. 20, when Mr. W. H. Micklethwait, one of the leading men in the Rotherham district, sued Thomas Squires, a gardener, for £14 damages, alleged to have been suffered through the defendant negligently or wrongfully removing the terminal buds from 280 Chrysanthemum plants. Squires had been in the plaintiff's employment as head gardener, but left in September last because he refused to do some work he described as a "labourer's job." It was alleged that before leaving he told an undergardener that he should "get even with the old man," and should destroy all his own "stuff" on the premises. When the now head gardener came he found the terminal buds had been removed from the Chrysanthemums. The defendant denied the charge, and suggested that the plaintiff had done it himself by "putting his own finger in the pie." The Judge, however, made an order for the full amount claimed.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in GARDENING free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of GARDENING, 27, Farnival-street, Holborn, London, E.C. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be applied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Panax Victorice (Constant Reader).—This will succeed with ordinary stove treatment, and what may be called general potting soil—that is, about equal parts of loam and peat, or leaf-mould with a little sand.

Maranta Warscewiczii (Constant Reader).—This Maranta requires a compost of a rough nature, such as peat, and fibrous loam pulped to pieces with the hand and a liberal sprinkling of sand. It needs a shady position in the stove.

Pellionia pulchra (Constant Reader).—A pretty creeping plant, valuable for draping stages or furnishing the surface of large pots. It will grow in ordinary potting compost, and owing to its shallow-rooting nature, does not require a great depth of soil. It grows best in the shade.

Bougainvillea glabra (Constant Reader).—This is much harder than is generally supposed. It may be kept fairly dry in a warm greenhouse during the winter, started in the spring after the manner of a Fuchsia, at which time a little more heat is beneficial, and by the end of May removed again to the greenhouse. Some large specimens of this plunged in the turf at Hyde Park with the other bedding plants flower well towards the end of the summer.

Ostrowakya magnifica (Youngster).—This is nearly related to the Campanula or Belliflor family. The roots are thick, fleshy, very brittle, and of a deep descending nature, so that it is not at all adapted for pot culture, but should be planted out in some good, deep, well-worked soil, with which a little manure has been incorporated. It is perfectly hardy, and does not come from North America, but is a native of Turkestan, in Central Asia.

Fronde of Maiden-hair Fern (A. S. C.).—A good deal of the lasting properties of Maiden-hair Ferns is owing to the way in which the plants have been grown, as if they have been well exposed and are not cut till they have become mature the fronds naturally remain fresh much longer than if they are gathered while still soft. After being separated from the plant, they may be kept for some time if allowed to float in a receptacle filled with water.

Chrysanthemums on single stems in 6-inch or 7-inch pots (An Old Reader, Walthamstow).—In the reply given to you in our issue of December 20th, 1902, the different periods of propagation in which the varieties are divided up into series are given with the idea of retaining the first buds subsequently developing in the apex of the growth. Under normal conditions the buds should appear at a period best suited to the different sorts.

Standard Roses upon lawn (J. E. T. Garcon).—It is better that the turf be not placed quite up to the stems of the Roses. Air and rain can enter the soil more freely, and these are vital elements that must be provided if success is desired. We prefer to see small beds prepared around each stem, and carpeted with Tufted Pansies. Nothing can look more beautiful, and the shallow-rooting Pansies will not rob the Roses, but rather act as a cool mulch. Some fine manure and soil added now and then are beneficial alike to the Roses and the Pansies.

Sella maritima (Youngster).—This, also known as *Vigna maritima*, forms a large onion-like bulb, which grows usually towards the end of the summer or in autumn. The blossoms, which are borne in a dense spike, are greenish-white, tinged with purple. It requires the protection of a greenhouse, and should be potted in a mixture of two-thirds loam to one-third leaf-mould, and a sprinkling of sand. Give but little water till the leaves commence to push up, when more moisture will be required. During the winter keep dry for a time.

Lilium Hanson (Youngster).—This is perfectly hardy, but being one of the earliest of Lilies to start into growth, the young shoots and leaves are liable to be injured by late frosts and cutting winds if they are in the open, hence they should be planted where partially protected by shrubs, such as is usually done in the case of *Lilium auratum*. A Rhododendron bed is one of the best places for them. A bed of this Lily has for some years been very beautiful at Kew, the bulbs being planted among some evergreen shrubs about 3 feet high, which protect the young shoots during their earlier stages, but before flowering the lilies well overtop the shrubs, which in their turn form an admirable setting for the charming, yellow, gracefully-disposed blossoms.

Covering a steep bank (Rinda).—There are several ways in which such a slope may be advantageously clothed, and many plants are suitable for the purpose. For instance, cuttings or small plants of *Vinca* or *Periwinkle*, or, again, Ivy planted freely over the slope, would quickly form a covering, and the after attention

would be small. Or, in conjunction with projecting boulders or rocks inserted in the bank, you may plant *Juniperus Sabina*, *Cotoneaster microphylla*, and *Yucca recurva*, *Y. filamentosa*, and others, in such a way that a distinctly artistic effect would result. Then, again, such nearly evergreen Roses as *Wichuriana* may be planted with *Clematis Jackmanii* to clothe the bank, or with a few rocks or tree-roots jutting out here and there, you may plant any of the Mossy Saxifragas, London Pride, *Saponaria acymoides*, and the like, or you may cover the whole bank with a carpet of *Aubrieta*. Indeed, there are many ways of treating such a spot, and one of the simplest is the *Juniper*, *Cotoneaster*, etc., mentioned above. With a little modification a good rocky bank could have been formed, and planted for the most part with subjects of trailing habit, would look well.

Standard Roses dying at top (H. E. R.).—Roses on stems, known as standard and half-standards, are usually budded upon lateral branches of the wild Brier near the top, so that the stem would be entirely wild Brier. If your tree has started to grow from the base after the cutting back, which you gave it, the new growth is wild Brier, and the useless, unless you have cut it off next summer. You must be careful to take out this plant and replace with a healthy specimen. This should be done immediately the weather is favourable, then you may expect some blossom this summer. Bush Roses will grow much better than standards near large cities and towns. When standards are planted only the very freest-growing kind should be procured, for nothing is so unightly as a Brier with a puny, stunted head.

Garden in Cheshire (D. M. Peck).—From personal knowledge of the district to which you refer, we believe that a very general list of trees and shrubs may be grown with success. Certainly you may include *Magnolia conspicua*, *M. stellata*, and *Arbutus* and *Carya elliptica*, if in well-drained soil. If the soil is sandy loam many of the *Ilex* family will do quite well. As to the herbaceous plants, we would, without hesitation, plant almost anything we desired. We would not place the large array of herbaceous things at the mercy of a garden composed of heavy clay soil, for example. But where a sandy loam is at command, there should be little trouble, provided an intelligent method of dealing with the soil, as to trenching, manuring, and suchlike, in particular, be properly attended to. If the soil is freshly-dug pasture-land, you may be well advised to leave Carnations alone for a year or more, and Lilies also, on account of wire-worm, if these abound. In other respects we believe you are in a county where much gardening success awaits a consistent, intelligent method of planting with selection. You need not hesitate in putting to us any question on gardening concerning which you are in doubt.

Cactus Dahlias (H. E.).—You have hardly acted wisely in leaving these in the soil, and unless in a spot well sheltered or the plants well protected it is possible the entire lot may be injured or killed outright. This depends on the depth at which they were planted. Quite apart from this, however, there is ever the possibility of frost penetrating to the crown by means of the easy access through the old and hollow stem, and often this becoming full of water freezes and ruins the crown-buds. As you wish to increase them, it is the more unwise, as the plants are in the ground, as lifting is absolutely essential to the suggested increase of the plants. If you want but a few extra plants, in all probability free division of the root clumps will suffice, carefully shaking away all soil and cooling where the crown-buds are, then pulling the plants to pieces. In some instances a strong bud with tuber attached may be secured, and these form very satisfactory young plants. It is too early to see these buds yet, however, but in the case of very strong stools we have made six or even more young plants from each. If you want a quantity of plants your only way is by cuttings, securing these with a heel or base joint attached, and inserting singly in a pot of 2 1/2 inches diameter. The stools should be previously placed in the root greenhouse or frame, and when the young shoots are 3 inches long take them off and treat as usual.

Plants for beds (C. W.).—If the bed you refer to as on the lawn is that shown at the eastern corner of plan, we would recommend you to plant in an irregular shape in March some Tufted Pansies in colours all over the bed, starting, say, with a border of yellow and filling in the centre with a good blue or purple kind. In June, the centre portion could give place to *Tuberous Begonia*, either in mixed colours or sets of colours. These you may plant either thinly among the Pansies, or allow them to replace the Pansies altogether. If you do the first, the Pansies should be cut over as soon as the first flush of blossom is past, and presently they will flower again, this time forming a groundwork to the *Begonia*. Thus treated, with the Pansies as a sort of permanent margin, you will have a bed not only interesting and gay in summer, but effective till the autumn, and very desirable. An alternative plan would be to plant Ivy-leaved *Pelargonium* and peg them all over the bed. These are most profuse in their flowering. The narrow bed near the porch, seeing it is so much raised above the ordinary level, would appear to afford a good opening for some free-flowering alpine, such as the *Anthriscus*, alpine *Phloxes*, double white *Arabis* to form a groundwork, and small halibone plants as *Fritillaria*, Spanish *Iris*, *Aconites*, and *Astragalus*. Hybrid *Columbine* and *Poppies* would also grow quite well in such a place. If you think this too much, you could plant the carpet things first-named in conjunction with some of the Mossy Saxifragas, with *Daffodils* and *Crown Aconites* below to make a succession.

Growing Epiphyllums (W. W.).—After the flowering season is over the plants should have a period of rest, being kept drier at the roots and in a somewhat lower temperature. Having flowered in an interior house, the warm part of the soil should be very suitable. Potting, if not done in March or April, a very suitable compost for the purpose being two-thirds good yellow loam to one-third pounded brick rubble and soft bricks, with a liberal admixture of sand. A little well-decayed leaf-mould may with advantage be added if the loam is of a heavy nature. In potting, the soil should be pressed down firmly, and great care must be taken to keep the plant well secured to a stake or stakes, as if this is not done the weight of the branches is apt to cause them to

snip off. After potting, the plants must be kept warmer, with occasional syringings, in order to encourage a free growth, while the supply of water at the roots may be increased, but care should be taken not to overwater. The pots must be thoroughly well drained. As the plants increase in size they may remain for years without repotting, provided precautions are taken when potting them in the first place to keep the drainage open. Old-established plants will be benefited by a little feeding in the shape of weak liquid-manure during the growing season, and also just before the flowers develop. After the growth is completed the plants may be removed to a sunny greenhouse in order to ripen the wood and set the flower-buds, giving them at that period somewhat less water than when in full growth. The earliest may be taken into a little heat by the middle of September, and if a few at a time are so treated a succession may be kept up for a considerable period.

TREES AND SHRUBS.

Increasing the Holly (K. B.).—Seeing you can procure no berries, possibly can be increased from cuttings, which should be made of the ripened shoots of the current year's growth. These should be planted in a bed of sandy soil in a sheltered border, covered with hand-lights and shaded on bright days.

Fast-growing climbers for open palisade (W. Andrews).—Considering that the aspect is a northerly one, we only recommend such plants as will grow in this position. Of flowering creepers you could plant: *Wistaria sinensis*, *Honeysuckle*, *Jasminum nudiflorum*, *Yuccantha Lelandii*, *Clematis Jackmanii* and *C. montana*, *Everlasting Pea* (pink or white), *Gloire de Dijon*, *Chester Hybrid*, *Almae Vibert*, *Flora*, and *Félicité-Perpetue* *Roses*, and *Pyrus japonica* of sorts. This last is not fast-growing, but almost indispensable on account of its early blossoming and brilliant colour. *Virginian Creeper*, *Ivy*, and *Berberis stenophylla* are excellent. There are also many deciduous-flowering shrubs, such as *Syringas* (*Lilacs*), *Philadelphus* (*Mock Orange*), *flowering Currants*, *Weigelas*, etc., that are suitable for low fences or palisading.

FRUIT.

Apple-trees trained (J. Casswell).—There is no reason why the trees should not succeed, and if so treated that the fruit-wood will be of the best quality also. You do not say whether you wish for dessert or cooking fruits, however, so we give you some of each. It would be advisable to take the wire quite 12 feet high, and to make a start with quite young trees that could be trained in the way you mention without risk. Indeed, it may be possible, if you enquire of the nurseries near you, to obtain some espalier-trained trees, which are the most suitable for training in the way you wish. Good dessert kinds are: *Cox Orange*, *Beauty of Bath*, *Amazon*, *Mother*, *Claygate Pearmain*, *Golden Renette*, *Scarlet Nonpareil*. The following are good cooking sorts: *Emperor Alexander*, *Cox's Pomona*, *Ecklinville Seedling*, *Lord Derby*, *Lane's Prince Albert*, and *Warner's King*.

Pruning Nut-bushes (J. C.).—In pruning on either side of your walks the Cob Nut-bushes which seem to have become unduly high, we should have preferred to have cut out hard down as near the ground as possible some of the largest or oldest of the branches, then to have shortened back to 6 feet others evidently younger, spurting in on them weak growths, and leaving a few stronger shoots two-thirds their length. If there are numerous shoots or suckers springing from the roots, all weak ones of these kinds should be cut out, and just a few, say half a dozen of the best, encouraged to grow into branches, cutting them back one-third. Strong young shoots do not fruit until they have become older and branch out, or get up into light and air. Of those already pruned, we should advise cutting some of the older stems close down to thin them, leaving others and treating suckers as advised. No doubt the trees having been long planted, a heavy dressing of manure placed about each would do them great good.

Pears on Apple-stocks (W. G.).—The chief reason why Pears should not be budded or grafted on Apple-stocks is that the two fruits do not well assimilate, and when such cross-budding has been done the result always has been disappointing. We have heard of inter-crossing the Pear on to the Apple by fertilising flowers of the latter with pollen from the former, but the results again have been of doubtful character, and, if any, really then quite worthless. The Apple is *Pyrus Malus* and the Pear *Pyrus communis*. There is far closer identity between the Pear and the Quince (*Cydonia vulgaris*) than between Apple and Pear, as the Pear does well on Quince-stocks. Other than the Paradise-stock (*Pyrus pyracantha*), we know of no other stock than the common Crab or Apple seed raised stock on which Apples will thrive. Perhaps another valid reason for not thus using Pear-stocks for Apples is that they are not valued, as Apple-stocks can be had in great abundance and very cheap. There can be no better way to spoil any good Pear than by working it on to the Apple. Far better work it on to the Quince.

VEGETABLES.

Celery running to seed (A. Croft).—Very early sown and planted Celery invariably bolts, which yours has done. It seed be sown about May—always soon enough for all ordinary purposes—then it does not bolt. Still, much depends on how the plants are treated, as if allowed to become thick, starved and weak in the pots or pans, the plants will bolt away early.

Beetroot falling (G. J.).—As to your Beet being hard when cooked, that was perhaps due to variety or to poor soil. The latter cause is most probable. Generally we find all varieties are good now. For Beet the soil should have been well manured for a previous crop, then be in the winter dug quite deep, and again in April be forked over again, sowing the seed middle of May in rows 12 inches apart, thinning out to 6 inches apart. Keep the soil between the rows well hoed during the summer.

Planting Potato Onions (G. J.).—The best time for you to plant bulbs or offsets, as usually called, of Potato or underground Onions, will be the middle of February, as you are in a cold climate. Have the soil well manured and deeply dug, and when you lay the tubers some wood-ashes and soot before planting.

be in rows 10 inches apart, and the tubers in the rows be 12 inches apart. Press them well into the soil, so that the tops just show. Later, when good growth has resulted, draw away some of the loose soil with the hand round each cluster, as that will promote swelling.

Six good market Peas (M. J. C.).—In Lancashire, and where there is plenty of water, you can hardly do better than sow for a first early for market, say *William Hurst*. It grows about 20 inches in height unstacked, and could be sown thinly, in rows 2 feet apart. You would find to follow that *English Wonder*, sown in rows 20 inches apart, remarkably prolific, followed by *The Daisy*, in rows 30 inches apart, dwarf and a great cropper. Of 3-foot Peas sow *Senator*, *Triumph*, and the *Gladstone*, three splendid croppers and coming in succession. These latter, if not stacked, grow to about 30 inches in height. Be sure you get the true varieties.

Buried cattle bones (H. E. Johnson).—If the flesh of the animals buried in your garden ground, and which possibly died from some disease, has so far decayed that it has left the bones fairly clean, your best course would be to have all the bones thrown out to let them well dry, then get them broken up as small as possible with big hammers, and to then use the broken bone as manure. The finest, or dust, would soon become useful as food, the larger portions would decay in time and become food also. If the buried animals are in a pot, the best course would be to well smother them with fresh lime and well cover up with soil. Such an excess of flesh in the process of decay would do more harm than good to vegetable crops, unless very deeply buried. We do not mean it would make the crops unwholesome so much as coarse, rank, and, doubtless, very unprofitable. Deep trenching of the ground would do more good than this coarse feeding.

Good keeping Onions (Flora).—Generally it is found that the oval or globe-shaped Onions keep better than the flatter ones do. For that reason *James Keeping*, *Bedfordshire Champion*, *Sutton's Globe*, *Cranston's Excelior*, or others of similar form habitually keep well into the winter. But too much must not be assumed on that head, as we have seen plenty of flatter Onions keeping well quite late. So much really depends on how the hulbs have matured or ripened. They are often, on strong rich soils, helped to do that by having their necks gently pressed between finger and thumb during August, and the tops laid over on to one side. Still, in doing that care must be taken not to break the necks. If the season be damp, Onions grow late, do not ripen well, and therefore keep badly. For your springs be fairly early in county down you may sow seed thinly in shallow drills, 12 inches apart, drawn on soil that has been well manured and deeply dug previously, making the sowing at the end of March. Thin the plants to 4 inches apart later and keep clean from weeds.

SHORT REPLIES.

Choccol.—Put in the cuttings of the plants you mention during February and March. They must have a warm house or a hot-bed. —*D.*—We have never seen a bed consulte follow from pruning fruit-trees during hard frost. —*E. D.*—See article "Blister or Curl in Peaches," in our issue of January 17th, page 603. —*R. W.*—You will find it very useful for mixing with all sorts of potting soil, and top-dressing all kinds of soft-wooded pot plants. We have also used it largely when making Vine and Peach borders. —*Slag.*—We have handed your query to the Editor of *Farm and Home*, who will deal with it in an early issue. —*Amateur.*—Quite impossible for us to advise without seeing the place. Consult the practical man of whom you speak. It would be far better to make a fresh *Asparagus* bed in your new garden, lifting the crowns you have now and forcing them. —*P. S. Lingfield.*—Your best plan will be to obtain employment in some nursery where trees and shrubs are largely grown for sale. —*A. C. Stringer.*—Not a gardening query. Write to the Editor of *Farm and Home*, 17, Furlong-street, E.C. —*E. N.*—Certainly not. The manure you refer to will only cause fungus, and is of no value whatever. —*Shrub.*—Prune early in April. —*Young Novice.*—See reply to "A. M.," in our issue of January 17th, p. 606. See article on "Garden Edging," in our issue of January 3rd, p. 578. —*J. T. Horner.*—Apply to Messrs. Barr and Sons, 12, King-street, Covent Garden, W.C.

NAMES OF PLANTS AND FRUITS.

Names of plants.—1, *Carex japonica gracilis*; 2, Generally known in gardens as *Tradescantia discolor*, but its true botanical name is *Rhus discolor*. —*P. E. A. I. B.*—We can only suggest that the plant inquired about may be *Agathosmia*, perhaps *A. rugosa*, or near ally of the *Diosma*. —*J. Egan.*—*Chrysanthemum Mrs. Pilkins.* —*W. J. Townsend.*—Quite impossible to name from such material. —*Constant Reader.*—1, *Fanex Victoria*; 2, *Maranta Warcewiczii*; 3, *Pellonia pulchra*; 4, *Bougainvillea glabra*. See p. 627 for treatment.

Name of fruit.—*Mrs. Keeble.*—Apple *Gloire of the West*.

Catalogues received.—*Wm. Samson and Co.*, Kilmarnock, N.B.—*Spring Catalogue of Choice Seeds and Plants.*—*W. Atlee Burpee*, Philadelphia.—*Vegetable, Flower, and Farm Seeds for 1903.*—*Gilbert and Son, Dyke, Bourne, Lincoln.*—*Gold Medal Sweet Peas and List of Flower and Vegetable Seeds.*—*W. B. Hartland, Cork, Ireland.*—*List of Garden Seeds.*—*M. Guthbertson, Rothsay.*—*Seed and Plant Catalogue.*—*Vilmorin et Cie., Paris.*—*General Catalogue.*—*Frank Dyke and Co., 68, Deansgate, Manchester.*—*List of Flower and Vegetable Seeds.*—*Laxton Bros., Bedford.*—*Seed Catalogue for 1903.*—*Pope and Sons, Birmingham.*—*List of Seeds for 1903.*—*Blackmore and Langdon, Bath.*—*List of Carnations, Picotees, etc., and List of Begonias.*—*Thompson and Morgan, Ipswich.*—*Catalogue of Flower and Vegetable Seeds for 1903.*—*W. Smith and Son, Aberdeen.*—*Spring Catalogue of Seeds, Plants, etc.*—*Robert Holmes, Norwich.*—*Catalogue of Chrysanthemums.*—*Haage and Schmidt, Erfurt.*—*List of Seeds and Plants.*—*F. A. Rowce, Sleepers Morden, Royston.*—*Price List of Sweet and Cooking Pea Seed.*—*T. S. Ware, Ltd., Welham, Middlesex.*—*Spring Catalogue of Flower and Vegetable Seeds, also Esponias, Lilies, Gladioli, etc.*—*Robbie, Carlisle Nurseries, Dereham.*—*Garden Guide for 1903.*—*Rowden and Co., Inverness.*—*Garden Seeds for 1903.*

THE

Season of Spring follows the passing of Christmas, and ere long owners of gardens will be eagerly discussing the Seed Catalogues preparatory to making their selections of Seeds. If you have not yet sent for JOHN K. KING & SONS' Spring Catalogue for 1903, we recommend you to do so at once; it will be sent post free on receipt of a postcard to either Coggeshall or Reading. JOHN K. KING & SONS are Seedsmen by Royal Sealed Warrant to His Majesty the King, and their Seeds are well known in almost every part of the

EARTH

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GARDENING ILLUSTRATED.

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PLANTS AND FLOWERS.

CHRYSANTHEMUMS.

CHRYSANTHEMUMS DETERIORATING.

THE haste which in the past has characterized all operations in the culture of exhibition Chrysanthemums is largely responsible for the weakened constitution of many of the varieties, which from time to time have taken a high position at the leading exhibitions. A new variety is in the first season grown to its fullest extent. As most exhibitors know full well, a promising novelty, no matter whether it be a seedling or a plant of a few years' standing, is grown for "all it is worth," in the language of the grower. From the very outset a strain is put upon the energies of the plant, and all through the growing season the same course of treatment is observed. This, being followed by a period of some six to eight weeks' treatment in a glasshouse, often overcrowded with plants, weakens the plant. For some months the plants are highly fed, so that when the time comes round for procuring stock, cuttings of a most undesirable kind are the only ones obtainable. But for the feverish haste to commence another season's work, plants grown in the manner just described could be treated in a way to restore, to some extent, at least, their lost constitution. Some of the leading growers plant out stock of the better sorts, but with the novelties they have no chance of doing so. When the few stock plants come into their possession, the Chrysanthemum specialists, to meet the demand for novelties made upon them, put in every cutting, and in the succeeding flowering season growers wonder why the new sorts fail to reach the standard seen during the previous season, and also so faithfully described in the gardening journals. The process of deterioration which begins so early in the life of the plants is continued in the two or three succeeding seasons, and unless the constitution of each one is exceptionally robust and vigorous, the variety, so to speak, goes to the wall. What else can we expect, after giving the plants so severe a system of culture? It is unreasonable to expect anything else than failure, and so long as the present system of early propagation is followed, so long will results be unsatisfactory.

It is not possible for every grower to plant out in his garden a batch of exhibition sorts, and many are not prepared to take that trouble. It cannot be denied, however, that it is a wise course to adopt, and it brings its own reward. If it is not possible to grow stock plants in the open border as suggested, other means, though not so good, may be taken to achieve somewhat similar results. Plants which have been subjected to high culture should, after flowering, be cut down and either have the ball of earth and roots redned, and be potted up into 6-inch or other smaller pots, using good soil for the purpose, or they should be plunged in soil in frames, or, better still, in soil of a fairly light character on the side benches of the glass-houses. The latter position is the better one,

and so long as the plants are not excited into quick growth by a high temperature, the resulting growths, which should develop in the early days of the year and just as the days begin to lengthen, should be all the grower desires. Cuttings from such plants may be put in with the reasonable prospect of producing satisfactory results. Instead of lanky and unsightly plants developing, those of dwarf to medium growth should be the result. These latter, too, are easier to handle, and also retain their foliage much better. I have just seen a batch of plants treated in the manner described, and these are now freely developing growths of a sturdy kind. A January and February propagation is quite early enough for all purposes. C. H. N.

CHRYSANTHEMUM BLOOMS IN VASES.

WHAT is wanted at exhibitions in connection with vase classes for cut Chrysanthemums is more of that free-and-easy style of setting up the flowers seen in our own homes. When it is required that so many blooms only be shown in a vase to be judged chiefly as exhibition flowers and without any other foliage, then it is inevitable that the class or classes will become as monotonous and objectionable as are the board classes. I could but notice in our own show here in Kingston last November, that by far the prettiest vases of blooms were those of amateurs and cottagers, who had not only a free hand as to flowers and arrangements, but also brought their own vases, all being more or less diverse. These were far more pleasing than were the large show bloom classes. It seems to be very evident, judging by what has been written, that the public or amateur taste, so far as Chrysanthemum shows is concerned, is rebelling against the big or fat flowers in vases, and is asking for something much more pleasing, decorative, and artistic. The fat flower classes are the fond children of those whose highest aim in flower culture is to win good prizes. These exhibitors must be given to understand that such ideas in relation to flowers are becoming repulsive. There is now, in relation to Carnations, a great rebellion against dressing the flowers and showing them with paper collars. The same thing is cropping up in connection with the showing of Roses—still so terribly formal in their boxes. So also with Dahlias, even the beautiful Cactus forms being shown in rigid wire frames in the most unnatural way, so that people are getting tired of seeing them so displayed, and are calling for more natural methods of showing them. But of all flowers none seem naturally better suited for vase display than Chrysanthemums do, as they have long, stiff stems and can be set up in almost any lengths, thus admitting, especially in conjunction with draping foliage, most pleasing and graceful arrangements. Show committees cannot too readily lend their attention to what the public ask, and cater less for the old stereotyped lumpy blooms which for so long have been the exhibitors' favourites. One unpleasant feature of the big bloom competitions is that the trade men in their business to knock out varieties that have been favourites after a couple of

years or so of showing, because old varieties have become plentiful and cheap. That is done by forcing on growers new varieties that can hardly be said now to show advance or diversity on the old ones, but which can be charged high prices for, and if some will not foolishly purchase them others will. Chrysanthemum showing has been a fine trade boom, but it has seen its best days, happily. A correspondent, "Essex," sneers at market blooms. He is welcome to do so, but his sneer will only help stay the growth of public taste for more beauty and less bigness in Chrysanthemums. A DEAN.

NOTES AND REPLIES.

Plants to carry 20 or 30 blooms.—I wish to grow a few Chrysanthemums with from 20 to 30 blooms each on a separate stem, and would be glad to know the names of six of the most suitable kinds (different colours) and how to manage them from the time the cuttings are struck?—YORKSHIRE.

[Had you inserted cuttings of the varieties you intend to grow a month earlier you would have enhanced your prospects of success. Still, provided you commence operations without delay, and use some bottom-heat to hasten the rooting, you may make up for some of the lost time. The most suitable kinds for your purpose, in different colours, are: Lizzie Adecock, rich yellow; Crimson Source d'Or, orange-crimson; White Quintus, pure white; Pink Selborne, lilac pink; Bronze Soleil d'Octobre, bronzy-fawn; and William Soward, a deep rich crimson. Each of the above-mentioned sorts is of easy culture, and given proper treatment should make a fine display. When the plants are about 6 inches high take out the point of the growth. Keep the plants rather dry at the roots for a few days to assist in the development of new shoots in the axils of the leaves. From the several new shoots select two or three of the stronger, growing these on, and rub out the weaker ones. Pot on the young plants into larger pots from time to time, using those 9 inches in diameter in which to flower them. Never pot on a plant until it has filled its pot with roots, and never pinch a plant at the same time that it is being repotted. At least a week should elapse between the two operations. After the first stopping, already described in detail, you should pinch out the point of each succeeding 6 inches to 8 inches of growth, giving the final pinching about the third week in June. This must necessarily develop plants of a bushy character. We would advise you to partially dishud your plants, and if you prefer to have flowers of medium size on stiff, erect stems, retain only one bud on each shoot. Throughout the summer and early autumn give the plants a good open sunny position, standing them on boards, slates, tiles, or anything of this kind to prevent the ingress of worms. Insert strong stakes or Bamboo canes for the support of the branching growths, lightly looping these to the stakes with raffia. Do not feed the plants until the flowering pots are well filled with roots. House the plants during the last week in September. Greenfly, if present, may be eradicated by dusting with tobacco powder. (NEWSVAT.)

OUTDOOR PLANTS.

MICHAUX'S BELLFLOWER (MICHAUXIA).

The *Michauxias* may for all practical purposes be regarded as biennials. In certain instances,



Michauxia Tchihatcheffii. From a photograph by Mr. D. S. Fish, Edinburgh.

however, it may be that the plants do not attain to flowering size the first year, and, therefore, do not bloom. The plants invariably perish with the ripening of the seeds. These remarks are made to prevent disappointment arising from regarding any of the species as truly perennial. To be successful in the cultivation of *Michauxias*, a system of quick growth is essential from the very first. The object of this is to secure the fullest possible development in the first season. The plants are easily raised from seeds, which may be sown in pots or pans of sandy soil during the early part of the year. If sown in slight warmth and under glass, which may be helpful, care should be taken to prick off any seedlings as these attain sufficient size. By this method and the subsequent growing on singly in pots, plants of good size may be secured for planting out in May or early in June. Plants not large enough for planting out by the end of July would perhaps be better grown on in pots and given frame protection for the winter. To obviate this sow the seeds prior to March, or in frames or pits in autumn. The *Michauxias* are essentially adapted for grouping among thinly-planted shrubs, so that their towering spires of white flowers may rise above the shrubs and be seen to advantage. Soil of a sandy nature always warm and well drained is best. Soils not of this description may be

rendered more porous by the addition of grit, old mortar, or charcoal, or sand. A deep soil, so that the roots may quickly spread, is the most likely to give good results. Leaf-soil may be used, but no manure, unless it be of a kind that can be rubbed through a fine sieve. Treated in this way there is every hope of growing these striking and exceptional plants with success.

M. CAMPANTULOIDES.—Fully developed, the spire of flowers of this kind will reach as much as 7 feet or 8 feet high, hence the need for a sheltered position and early attention in staking, etc. The flowers are white, slightly tinged on the outside with purple or lilac, the division of the corolla much reflexed. At the time of the opening of the flowers the plant and the upper parts of the inflorescence in particular are of a viscid or clammy nature. The flowers are more or less drooping, and arranged at intervals on the stem. This species has been long known to cultivation, having been brought from the Levant in 1787.

M. TCHIHATCHEFFII.—This handsome and striking species is so much of a novelty that only a few have as yet grown it. The branching character and the complete flowering portion of the inflorescence are so well shown in the accompanying illustration that further description is not necessary. In addition to the fine flowering, however, the plant is attractive by reason of the greyish leaves, which are covered with a soft short white down. This tomentose character is a feature throughout the plant. The leaves are far more abundant than in the first-named species. The flowers are white. This noble species was found in the Sicilian Taurus by M. Siehe, at an elevation of some 5,000 feet, the plants growing chiefly among rocks, and usually in

TUFTED PANSIES (VIOLAS).

WINTER PREPARATION OF BEDS AND BORDERS

To grow these plants satisfactorily year after year, not only must the flowering quarters be changed from time to time, but deep culture is absolutely necessary. Some persons appear to think the Tufted Pansies are surface-rooting, or at most shallow-rooting plants, and, because of this, ordinary culture will answer very well. The Tufted Pansies revel in soil which has been well tilled and deeply dug. Deep culture invariably brings its own reward in healthy and robust plants, which flower profusely and keep the garden gay for many months. At this season the grower should be busy preparing his beds and borders for the next display. It is an immense advantage to get the garden dug, and deeply dug too, in the winter months. In most situations, where the garden is not absolutely in the bottom of a valley, the soil should work comfortably, unless the weather be exceptionally wet and the soil also of heavy texture. I always make it a rule to dig two spits deep, incorporating at the same time thoroughly good manure. In years gone by, when blooms of exceptional quality were desired, the soil has been even more deeply tilled, and the advantage in so doing has amply justified the extra work and trouble taken. The surface soil should be left in a rough condition. In the case of poor and impoverished soil this treatment vastly improves it. Garden soil in which the Tufted Pansies have been grown several years in succession may to a large degree be much improved by these means, and in gardens of limited dimensions, where it is not possible to change the soil for these plants, surely it is worth while taking pains in its preparation for next season's display. When left in a rough con-



Michaux's Bellflower (*Michauxia campanuloides*).

the mountainous portions. Attaining to 7 feet high and more, it is not difficult to picture the fine effect of such a plant, with its closely-arranged, almost columnar spike of flowers. The latter covering about one half of the entire length of the plant.

dition on the surface, as previously advocated, the frost breaks up the heavy soil and pulverises it. In addition, insect pests, which so often infest the soil, are eradicated, and by its exposure to the air the soil also is rendered more productive. Garden soil of a light and

sandy nature is greatly improved by the addition of old and well-rotted cow manure. In most suburban and country gardens this material is not by any means difficult to obtain, many farmers and cowkeepers in the immediate neighbourhood of one's garden usually being pleased to provide a supply for a comparatively small consideration. Soil heavy in texture should be treated to a liberal dressing of well-rotted horse manure. Experience has proved that this is better than incorporating fresh stable litter. When the planting time again comes round, from the middle to the end of March, all that needs to be done is to lightly fork over the surface soil of the beds and borders, and rake them over preparatory to planting out.

D. B. CRANE.

Highgate, N.

LILIUM LONGIFLORUM INSULARE.

Without showing any marked divergence from the normal form, varietal names have been

many features in which it differed from any other longiflorum were claimed for it, yet, after a season or two in this country, all these points vanished. Whatever a further acquaintance may lead to, there is no question that these imported bulbs represent one of the best forms of *Lilium longiflorum*, particularly for a cool-house, or for growing out-of-doors. Of the bulbs which flower in this country, we draw our supplies from Japan, Holland, Bermuda, and South Africa, as well as from the Pacific Islands.

L. longiflorum (or *Harrisi*) var. *insulare* is very free blooming. Three bulbs sent up seven stems about 2½ feet high, which bore 29 beautiful flowers.—W. E. G.

HERBACEOUS PLANTS ON GRASS.

MANY species belonging to this class of hardy plants would create a much finer effect if grown singly or in bold clumps on the Grass, where

prefers liberal treatment, and for it give a good return. A firm, holding soil is more suitable for the general body of these plants than a light sandy one, although some few may need a little attention to give the best results. The stations where all are to be planted should be deeply trenched; if the soil is poor, some partly decomposed farmyard-manure and old potting-soil ought to be added, and will well repay the extra labour incurred in giving a more luxuriant growth, which means an enhanced appearance. All the plants here mentioned are the better for copious soakings of water at the roots if the weather be hot, and dry during the summer months. Some of the species have not sufficient foliage near their base to hide the soil in which they are growing. This might be improved by covering the surface soil with some of the many low-growing hardy plants, such as *Sedum glaucum* and *S. Lydium*, *Herharia glabra*, *Antennaria tomentosa*, or *Veronica repens*, all of which are of



Lilium longiflorum insulare in Mr. W. E. Gumbleton's garden at Pelgrove. From a photograph by G. A. Champion.

plentifully showered upon the varieties, or supposed varieties, of *Lilium longiflorum*, one of the latest being that at the head of this note. As flowered from imported bulbs, it is certainly full of promise, for the growth is sturdy and robust, two or three stems being often pushed up from one bulb, while the flowers, of which several are borne on a stem, are unusually expanded, and of a thick wax-like substance. Taking an isolated flower, one is reminded of a particularly good form of the Japanese variety *Wilsoni*. The name of *insulare* is but a geographical form, whose points of difference will disappear under cultivation, remains to be seen, for when first *Lilium longiflorum* *Harrisi* was sent here from Bermuda

they could obtain more freedom for both foliage and flower alike than they very often receive now, huddled together in a much too narrow border, where the true character of the plant is altogether obscured. Besides, a feature in the garden might be very easily added, which would give increased interest. If such an idea were more generally carried out and the Grass kept short, the plants would give even a finer effect than they do now where employed in the wild garden, where it is necessary to allow the Grass to run to keep up the true character of that part of the garden. Many of our finest herbaceous plants are remarkable as much for their foliage as for the flower itself; long Grass would altogether spoil the effect. In that case, therefore, Grass which is kept short is preferable under the above conditions. How the plants shall be arranged is more of a matter for personal taste than for minute instructions in this article. This section of hardy plants

quick growth and of suitable colours to form an agreeable contrast with the plants above.

TELERIA SPECIOSISSIMA, or, as some prefer to call it, *Buphthalmum*, is a capital subject for growing on Grass. The habit of the plant is vigorous, having large drooping leaves, which cannot be seen when surrounded by other things in the herbaceous border. Stout flower-spikes 4 feet long are freely produced, having blooms much resembling Japanese Anemone *Chrysanthemums* in their formation; the colour is orange-yellow.

POLYGONUM CUSCUTATUM is just the plant for this purpose: the growth has an outward tendency, deep green; the drooping, feathery panicle-like flowers are creamy-white, freely produced. If larger growth is required, *P. sachalinense* may be planted, which will quickly run up 10 feet high. The former variety does not grow more than 5 feet high.

BUCCONIA CIRCATA, commonly called the

Plume Poppy, if planted in a bold clump would give a noble effect, growing, as it does, from 6 feet to 8 feet. The glaucous colour of the underside of the leaves gives it more variety. The flower-spikes from strong roots are fully 3 feet long, creamy-white in colour.

FUCHSIAS of the Riccartoni, microphylla macrostemma, and fulgens types are excellent subjects for growing on the Grass. Well-shaped bushes upwards of 8 feet in diameter can be quickly obtained. In this way this class of Fuchsia is seen to the greatest advantage. The bulk of the varieties flowers profusely the whole of the summer and they are among the easiest plants to increase; the wonder is they are not more cultivated than at present. Rarely are they seen beyond cottage gardens if one excepts botanical collections of hardy plants.

ACANTHUS MOLLIS AND **A. SPINOSISSIMUS**, commonly called Bear's-breech, are very suitable for growing on Grass. The foliage is broad, deeply lacinated; they have white and purple flowers and grow about a yard high.

ACTÆA SPICATA (Baneberry) would give extended variety if planted in conjunction with other things named. The foliage is bold, and the numerous flower-spikes which strong plants freely throw up have a good effect, so uncommon are they in form.

TRITOMA OLAUCESCENS AND **T. UVARIA** are second to none for this method of garden ornamentation; the bright orange and red of the flower-heads make an agreeable contrast with the deep green of the foliage and the Grass. **T. glaucescens** opens its flowers first, and they are more frasily produced than those of the older **Uvaria**, of which it is a form, and a good one, too, for extending the flowering season of these showy Flame-flowers.

ERYNGIUMS would be useful to extend the flowering season, and their bright-blue flowers are at all times appreciated. The small-flowered amethystinum is free; therefore, worth a place. The deeper-coloured and stronger-growing **Oliverianum** is perhaps the best of the genus.

INULA MACROPHYLLA AND **INULA OLANDULOSA** would be quite at home on the Grass, their deep orange-coloured flowers contrasting so well with the Grass.

MONTBRETIA POTTSI and the newer crococciflora are well suited to this form of culture; the semi-drooping habit of the narrow leaves fits them well for growing on Grass; the orange and red flowers, too, are freely produced and pleasing.

SOLOMON'S SEAL (*Polygonatum multiflorum majus*) is another hardy plant well suited to this form of culture; in good soil the stems increase in strength annually, and produce a greater profusion of the peculiarly coloured greenish flowers, which are very sweet-scented; the berries, which are afterwards produced in quantity, render this plant still more interesting.

SPIRÆA ARUNCUS (the large Goat's-beard) has handsome foliage and showy, graceful drooping plumes of almost white flowers—certainly a desirable plant for growing on Grass.

This list does not by any means exhaust the stock of suitable plants for this form of hardy gardening, but has been given to afford a general idea of a plan which cannot fail to prove interesting.

NOTES AND REPLIES.

Flowers from Ireland.—Enclosed collection of flowers all picked from the open this day (January 22). I would be pleased if you could name the "Rose," which I think could be justly called "the Last Rose of Summer." I bought it last spring, a dwarf Perpetual, as a Baroness Rothschild. It bloomed from July till now, these buds being the last. I cut 85 blooms, which I consider exceptional for a first year, and the little tree is still growing. Probably the climate here has something to do with the extended season, judging by the Mignonette, etc.—**T. M. MACGIBRE, Kingston, Bray.**

[With the above note were sent some Rose buds (certainly not Baroness Rothschild), Mignonette, dark and yellow Wallflower, and *Lavatera arborea variegata*.]

Perennial Lobelias.—A correspondent in a recent issue makes some suggestions trying to account for the behaviour of the perennial Lobelias in winter. In some places people find that they cannot, or think they cannot, leave Lobelias in the open ground throughout the

winter. Your correspondent mentions having these plants unprotected throughout the severe winter of 1893, and no harm resulted, while on the other hand we hear of people losing their plants in a comparatively open winter. In Norfolk I have left spare plants in the ground, and they have, as a rule, taken no harm, but I could never depend upon them shooting up again in the spring. I believe that it is not intense and continuous cold that hurts the plants, so much as a changeable season—a season in which one never gets one temperature for any length of time. Most of the damage is done by the late spring frosts after the plant has started into growth.—**G. E. P.**

ROSES.

ROSES UNDER GLASS.

WHERE Roses are grown in cold houses or in those only moderately heated, it is quite time to see about pruning the plants. Should they be just received from the nurseryman, they are, as a rule, thoroughly ripened and the pots full of roots. It is always advisable with such plants to remove about an inch of the surface-soil, replacing this with a little new compost consisting of good loam and well-rotted manure in about equal proportions. Remove all sticks and prune the growths back to good plump eyes. Something depends upon one's object as to how the pruning should be done. If we desire to form them into specimens with a view to exhibiting say next year, rather hard pruning must be resorted to, the ripe stout growths cut back to four or five eyes, and, if possible, with the top-eye on each shoot facing outward. A good start is thus made towards forming a shapely plant. Where quantity instead of quality of blossom is desired, then a much more moderate pruning will suffice. In all cases keep the centre of the plant open. This can be assisted by careful tying out. As soon as the pruning is completed tie a piece of string beneath the rim of the pot, then bring down the growths slightly by means of a piece of twisted raffia secured to the shoot and string beneath the rim. When thus prepared, put the plants upon inverted pots and bring them as near the light as practicable. No water will be needed at the root until new shoots have pushed about half an inch, then it is advisable to give a good soaking, repeating the watering in two consecutive mornings, but prior to this the plants should be syringed with cold water every fine morning immediately after pruning. Abundance of air must be afforded from the commencement. If this is adhered to mildew troubles will be minimised. When cutting east winds prevail, the side air should be shut off from the side whence they come. I prefer to keep a crack of air at the top on nearly every night, the exceptions being during frosty weather. Even then, when artificial heat can be given, a buoyant atmosphere is preferable to a stuffy one. What Roses do not like is a check of any kind. A uniform system of treatment is the one that leads to success.

Where one can devote one house or more entirely to Roses, success is almost assured, but the Hybrid Perpetuals do not go well with the Tea-scented, the latter requiring a higher temperature. Such of the Hybrid Teas as approach the Teas in habit can be grown with the latter, and these—such as Captain Christy—having more of the Hybrid Perpetual nature, should be grown with the Hybrid Perpetuals. Crimson Rambler grown in pots pays for a sprinkling of some good artificial manure at the time of pruning, taking care to well water it in. Another application is given when the buds commence to swell. This is a Rose in which the grower's skill is made very manifest. Splendid trusses, well-coloured, are quite possible from young plants if the above practice be adopted. Old specimens should be relieved of a lot of their woody-out wood. The one and two-year-old shoots give the best quality of blossom. These Roses, and others of the same ilk, such as Dorothy Perkins, are invaluable for decoration. If their long shoots are twined around three Bamboo-canes they make beautiful objects for recesses and similar positions, and last a long time in flower. Being much addicted to red-spider the springs

must be freely plied, directing the water well beneath, not above, the foliage. Yellowish looking leaves, if examined with a magnifying-glass, will be found to be covered with red-spider beneath.

In preparing a selection of pot-Roses do not omit the pretty little Polyanthas, *Perle d'Or*, *Eugenie Lamesch*, *Gloire des Polyanthas*, *Schneewitchen*, etc. They group beautifully with the *Crimson Rambler*. Small plants even in 8-inch pots come in most useful for this purpose, or as table plants. So also do the *Monthly Roses*, *Queen Mab*, *Laurette Messimy*, *Aurore*, *Cora*, *Cramoisie-Superieur*, *Fabvier*, *Little Pet*, etc. In large gardens *Pillar Roses* and standards in pots give the gardener much valuable material for the conservatory, and the fragrant *Penzance Briers* and other single kinds have a beauty all their own. **ROSA.**

NOTES AND REPLIES.

Hybrid Sweet Briers.—Hybrid Sweet Briers are capital subjects where one desires to form a screen or block in a garden. Not a few have discarded the common *Privet* and *Quick*, and more than one dividing fence in a garden I have seen was composed of these charming flowering Briers. No one can form any idea as to the beauty and freedom with which they bloom during May and June, and they may still be planted when the weather is suitable. It should be borne in mind, however, that these Briers do not need pruning to cause blossoms. On the other hand, the less the knife is used in this respect, the better.—**LEAMURAZ.**

Rose Her Majesty failing.—Can the fact be explained—that *Her Majesty* will do nothing here, either out-of-doors or in? I write from the West of England, and a nobleman's gardener tells me it is the same with him. The flowers just slightly show their centres and then rot off. Someone has told me that this Rose requires more heat than it would get in, say, such a cold summer as this last, but it has been next to *La Rosiere* in a season with sun hot enough to burn the petals of that variety. After—when we get them—three or four fine days in succession, we still gather beautiful examples of *H.P.'s*—for instance, *Ulrich Brunner*, *Captain Hayward*, and *Queen Cordel*. Teas will not expand, and for some reason several have done very badly last season. One, *L'Idée*, planted in 1901, has just kept alive, and *Corotese de Nadal* the same. I have potted the former. It had roots enough for a small Gooseberry bush. Altogether the past season has been distressing. Some Apple-trees appear dying. Bush fruits were not up to the mark in flavour, while weeds have quite beaten me.—**C. R. S.**

Roses for bank.—I have just been obliged to course of levelling to make a bank about 8 feet high. It looks to the south, but is exposed to south-west gales. It is a dry piece of ground. Would *Wichuriana* Roses be suitable? If so, should they be planted on top of bank, and how far apart? And should bank be turfed or not, and if not should it not be carpeted with evergreen, like *Saxifragas*, etc? If *Wichuriana* is not suitable, suggestions for planting other things would be welcomed, as I do not desire a Grass bank, as I am sure here it would never be green in summer, and makes labour in cutting it.—**PLANT.**

[*Rosa Wichuriana* and its hybrids are admirably adapted to the purpose you require them. We should advise you to plant at the base and train the growth upward. They will push out shoots near the roots, but those not required can be cut away. If the bank is fairly wide at the top, say, 2 feet, you could plant some plants there also about 5 feet apart, but we fear the dry position would be against their success. However, the plants are very cheap, and you would still have those at the base to ultimately cover the bank. The *Wichuriana* Roses make enormous growth in a season. We have shoots now upon *Jersey Beauty* over 10 feet long. All this wood was produced last season. A four-year-old plant covers an area of quite 100 square feet. Just now its glistening green foliage is beautiful, and is quite uninjured by recent frosts. As a start we should recommend planting those at the base of the bank 4 feet apart. You need not turf the bank, as if the Roses do well they will soon hide the bare ground.]

Request to readers of "Gardening."—Readers, both amateur and in the trade, will kindly remember that we are always very glad to see interesting specimens of plants or flowers to illustrate, if they will kindly send them to our office in as good a state as possible.

ORCHIDS.

MILTONIAS.

This genus consists of a large variety of plants, some of the species having scores of named varieties, though the number of actually distinct species is small. They are epiphytal plants, natives of South America, some of them being of close tufted habit, others having the pseudo-bulbs occurring at varying distances on short creeping rhizomes. Their culture varies a little in the different species, the candida, Clowesi, cuneata, and Regnelli varieties being, perhaps, the easiest to grow and flower well. These like a good sound compost, consisting of peat fibre cleared of every bit of sand and earth with Sphagnum in about equal proportions. Mix with this plenty of very finely broken crocks and charcoal, but not large lumps. The roots are small, and though liking a compost that air can enter freely, they are not so satisfactory if it is too loose. In potting let the compost be pressed very firmly, first filling the lower two-thirds at least with drainage material. For a little while after

kind to that mentioned for the Clowesi section. Where roots are fairly plentiful they may easily be fixed in pots or baskets, but badly-rooted ones are more easily accommodated on rafts, as a wire may be used for fixing them. Very little difference is needed in the summer and winter temperature for these Orchids, and they thrive well in the cooler part of the Cattleya-house. Plenty of water is needed while growth is active, and while at rest the compost must be kept just moist. Nearly all the kinds mentioned above have a pale yellow tint in the foliage, but this is quite natural to most of them and not a sign of ill-health. *M. cuneata* is greener—in fact, it should be of quite a deep green if perfectly healthy—but the others, and especially *spectabilis*, will always be poor in colour. *M. vexillaria*, *M. Roezli*, and *M. Phalenopsis* used to be included in *Odontoglossum*, but they now usually called *Miltonia*. The first-named is one of the grandest of Orchids, and so well known that no description is needed, and its culture may be said to present no great difficulty. It does best in medium-sized pots, in a compost not heavy enough to

each, these being large individually. The sepals and petals are yellowish, barred with reddish-brown, the lip pure white in the typical form, but having many variations. It is a native of Brazil, and was introduced in 1830.

M. Clowesi is not unlike the last named in habit and general appearance, and thrives under similar cultural conditions. The blooms are large, the scape many-flowered, the outer segments chocolate-brown with spots of yellow. The lip is almost heart-shaped, pure white in the front, the base a deep vinous purple. This is not so variable as some other kinds, yet there are many which have received varietal names. This also comes from Brazil, and was introduced in 1843.

M. cuneata is one of the best known kinds from the same country. The spikes bear about half a dozen flowers, these being prettily undulated on the sepals and petals, brown and green in colour; the lip white, spotted with rosy-purple. Its proper flowering season is in early spring, but it sometimes blooms again in autumn.

M. Moreliana is a beautiful species, usually classed as a variety of *M. spectabilis*, but there are so many sub-varieties that it seems quite entitled to be kept apart. The spikes bear single flowers in late autumn, these being large, deep purple on the sepals and petals, the lip lighter, often with radiating lines of a deeper hue. The varieties differ considerably in colour and size, the flowers of the best forms being each over 4 inches across.

M. Phalenopsis is a dwarf tufted plant, with pale green narrow leaves and pseudo-bulbs, the scapes rising from these and carrying a few flowers on each. These are white, with lines of purple in the centre of the lip. It occurs naturally at considerable elevations in New Grenada, whence it was introduced in 1850.

M. Roezli and *M. Vexillaria* are very nearly related kinds, both lovely in bloom and well worth every care to bring them to perfection. The former bears pure white flowers with a purple centre, and there are several named varieties.

M. Spectabilis, the type of the genus, was introduced in 1837 from Brazil, and is still one of the most useful Orchids grown. The single-flowered scapes rise about 8 inches high, the outer segments are white at first, afterwards becoming a pale yellow, the lip varying considerably in the different varieties, but usually being of some tint of purple.

Callicarpa purpurea—Judging by the remarks overheard at the November show of the National Chrysanthemum Society, where a well-berried specimen of this *Callicarpa* figured in one of the miscellaneous groups, it was a decided puzzle to many gardeners, yet it ought not to be, as such an ornamental shrub as this well merits more attention than it gets now-a-days. It is an old plant in gardens, having been introduced from India in 1822, and at one time was more grown than it is now. Pruned back hard in early spring the plant will, in the temperature of an intermediate-house or the cool part of the stove, break freely into growth, when the production of long-flowering shoots should be encouraged, as it is these that bear the autumnal display. The little whitish blossoms which are borne in clusters in the axils of nearly every leaf on these long, wand-like shoots, are in themselves insignificant, but they are succeeded by berries



Miltonia spectabilis Moreliana. From a photograph by Mr. Geo. E. Low, 2, Glenageary Hill, Kingstown, Dublin.

repotting it is not advisable to keep the compost very moist, though it needs frequent watering, owing to its running dry so quickly, but after this the roots must be kept very moist until the young pseudo-bulbs are quite finished. Even in winter they must be kept moist, requiring even than as much moisture as some Orchids do in summer. The best position for this class of *Miltonia* is a light one, but not where direct sunlight can reach the plants. The plants vary considerably in their time of flowering and resting, *M. Clowesi* blooming, for instance, sometimes in July and August, at others in December, and this will, of course, be kept in mind in all cultural operations.

Quite a distinct section is that comprised by *M. spectabilis*, *M. Moreliana*, and *M. anceps*. The pseudo-bulbs occur on stout creeping rhizomes and the roots are small, though very persistent in most cases. All in this class abhor anything like closeness in the compost, and also dislike much material about the roots. On trellised rafts or in shallow baskets they are usually satisfactory, and they may with care be grown in well-drained pots. About an inch of material is ample for small and medium-size plants, and this may consist of a similar

get close or to hold moisture and dry, yet fairly substantial. It should be repotted some time after growth commences, just as the roots are forming, and until this occurs they may be kept well on the dry side after blooming. When the young pseudo-bulbs are finishing and the bloom-spikes forming, the plants require plenty of moisture. An intermediate or Cattleya-house temperature suits it best, the growth and flower being much finer than if grown in a cool-house. Much the same treatment is needed by the other two kinds named in this class, but both of these do with more heat all the year round than *M. vexillaria*. The following comprise the leading kinds:—

M. Anceps is a dwarf and pretty kind, producing its blossoms singly on the scapes, and these are olive-green and brown of varying shades, with purple markings on the outer segments, the lip being white, spotted and barred with red. It comes from Brazil, whence it was introduced in 1831, and is by no means a common species.

M. Canoga is a useful, free-flowering, and easily-grown kind, and in its best forms one of the handsomest of autumn-flowering Orchids. It bears long spikes of blossoms, eight or nine by

which, when ripe, are of a bright violet colour. Another desirable feature is that berries which ripen in the autumn often remain fresh till the spring. Cuttings root readily—indeed, it is, taken altogether, a plant of easy culture.—X.

INDOOR PLANTS.

GRASSES IN POTS.

WHERE pot plants are required for decoration throughout the year the object aimed at is, of course, to supply as great a variety as possible. Several of our hardy Grasses readily lend themselves to pot culture, and by their means some light and pleasing groups can be formed in the greenhouse during the summer months, added to which they are extremely useful. Being at their best during the summer just when the greenhouse is usually supplied with a great wealth of flowering plants, these Grasses serve to tone down any strong colour which often prevails at that season of the year. Where needed only for cutting from, the seed may be sown in the open ground during the showery weather of April, when it will soon germinate and grow away freely. In pots, however, these Grasses are most appreciated before the outdoor ones are sufficiently advanced to be effective. To ensure this, a good plan is to sow the seed from the middle of February to a corresponding period in March, according to the weather and other considerations, for should it be very cold and dull nothing is gained by sowing it then, as given bright, open weather it quickly germinates.

There are two methods of treating these Grasses in pots, one being to prick them off when large enough to handle, and the other to sow them in pots in which they are to flower. This latter plan is the better, the principal consideration being not to sow the seed too thickly, as when the plants are overcrowded much of their beauty is lost. Pots of any size may be used, but the most useful are those 5 inches or 6 inches in diameter, as they are handier than larger ones. A small amount of drainage, yet sufficient to be effectual, with a good holding soil suits the various Grasses. To accomplish this, one good crock in the bottom of the pot is enough, when the soil may be put in and pressed down fairly firmly, leaving in the case of those with minute seeds a space of about half an inch from the rim of the pot, and rather more for the larger ones. Loam lightened with a little decayed manure and sand will form a very suitable compost. The seed having been thinly sown and lightly covered, the pots may be placed in a cold frame and kept pretty close till germination takes place, which, with bright weather, will not be long. Plenty of air should be given to encourage as sturdily a growth as possible, but even then in most cases some slight support will be necessary for the plants as they grow up. The practice so popular with market growers for the support of many plants is to insert four sticks at equal distances apart around the edge of the pot, and pass a piece of stout thread or matting from one to the other, giving it a twist around each stick to hold all in position. If this be done directly the plants are tall enough, the foliage which is produced afterwards will hide both sticks and ties, while at the same time the plants will be prevented from falling about. As the pots get full of roots the plants must not be allowed to suffer from want of water, otherwise the foliage will soon get sickly.

Some of the best Grasses for this treatment are the dwarf-growing *Agrostis pulchella*, the taller, yet even more delicate, *A. nebulosa*, and both forms of the Quaker or Totter Grass (*Briza maxima* and *B. minor*). *Hordeum jubatum*, the long Barley-like awns of which are of a purplish tint when young, but when mature soon fall to pieces, will also be found useful. *Lagurus ovatus*, with its white downy heads supported on slender stalks, also does well in pots, and is very distinct from anything else, while to these may be added the loose-growing *Bromus briziformis*. Seeds of the above are readily obtained, and most seedsmen now keep a well assorted collection of ornamental Grasses, as many are available for sowing in the open ground that will succeed in pot culture.

NOTES AND REPLIES.

Hyacinths in pots.—I have some Hyacinths in pots, and I am keeping them in a dry, dark cupboard with silver-sand on top. They have pushed up above the soil. Please say how to treat them for the future!—WEEKLY READER.

[If your Hyacinths have well filled the pots with roots you may stand them in the window or on a greenhouse shelf. It would have been far better if you had plunged them in the open in Cocoa-fibre or coal ashes. They are probably very dry, and we fear the spikes will be very poor.]

Hyacinth culture.—Kindly give exact directions for culture of Hyacinths in pots. The gardener insists on keeping them buried under mountains of ashes till many inches high. I feel sure this is wrong.—H. C. WILSON.

[Your gardener is quite right. Hyacinths, after being potted, should be plunged in the open air in ashes, where they should remain until the pots have become well filled with roots, when they may be brought into the greenhouse as near the glass as possible. Unless well-rooted, failure is sure to follow, many people laying the blame on the seedsmen for such failure, while at the same time the fault lies in the treatment meted out to the bulbs after they have been potted.]

Unheated glasshouses v. severe frost.—In the southern counties, where the frost is generally less severe than in the midland and northern districts, of late years an enormous lot of unheated glasshouses has been erected, principally for the growth of *Toratoes* in summer, and in our ordinary winters forming a convenient shelter for *Chrysanthemums*, salads, and various other crops that need keeping dry rather than warm. We lately had some exceptionally severe frosts for the early part of December, with the result that the majority of the *Chrysanthemums* for the Christmas trade were spoilt. This will mean very serious loss to the class of small market gardeners who live on the outskirts of large towns. Unheated glasshouses are, in my opinion, of much more use in early spring for forwarding various crops than they are for really winter protection, for as soon as the sun's rays begin to make themselves felt, and the days to lengthen, you may plant or sow any crop with safety a month in advance of the open-air sowing. In the very shortest days the cold greenhouse is a delusion, for because the plants are under glass one is apt to think they are safe, but when the thermometer runs down rapidly in the open air one will find that its fellow in the unheated house is following pretty closely, and that a sheet of glass is but a poor protection in severe weather.—JAMES GROOM, *Gosport*.

Freesia refracta.—In growing this a mistake is often made in keeping the plants in too high a temperature, as the foliage becomes weak and Grass-like, and falls over unless supported—a remark which also applies to the flower stems. A good light position in a structure where a temperature of 45 degs. to 50 degs. is maintained will suit this *Freesia*, as under such conditions the growth will be sturdy and the foliage of good colour. Considerable numbers of bulbs are imported into this country, but it is not always the largest that give the best results, for the biggest I ever saw were grown in Bermuda, yet I could not succeed in flowering them in a satisfactory manner. Those from the South of France and the Channel Islands, as a rule, give good results. About eight bulbs in a 5-inch pot form effective specimens. As the pots get full of roots a little soot-water occasionally is of service. Carefully attended to in the matter of water after the flowering season, and given a good light position in the greenhouse, the bulbs will develop and ripen properly, so that they will flower again the following year. The golden-coloured *Freesia aurea* is, I see, for the first time offered for sale, but I have as yet seen no announcement of the delicate pink *Freesia Armstrongi*, which, though little known, has flowered in this country. Beautiful as they are, these last two are wanting in perfume.—T.

Winter flowers for personal wear.

—It follows, as a matter of course, that those desirous of having a supply of flowers for personal wear during the winter can only ensure a continuance by having access to a house properly heated. There are rare exceptions, like the *Hellebore*, which bears winter blossoms to be had out-of-doors in the

depth of winter under a handlight, but for a supply of blooms we must look to other things under glass. One of the most useful for making up into sprays, etc., is the *Bouvardia*. It is with me now in full beauty. There are, for instance, the double white *Alfred Neuner*, *President Garfield*, double pink, and singles like *President Cleveland*, red, and *Candidissima*, white. *Chrysanthemums* will naturally suggest themselves to the minds of many, and the later the varieties the more acceptable as the winter goes on—size of bloom is not aimed at, so much as neat blossoms for the coat. What neater for wear could one have than the sprays of *Chrysanthemum Snow-drop*, now so rarely seen? *Azaleas*, Roman *Hyacinths*, double *Primulas*, *Cyclamens*, *Heliotropes*, *Abutilons*, are all suited to the purpose mentioned, whilst *Roses* in pots on the roof will provide roany choice blooms as the spring wears on. The growing of the subjects mentioned to have flowers all winter entails more in the matter of preparation and providing for a succession than keeping the house up to a high temperature—indeed, it is rather the house where a uniform heat is found where winter blossoms are mostly found.—LEARNER.

Browallia elata for winter.—In the autumn and winter blue flowers are not too abundant, more especially for cutting. This plant, although only an annual, is a most useful blue-flowered plant to cut from. It is of the easiest culture and may be had in bloom the greater portion of the year, provided seed is sown at different times. It is very useful during the autumn and winter months. Last year I had it in bloom through the winter and till March in a warm greenhouse. When the plants are nicely grown they are useful for placing in vases. Any plant that can be grown quickly and that has such useful qualities should be better known. The best way is to sow a little seed in July. When strong enough, prick out the seedlings, putting three round a 3-inch pot. Place in a cold frame for a few days, after which remove them to a warm spot in the open air. When the pots are full of roots, pot into 4-inch, 6-inch, or 8-inch pots, as the case may be. They are then placed in a cold frame, and when the weather becomes too cold and damp removed to a greenhouse shelf, using every effort to keep them dwarf. Should a few be needed early, they are removed into a house with a temperature of 50 degs. by night. The plants should be pinched according to the size they are needed and time they are wanted in bloom. This *Browallia* is not particular as to soil. Loam, old *Mushroom* manure, and sand, two parts of loam to one of manure, adding sand enough to keep it open, grow it well.—H.

Bouvardias planted out.—“A. W.” note on *Bouvardia longiflora* in a recent issue of this paper is instructive. It shows that at least one variety can be made good use of in the open-air. Planting out can also be practised by those who do not care to be troubled with the labour involved by pot culture. Lifted carefully in early autumn and put into pots just large enough to contain the roots, they will bloom all through the late autumn and early winter months. When *Bouvardias* are grown in pots all through the season they must have skilful treatment and a lot of attention—more than most amateurs are able to give them; but planting out in suitable soil at the right time is sure to give good results. The best way is to set them out in frames, as in this way several weeks are gained, and one can make sure that the young growths are not checked by spring frosts. The soil should be nice and free, with a little well-rotted manure or some concentrated manure in it. If the plants have been wintered in a cool greenhouse they may be planted in April, keeping on the lights with free ventilation until the end of June, when they may be removed altogether, if so desired. In this way they will make a strong growth, and in a general way a much larger quantity of flowers will be produced than by pot culture. When lifted in the first week in September they should be put into pots just large enough to contain the roots, placing in a frame and keeping rather close until new roots are made. Watering carefully.—J. C. E.

GARDEN PESTS AND FRIENDS.

Plague of woodlice.—My Melon and Cucumber-houses are very much troubled with woodlice. The woodlice only appeared last year for the first time. They eat the roots of the Melon and Cucumber plants, and also get in at the bottom of the pots containing the Ferns and flowers and eat away at the roots. They have also eaten the flowers of Hyacinths just as the bloom was on the point of bursting out. The other week I had everything shifted, and burnt a good deal of sulphur in the two houses, which when closed up are almost hermetically sealed. This does not appear to have destroyed the pests. What is the (1) best way of getting rid of the woodlice, and (2) when they are got rid of what is the best way of keeping clear of them?—WINTERKENT.

[Woodlice are most injurious pests in Melon-houses. They very probably congregate in considerable numbers between the soil and the sides of the wall. If this be the case numbers may be killed by pouring boiling water over them, or many may be caught by laying pieces of slate, or tile, on the soil, as they are fond of hiding under such things during the day. These traps should be examined every morning and replaced as near as possible in the same position. Woodlice are such hard scaly things that no insecticide used as a wash will kill them. They may be poisoned

have no doubt done their share, though it has been a much smaller one. The best thing that you can do is to give the ground a heavy dressing of gas-lime, and fallow it as long as possible. I should not grow Cabbages, Turnips, or any plants of that description on the ground that an infested crop has been grown on, for at least two years.—G. S. S.]

Apple-tree unhealthy.—Herewith the head of a young standard Apple-tree (Gascolgne's Scarlet). I have cut off the side shoots, so as to facilitate sending by post. You will notice that the bark is coming away in flakes, as it were, and the tree is dead. I only planted it two years ago in my small Grass orchard. Can you inform me what disease it is suffering from, and how I can prevent the spreading of same any further, as three other trees are attacked in the same way? I discovered several small white maggots under the bark of the tree.—BLAIR WILLIAMS.

[The head of the Apple-tree that you sent was attacked by the grubs of the fruit-tree Bark beetle (*Scolytus rugulosus*), which was no doubt the cause of the death of the tree. This insect is very closely related to the *Scolytus* that at times does so much injury to Elm-trees, but it is considerably smaller, measuring not more than one-tenth of an inch in length, or about a third of the length of the Elm *Scolytus*.

FRUIT.

THE USE OF LIQUID-MANURES IN WINTER.

With overflowing tanks and heavy rainfall, many do not give a passing thought to the use of liquid-manures which may be charging the waste pipe instead of supplying fertility to the garden soil. During the winter months, where there are store tanks to receive drainings from the cow-yard, stable, or piggeries, these soon become filled with a liquid which may, or may not, have a value. At this season, while there is ample moisture in the soil, there is not so much need for diluting this clear water as in summer, because the actual presence of rain-water in the soil at once affords the necessary toning down of its strength, and consequently removes risk of danger to tree or plant roots. There are few gardens wherein is found all the necessary fertility of soil that is required for trees and crops. Fruit-tree roots penetrate to soil beyond the influence of surface tillage, and the older the tree, the greater is the area of



Miltonia vexillaria. (See page 633.)

by mixing phosphorus paste with Barley-meal. The mixture should be placed in small heaps on bits of tile or glass. It is said that pieces of Potato boiled in water with a little arsenic will poison them.]

Maggots in garden soil.—The soil of my garden has become infested with small white maggots, which have attacked the roots of all my Cabbages, Cauliflowers, Savoys, and Carrots, destroying the whole crop. Last spring the ground was fairly heavily manured with stable-manure. The subsoil is gravel and sand. The garden is in a somewhat exposed position and the climate mild and damp. I send you two Cauliflower roots showing the damage done by the maggots, and I should esteem it a great favour if you could advise me what treatment to pursue to cleanse the soil?—R. A. V. M.

[I was unable to find any maggots in the soil about the Cauliflower-roots that you sent. I examined them very carefully, and am not at all surprised that they did not do well, for they were badly clubbed, besides being attacked by the grubs of the "Turnip gall-weevil" (*Ceutorhynchus sulcicola*), which had formed galls on them, slugs, and one of the Poduridae or "springtails." This species, however, does not jump away when disturbed. These are little narrow insects about 1/4 of an inch in length. Perhaps it is these insects which you allude to as maggots? As far as I can judge it is the "club-root fungus" that has been the main cause of the mischief. The other pests

This insect does not bore much into the wood, but makes its galleries just between the wood and the bark. I was unable to find any of the beetles, but there were a good many grubs still in their tunnels. The most effective way of destroying this insect is by burning the infested trees, if they are in very bad condition, or cutting off and burning the affected parts. As the beetles are winged they can easily pass from one tree to another in an orchard, so that drastic measures should be at once taken to prevent the pest from spreading, and it is seldom that a tree, when once attacked, ever really recovers. In the majority of cases wood-boring insects only attack trees that are not in very vigorous growth, as a large amount of sap in the tissues of the tree kills them. It has been found useful to pare off the outer bark so as to induce a flow of sap to the bark, and at the same time to manure the tree so as to bring it into a healthy condition. In order to prevent any of the trees in your orchard, which are now free from this pest, from being attacked you should use every means in your power to keep them in perfect health, and in May and June, when the beetles are about, spray the stems and branches that are likely to be attacked with a green or paraffin emulsion.—G. S. S.]

roots placed beyond and out of reach of the annual surface manuring. To such trees a good soaking of sewerage of any kind once or twice during winter would be of infinite value, because by this action some manurial elements are supplied that cannot reach them by any other means. Young trees already over-luxuriant in leaf growth need no such help. It would be wasteful and injurious to give manures in such a case, but those trees which are regular in bearing, whether young or old, would be materially benefited by two or three soakings during the winter. Raspberries, Strawberries, Gooseberries, Currants, Apples, Peas, Apricots, Plums, Peaches, or, indeed, any fruit-tree or plant may have this liquid food given them to advantage. Strawberries are strictly surface-rooting plants, and soon absorb much of the manurial properties from the soil, and even young plants put out so late as the autumn of last year would be favourably influenced by this manure irrigation, though, necessarily, the older plantations should be the first to be so favoured. Nor are fruit-trees the only subjects for which this food is adapted. The Asparagus-bed will at once afford an instance where similar aid would be both welcome and advantageous. Only those who have had recourse to the lifting of

Asparagus roots of long standing know the great extent there is of hungry, feeding roots, and the depth to which they burrow in search of fresh food. It would be a boon, undoubtedly, to many an Asparagus-bed to have two or three soakings of any kind of liquid-manure in winter, and the sooner this is done the better, for the presence of water from the recent rains would assist the passage of the richer liquid to the roots below. There is also the question of evaporation that suggests itself, the difference between that of January and March or April being very marked—at least, when typical weather is experienced in these months. We have seen wonderful changes wrought in the growth of Spring Cabbages following the application of liquids of this kind.

In dealing with liquid-manures, it is well to remember the kind and to use discretion. We should not apply the drainings from stables undiluted to the roots of any surface crop, because the ammonia in stable liquids is very powerful. Injury more than good might follow such a course. In the case of Cabbages and Strawberries, for instance, the manure would be better poured from the spout of a water-pot down the centre of the lines, and not close up to the plants. From here it would gravitate laterally to the roots, and the more easily when there is ample moisture already present in the soil. From the cow-yard and piggeries the liquid has not the burning influence, but in every case it is better to use discretion and avoid extremes. I feel convinced that very many readers of GARDENING ILLUSTRATED refrain from using such valuable aids to successful gardening from the feeling that in winter watering of the soil would be a wasteful effort, and the valuable contents of the receiving tanks are allowed to feed and pollute the nearest stream or river, while they would be so much better filtered through the garden soil. My advice then is, where practicable, to at once avert this waste by applying it to the land. It matters not what crop it may be growing, any kind would be benefited; but where there is the greatest poverty or the demand is most pressing is where it is of most value. W. S.

MELONS.

TOWARDS the end of January is a good time to sow for an early crop where a temperature of 65 degs. to 70 degs. can be maintained during the night, advancing to 80 degs. with sun heat during bright days. Fibrous loam, with a little leaf-soil, forms a good compost for the reception of the seeds, which should be sown in 2½-inch pots, placing two seeds in each, pulling out the weaker plant before the rough leaf is produced. The soil should be made firm in the pots before the seeds are sown and afterwards plunged in a propagating pit or in a cutting box filled with Cocoa-nut-fibre and stood over the pipes with a couple of bricks to carry the box. Here no water will be required until the seeds have germinated, and then great care must be exercised in the matter or the little plants soon succumb. Keep them near the glass roof, as if they once get elongated—that is, drawn up spindly—they seldom ripen a good crop. In the meantime get the house thoroughly washed down—glass, woodwork, etc.—the walls whitewashed, and the beds which are to take the plants, whether in pots or planted out, emptied of the old material and refilled with freshly gathered leaves, which will be found to give quite enough bottom-heat where hot-water pipes run underneath, which should be the case for early crops. In lieu of such, about half the material may be stable litter, mixing both well a couple of times within 14 days before putting in, and treading the pits very firmly. The surface of the bed or pot should not be more than 2 feet from the glass roof. In case the house should not be ready by the time the plants are fit, repot into 5-inch, warming the soil first. Good holding loam, with a little bone-meal or wood-ashes, makes a good compost for the Melon, and this must be made very firm. Do not plant deep, not deeper than when in the small pot, but press the soil firmly around the ball of roots without disturbing the same, and do not apply water for a few days. If it is intended to carry up a single cordon, plant 20 inches asunder, or if two stems be chosen 30 inches will be none too much from plant to plant, and

these must be pinched at the second true leaf a week before or after planting out. No stopping of the main shoots should take place until within 6 inches of the allotted bead room, but the laterals or side shoots at the base may be stopped at the first leaf. These will push out others, and some show a female blossom which will be open about the same time as those on laterals further up the trolis, and should be fertilised at the same time, if possible—at any rate, not more than a day must intervene or the fruits will not swell away together. The plants should be syringed twice daily up to the time they show fruit, then discontinue until a set has been secured. When the fruits are swelling a fair amount of water at the root is necessary, keeping it away from the stem or canker will be the result. Weak guano water twice or thrice a week will prove beneficial, and do not over crop. Two to four fruits are ample for early crops, and these must be supported in good time with square pieces of board wired at each corner. EAST DEVON.

VALUE OF SEAWEED FOR FRUIT-TREES.

I SHOULD be glad if you would give me information on the two following questions:—1, Is seaweed a good manure for all garden produce and orchard?—2, What is the best method of dealing with and applying Seaweed?—L. W. BENNETT, Killeena, Co. Cork.

[Seaweed for various garden crops is seldom used so freely as it might be, especially by those whose gardens are situated near to the coast. Many, no doubt, in the midlands would be only too pleased to lay in a store for Asparagus and Seakale plantations, but the distance entails too much outlay for Seaweed to be used generally for such purposes, while others who can obtain large quantities for the mere cost of carting appear to ignore its value. Those who have not tried Seaweed in their orchards or fruit gardens would be surprised at the beneficial effect it has on the trees, especially Apples and Pears, whom, of course, it is used with care and moderation. This is particularly the case during dry seasons. My first impression—and it was not a slight one—was gained at Bembridge, Isle of Wight, on land reclaimed from the sea. The soil is undoubtedly to a great extent composed of thoroughly decayed Seaweed and sand, and the way all vegetation appears to thrive in it is marvellous; and it occurred to me that for light soils and for use during a very dry season Seaweed would undoubtedly prove more valuable as a mulch than any other material generally used for the purpose. Apart from any manurial properties it contains, it is, like salt, moisture-holding as well as feeding, the value and importance of which should not be ignored by those whose fruit-trees are growing in too porous soils and where the rainfall is light. I certainly never saw more healthy trees, or better samples of Apples, though, of course, the climate and situation are also very favourable for their production. I should not advise burying fresh Seaweed near to the roots of established trees or incorporating it with the soil in forming a new orchard or fruit garden, but frequent mulchings of the surface ground are, I am sure, a safe means of stimulating growth and sustaining the trees under the trying influence of a long drought. By this means it would gradually find its way into the lower stratum, and undoubtedly improve its staple.

These views were further strengthened when recently visiting a large garden in Sussex. In these gardens the outdoor culture both of Peaches and Nectarines is gone in for largely, the grand walls and mild climates proving very favourable to their well-doing. Some of the borders are on rather sharp slopes, causing rain to run off freely and the work of watering thoroughly somewhat difficult. For many years the gardener resorted to heavy mulchings of stable litter, not only round the trees themselves, but also all over the borders, which are usually cropped with something dwarf, such as French Beans, etc. The effect of this was that it not only formed a harbour for sparrows and other birds, but, what was worse, woodlice, earwigs, weevils, and beetles found it a safe lurking-place by day, while they made the softening fruit of Peaches and Nectarines on the walls their feeding-ground at night. Many fine fruits were therefore entirely spoiled before they were ripe, and had to be used in the

kitchen. No finer fruit could possibly be seen than on these walls at the time of my visit, large, bright, and without a speck, and, what is more, each fruit ripened perfectly without any damage by the pests named above. Seaweed was used in the place of stable-manure for mulching.

Seaweed varies considerably, some being far too coarse and heavy for the different purposes mentioned above, unless it has first had sufficient time for partial decomposition. Preference is given to that of a finer and lighter character, which when collected generally contains a fair amount of sand, making it more suitable in every way for use in the garden.—P.]

NOTES AND REPLIES.

Apple Franklin's Golden Pippin.—Though not very large, this Apple is generally much appreciated for its brisk aromatic flavour and on account of its yellowish-white flesh being always juicy and crisp eating. As many are no doubt aware, the colour of the fruits is deep golden-yellow, and the skin is irregularly dotted with small dark brown spots, but differing from Old Golden Pippin in being slightly larger and less conical in form. It is a first-rate dessert fruit, and the tree may be successfully grown either as a bush, pyramid, espalier, or orchard standard.—A. W.

Plums falling.—Three seasons ago I purchased a garden containing, with other things, two Plum-trees, not over large, and each season both have had a very heavy supply of blossom, which in turn set for Plums, but when the size of Beans they all fall off, with the result that only six Plums of two trees ripened. Can you suggest a remedy for this?—W. P.

[Yours is a case of too much root growth. The roots are probably too deep, and your best plan will be to lift the trees, cut back the strong roots, and replant nearer the surface, covering with a moderate thickness of short manure. October is the best month to do this, but having missed that month do so at once. Give the trees when replanting burnt garden refuse, some lime rubble, and turfy soil from a meadow—say a barrowload to each tree. Cover the soil with rich manure in May, and water freely when the fruit has set.]

Grapes cracking.—Will you please advise me how to treat my Grape-Vine, a round white Muscat? It is in a greenhouse facing S.S.E., with the roots outside. I believe the Vine is about 30 years old, but two years ago it was cut back, and now there is nothing but new wood on the Vine. It always bears a good quantity of Grapes, and the bunches are well formed; but when nearly ripe the fruit cracks, and then goes mouldy. The house is not artificially heated, and there is plenty of ventilation—a door at either end, front lights, and three top lights—A. K. C.

[Extremes either of atmospheric or root moisture are common causes of Grapes cracking, brought about by irregular ventilating or a heavy watering when the border has been allowed to get dry previously. White Grapes are much given to this failing, some kinds more than others, due, perhaps, somewhat to the thinness of their skins. They can, however, be successfully produced without the trouble complained of provided the requisite treatment is given. At the time of ripening many good gardeners make a point of never closing the roof ventilators quite close, but leave sufficient air on at all times to allow moist air to pass off. You are placed in some difficulty in not having a heating apparatus. This may not be needed in regular use; but should the season be wet and unless, like that of last year, there are periods when a little fire-heat keeps Grapes more safely. Possibly you have erred in thinking your crop safer with closed ventilators in doubtful weather. Should this have been your practice, then a remedy is easily devised. Even when it rains, if the ventilators are so constructed as to exclude rain, they are best left a little open, and on no account shut them down when there are sun and moisture enough in the house to cause excessive humidity to rise. In catchy weather it is most treacherous to close the house during the day; a sudden outburst of sunshine is sure to burst the Grape skins. The same rule applies to the border. Aim to keep up an even state of moisture, and never let it become dry. A heavy watering or a thunderstorm following a dry state of the soil ruptures any thin-skinned Grapes by reason of the undue expansion caused by a sudden rush

VEGETABLES.

BORECOLE OR KALE.

THERE are few more hardy and generally serviceable vegetables than Borecole or Kale. Room for one or several forms ought to be found in every well-managed garden, and if not actually considered a high-class vegetable, Kale cannot well be dispensed with. In very severe winters, Broccoli, Savoys, and not unfrequently Brussels Sprouts are badly injured by frosts, but it is not often the Borecoles are destroyed, some of the varieties being nearly as hardy as it is possible for a green succulent vegetable to be. Their culture and requirements are of the simplest character. As a rule, late in April or the first week in May is quite soon enough to sow the seed. If raised much earlier the plants become starved and leggy in the seed-beds, and such cannot reasonably be expected to do so well as the sturdier later raised batches. Naturally, the earlier the plants are established where they are to grow to their full size, the stronger and more productive they become. A few only are able to give a piece of ground wholly up to this crop, and the plants must therefore be either planted between rows of early Potatoes, or else be put out in close succession to these and any other early

been much injured by cold winds or frost, and is most valuable for affording a supply of succulent Greens after all the rest have run to seed. When Broccoli, Cabbage, and other Kales have been much cut up by frosts, a good breadth of the sturdy-growing Asparagus Kale is invaluable. I.

FORCING RHUBARB AND SEAKALE.

(REPLY TO "RHUBARB.")

As it is evident you want to force both Rhubarb and Seakale largely and for a long season, your first duty must be to secure good stocks of each. To that end, and with but at present a dozen roots of Rhubarb, you had better either buy in two or three dozen more roots and plant them at once on well-trenched and manured soil, 4 feet apart each way, or else lift your present roots, divide them into portions having each but one or two crowns, with some root attached to each, and plant those as before advised. Roots of Rhubarb for forcing should be large, from three to four years old, having some nine to twelve good crowns. After being forced these may be divided and replanted to increase the stock. To have plenty of roots it is needful to plant some every year, and so keep up a succession. To make up a forcing-bed, have the stable-

for forcing can be had in plenty by sowing seed in shallow drills 2 inches apart on trenched or well-manured soil in April, later thinning the plants out to 12 inches apart, and keeping them clean through the summer. In the winter, after all the leaves have decayed, the roots can be lifted carefully, all side ones hard trimmed off and put aside to make root cuttings for the following year's stock, then the roots laid in thickly into the ground ready for use as required.

NOTES AND REPLIES.

Coloriac failing.—I would like to know why my Coloriac has failed? The plants have been put 1 foot apart in sandy soil, which was previously manured, and once during the season watered with nitrate of soda in weak solution. The plants were abundant in leaf, but no roots. Those not watered with nitrate of soda were the same. —*HENRI FROEL.*

[The growth of Coloriac does not, as a rule, present much difficulty. February or March is the time for sowing the seeds in boxes or pans, choosing finely-sifted soil, mixed with decayed manure or leaf-mould to the extent of about one-third of its bulk. Prick out the seedlings as they become sufficiently advanced in a warm-house or pit into other boxes not more than 2½ inches deep, over the bottoms of which are spread leaves or Mushroom-bed-manure for drainage. Similar soil to that used for sowing is advised for pricking out, and moisture should be afforded as often as necessary, bearing in mind that dryness at the root is inimical to the progress of this vegetable at any stage of its growth. For planting in the garden, choose either ground deeply dug and well manured or dig shallow trenches about a spade's depth and place a layer of good manure at the bottom, filling them in nearly, but not quite, to the top with soil. This depression will allow of watering being carried out easily in summer-time. If planted on dug ground, only just draw a deep drill with the hoe to plant in; this also will leave space for watering. Unlike Celery, it requires no earthing up. Liquid-manure, given when well established, is beneficial.]

Manuring a shallow soil.—Having a very dry, shallow, sandy soil, only a few inches in depth, I have just "bastard trenched" a part for vegetables, turning out the top spit, stirring the subsoil (sand), and laying a heavy thickness of green cow-manure on that, and the top soil above it. As there are only a few inches of soil above the manure, I am anxious to know what vegetables would be the most likely to succeed under the circumstances? I suppose it will be too gross for some, and as there is not much ground, I wish what is put in to succeed. It is a somewhat bleak and windy place. So far, I have decided on French Beans, Leeks, perhaps Onions, Parsley, Beet (Celery and Lettuce are otherwise provided for), and Potatoes. Peas are not desired. Your advice in *GARDENING ILLUSTRATED* will much oblige, also whether next winter I would be justified in double trenching it, though the subsoil is so poor? —*DUMBY.*

[It would have been better could you have buried your heavy dressing of cow-manure deeper than just a few inches under the surface. No doubt crops will, up to a certain stage, once the roots penetrate into the manure, grow rapidly and perhaps grossly, but they will soon be checkmated, should the weather prove dry, by heat and drought. Had you forked in and mixed the dressing of manure with the lower or subsoil, so as to have buried it deeper, poor as that soil may be, the roots would have gone down in search of the manure, and they would have withstood drought so much the longer. You will, however, be justified in having any garden crops on the ground, those named, also Cabbages, Turnips, Winter Greens, etc., but how they may thrive will chiefly depend on the nature of the season, whether it be dry or moist. Next winter bastard trench it 20 inches deep, and work a good dressing of manure into the bottom or subsoil in the process. Also later fork into the top soil a dressing of well-decayed manure. Then it will carry good crops.]

Parsley.—Where the supply is getting short, a little seed should be sown in a box of light soil and placed in a temperature of 50 degs. As soon as germinated, place near the glass, and when fit to handle transfer to other boxes 2 inches apart, and gradually inure to colder quarters, eventually planting out towards the end of March, taking care of the tap-like root. Old crowns may be lifted and potted up, and, if placed in a vinery or Peach-house just closed, and lightly syringed once or twice daily, new growth will soon push up. Frost does not appear to eat up Parsley so



True Scotch Kale.

vegetables. Breadths planted as late as the end of August will sometimes attain a serviceable size, especially when the autumn is comparatively warm, and therefore favourable to late growth. They pay well for having moderately rich ground and good room, the produce of plants growing on poor soil being light and also poor in quality.

SCOTCH OR CURLED KALE is, perhaps, the most popular variety in cultivation, more plants of this being grown probably than of all the rest put together. There may be others more hardy and productive, but in point of quality all are inferior to it. There are very finely curled forms of both the tall and dwarf Scotch Kale, and as far as productiveness, hardiness, and quality are concerned, there is not much to choose between them, all producing good greens after the heart has been cut.

READ'S IMPROVED HEARTING is a decided advance upon the ordinary forms, this producing a heart almost equal to a Savoy Cabbage, and milder in flavour and more tender when cooked. Unfortunately, the hearts when fully grown are not so hardy as desirable, and these ought, in consequence, to be protected in some way whenever a severe frost is anticipated. It is not advisable to lift and store this Kale, as a serviceable crop of side shoots is produced in the spring.

ASPARAGUS KALE has never in my experience

manure put into a large heap, turn it weekly some three or four times to prevent fermentation, moistening it as it shows signs of becoming dry. Then make up a bed in any shed where there is room. A bed 5 feet by 8 feet, and when well trodden 18 inches deep, should give ample room for twelve to fifteen large roots at a time. Put a layer of 2 inches of soil on the manure, then place the roots close together, fill in with soil, water, and cover up to keep dark with mats fixed 2 feet above the crowns. During the winter, to keep up a supply, three or four such beds may be needful. If all this is too much labour, then place tubs without bottoms over the Rhubarb roots outdoors, use movable tops, and coat the tubs all round thickly with warm manure. That helps to bring on growth fairly early. Rhubarb plants can be raised from seed sown in shallow drills in April, but purchased roots of Champagne are best.

Seakale has to be forced on beds in the same way, but smaller ones, as the roots can be atood in the beds 3 inches apart. As Seakale to be edible must be fully blanched, it is essential that the growths from the crowns, which soon follow when thus forced, be quite in the dark. Close covered cupboards or beds with wooden sides, 12 inches higher than the crowns, and covered with a dense, close cover of some sort can be put to exclude light, are essential. Seakale

badly as cold, piercing winds; therefore, when planting to withstand the winter, choose a warm, sheltered corner for at least part of the crop.—J. M. B.

GARDEN WORK.

Conservatory.—We have still a few blooms of late-flowering Chrysanthemums left, and very useful they are, especially for cutting. Cuttings are still being taken, though, of course, all the early cuttings are rooted. But this time, or even later, is time enough to take cuttings for decoration—in fact, cuttings for late-blooming and small pot work will be taken months hence. It is best to place them where they can get a little warmth. When the rooting lingers it has a weakening effect upon the plants. Where only a few plants are wanted, strike in small pots singly, but when grown in a wholesale way strike in shallow boxes in light sandy soil, and pot off as soon as rooted. Cuttings of the young shoots of Fuchsias, when 2 inches or 3 inches long, will strike quickly in bottom-heat now. Old plants should be pruned into shape, and placed in heat to start them into growth, and as soon as the young shoots are fairly started, shake out and repot, still keeping the plants in heat and using the syringe freely on fine days. Fuchsias planted out in the conservatory are very ornamental, if free-growing kinds are selected. They may be trained up the rafters or treated as pyramids or standards. For the most part the plants will have been pruned back now, and when they break, any shoots which show a tendency to run away and become robbers should be pinched, so that all the shoots may come away together and form a symmetrical head. More freedom may be permitted later. The Acacias, even in a cool-house, will now be in flower. A Drummondii, a dwarf species, is very effective now. After flowering, prune back more or less according to the condition of the plants. The first Coleus I remember was introduced many years ago under the generic name of Plectanthera. The latest are recent introductions from Central Africa, and are named Coleus thyrsoideus and C. Mahoni respectively. The former has blue flowers and will probably be found the more useful for the conservatory. They are not difficult to cultivate. Cuttings root easily in spring, and the same treatment which suits the winter-flowering Salvia will produce sturdy flowering plants of these new Coleuses. I anticipate there will be a large demand for them, as they bloom at a time when flowers are scarce. Arum Lilies coming into flower will benefit from frequent applications of liquid-manure. A good group of these will be a special feature now.

Stove.—Most people who grow Orchids will have a few in bloom now, including Cypripediums, Dendrobiums, Calanthes, and others which are not difficult to grow. The chief difficulty with inexperienced growers is the selection of the potting material, which should consist of the best fibrous peat and Sphagnum Moss, with fragments of charcoal, and in some instances dried flakes of cow-manure. The drainage also should be of the freest character. Special pots, pans, and boxes are made for Orchids, and these should be used for most of the species, though Cypripediums, Dendrobium nobile, and others of the terrestrial species do fairly well in ordinary pots when well drained and the potting material of a rough and fibrous nature. The season is at hand when the general collection of stove plants, especially the summer-flowering things such as Allamandas, etc., should be repotted. It is not advisable to use pots of too large a size, as if the drainage is right, liquid-manure may be used freely when the dower-buds appear. In dealing with plants now in large pots, some reduction of the bells may be made so that the plants may again go into the same sized pot, though this should either be new or thoroughly scrubbed out and made clean and sweet. Fine-leaved plants, such as Antirrhinums, Marantas, etc., may now be repotted, and if an increase of stock is required the root-crowns may be divided. In the Eucharis Lilies require repotting this is a suitable time, though so long as the bulb have room in the pot to grow there is no need

for it, as by a free use of liquid-manure the bulbs will flower very freely when potted. The same treatment will suit Clivias or Himantophyllums, which are usually brought forward in the cool stove till flower-spikes appear, and then moved to the conservatory. Night temperature 60 degs. or a little more. Air to be given at 75 degs. to 80 degs.

Cucumbers.—Plants which have been in bearing most of the winter will require very careful management now, especially as regards freedom from insects and mildew. Green-fly can easily be kept under by using the vaporiser occasionally. Red-spider should never be permitted to enter the Cucumber-house, and, if there, may be got rid of by using more moisture in the atmosphere and damping down with guano-water or liquid-manure in some other form. Of course, whatever is used should be very weak, as a strong dose of ammonia might injure the foliage. Another matter which demands attention now is the necessity for frequent light top-dressing of warm, rich soil. There must, of course, be a comfortable bottom-heat, and for the present, at least, very little ventilation will be required, as no glasshouse is altogether airtight. New houses may be planted in succession, and those who grow their Cucumbers on hot-beds in frames may now make up their beds, beginning first, unless there is a spare propagating-house, with a bed for raising the plants.

Disbudding early Peaches.—As soon as the fruit is set and swelling the regulation and thinning of the young wood will require attention. This is best done in a tentative manner, so that no check may be given. When this work is done there should be one shoot near the base of each bearing shoot, and to each of the latter a leader must be left, though this may be stopped later in the season if necessary to avoid over-crowding, but the shoot near the base is the really important one, and should be trained in unstopped. Some of the young fruits may be taken off when crowded, especially from the underside of the branches, but the time for the final thinning is not yet. Maintain a general atmosphere in the house, either by syringing or damping borders and paths. Liquid-manure may be given with the chill off when the borders are dry.

Window gardening.—Watering is the most important work at this season. The days are lengthening, and plants in pots will require more water, especially where the plants have plenty of roots. Genistas, being full of roots, may have a little weak liquid-manure occasionally. One reason why these plants often fail in a room is, they do not get sufficient nourishment, and the flowers drop off and the leaves lose colour. The same thing occurs with Heaths and Acacias, though the latter are not difficult to manage.

Outdoor garden.—Now that the frost has left for the time being, all recently planted things, especially small things, should be gone over and the soil made firm round the collars. It will, of course, be better to wait till the surface is getting dry before treading on the land, especially if the soil is of a heavy, adhesive nature. With mild weather very often come the snails and slugs, and they have a way of secreting themselves just under the soil round the collar of such things as Pyrethrums, Phloxes, etc., and they generally are more troublesome among the choicer, delicate varieties. The best protection in the case of individual plants is a circle of ashes placed round early in the autumn before the snails take up their quarters to wait for the starting of the young shoots. Where Tea Roses or other tender plants have been sheltered by a small mound of dry earth, ashes, or Cocoa-nut-fibre, the frost has done no harm. All kinds of planting may be done and works of improvement carried out. There is much to interest one in making alterations, especially in creating new features. Every man, whether owner or gardener, has some kind of desire to leave his mark upon the place which has given him shelter and employment for a number of years, and there is plenty of work to be done.

Fruit garden.—Any Peaches not yet pruned and washed should have attention. Do not crowd the branches. A healthy tree will

always, in an average season, set more fruits than can be left to ripen, and if the bearing branches are trained at an average distance of 6 inches, there will be plenty of fruits to take off, and, what is of equal importance, there will be ample space to train in the young wood that will bear the next year's crops. There are two evils the Peach grower must guard against, and these are—leaving on too much wood, and permitting the green-fly to get established among the foliage before taking measures for their destruction. The best and cheapest remedy for green or black-fly on Peaches outside is Tobeco-powder. Under glass the vaporiser can be used, and this makes short work of all kinds of aphides. The pruning of Nuts and Filberts is generally left till after the male and female blossoms appear, for the purpose of leaving the catkins or male blossoms for fertilisation. Nuts are generally pruned so as to leave the centre open and surrounded with feathery spray, which bears freely. All suckers are removed from main stems. It is too early yet to altogether uncover Figs on walls, but the covering may be thinned to let the air circulate freely. Keep up a succession of forced Strawberries by introducing relays of plants.

Vegetable garden.—The sowing of early crops on the warm south border will be seasonable any time now when the soil is in a workable condition, but I have no sympathy with those who have fixed days for sowing any particular crop. At the same time those who take advantage of the weather will find suitable opportunities to sow the various crops, so that they may come in at their time. Prepare the ground for Onions, so that they may go in towards the end of the month or early in March. Many of the best grown sow at least a part of the crop in boxes under glass and plant out early in April. Early Peas and Beans are also started in several ways under glass to supplement the crops sown outside to make things sure. Cauliflowers, Leeks, and Brussels Sprouts should also be started in a small measure under glass, the Cauliflowers in heat, and the others cooler to come on steadily. Hot-beds may be made up for Cucumbers and Melons any time now. Cabbage plants and Lettuces standing in the seed-beds may be set out to succeed those planted in autumn. The manure that was wheeled on the land during the frost may now be dug or trenched in, though, as far as possible, trenching should be done in autumn or early in the winter to give time for the weather to act upon it, and for consolidation. E. HOBDAK.

THE COMING WEEK'S WORK

Extracts from a Garden Diary.

February 20th.—Sowed Cauliflowers in heat. After a mild winter the early autumn sown plants, or some of them, may bolt prematurely, but these spring raised plants if grown on unchecked always do well. Finished washing and training Peaches on walls. The crop is taken from young wood only, not spurs, and this is trained at rather wide intervals to leave plenty of room for the young wood of the present season. Strong ripe shoots have been collected and laid now on north aspect to be ready for grafting.

February 10th.—Cuttings of various plants are being taken and propagated in heat. All plants from which cuttings are taken have been warmed up a little to ensure fresh young shoots for cuttings. Sowed early Long-pod Beans outside, also more early Peas, including Gredus, which does well with us. Both Peas and Beans are to a limited extent started under glass, as no means of securing an early crop must be neglected. Mustard and Cress are sown regularly in heat.

February 11th.—As fast as Asparagus is cleared from the forcing beds a few inches of good loam are mixed with the lighter soil in the frames, and Potatoes which have been already started are planted. In one frame Lettuces have been sown. These will be thinned out, and some transplanted elsewhere. To my mind there is no Lettuce equal to a frame-grown Lettuce in the early spring. Abundance of ventilation will be given when needed. Begonia tubera which have been packed in Cocoa-fibre have been started in heat.

February 12th.—More cuttings of Chrysanthemums are being put in; of course, most of the cuttings required to produce big flowers are rooted, but the number of these has been reduced, and more attention will be given to moderate-sized blossoms, and there is time enough for cuttings of these yet. March is soon enough for late kinds. Peaches under glass, where the Peaches are set, have been gone over and a few young shoots thinned, and badly placed fruits removed. Syringe is used freely now on fine days.

February 13th.—Planted a warm-pit with No 1 Plus Ultra French Beans to succeed those coming on in houses. Strawberries in blossom are looked over daily, using a rabbit's-tail to fertilize the blossoms until enough are set and swelling for a crop, and then all small fruit and late blossoms are removed. A little stick is placed to support each cluster of fruits to keep them off the soil and away from the taints of any liquid-manure which may be used. Sowed more Cucumber and Malon-seed.

February 14th.—Moved Onions raised in boxes to cool-frame to harden. More Rhubarb and Seakale have been moved to Mushroom-house. Early Rhubarb is now moving outside under tubs and pots without heat other than that obtained from the sun. A new plantation of Rhubarb has been made to obtain roots in due time for forcing. A piece of land has been got ready for planting Seakale cuttings or thongs taken from crowns lifted for forcing, and which have been laid in sand and are now forcing crowns.

POULTRY.

The Indian Runner Duck.—Where a free range can be had, this Duck is unequalled as an egg producer. Commencing to lay at an early age (between five and six months), it continues regularly right through the autumn and winter, even during the coldest weather. Being particularly hardy, both the ducklings and the mature birds thrive wherever they have their liberty; in confinement, however, they do not succeed. This species will obtain the greater part of its living, being an excellent forager, roaming about all day in search of worms and slugs. The young ones get their adult plumage at about six weeks of age, and mature so quickly that they are ready for table at about eight weeks. This is not a large Duck, but, being small in bone, has plenty of meat on the breast, and the flesh is of fine flavour. The eggs of this bird are large, considering its size. Pure bred Indian Runners have a long neck; the head bronzy-green, with a narrow line of white encircling the base of the beak at its junction with the head; shoulder, back, and breast fawn, the upper part of the drake's breast being tinged with reddish-brown, while that of the female is dark brown, the feathers being edged with fawn. The wings are white, the legs orange-red, and the beak dark green. When on the move this bird runs very fast, holds itself very upright, and has not the waddle so characteristic of most waterfowl.—(J. S. S.)

BIRDS.

BREEDING FOREIGN BIRDS.

(REPLY TO "QUERIST.")

BUDGERIGARS are, perhaps, the most satisfactory kind of foreign birds to breed in confinement, being very hardy and always doing well in an outdoor aviary. They are natives of South Australia, and belong to the Parrot family, but are quite small, the body not being really much larger than that of a Canary, although its long tail gives it quite a different appearance. The plumage is bright green, the back and wings being marked with dark, undulating lines, the fore part of the head light yellow, while the naked skin about the beak is sky-blue in the male and cream colour in the female, excepting at nesting time, when it assumes a brown tint. They do not usually commence breeding till August—that is, after they have moulted, and frequently continue to rear broods till quite into December. The eggs vary in number up to eight or nine, and are hatched in about sixteen days but in succession, as the hen sits on the

time of laying the first egg. Oats and soaked bread are added to the usual diet when there are young ones to be reared, the ordinary food for the adult birds being Canary-seed and Millet. These birds require no hiding materials, but will readily take to a Cocoa-nut husk in which to lay and rear their young if provided for them, being suspended or placed in a snug corner with the aperture at one end turned towards the light. A very free breeder in the aviary is the Orange-cheeked Waxbill, a charming little bird, its general colour being brown on the upper parts, and greyish-white underneath, the feathers on the rump are red, and the tail nearly black, while a reddish-orange patch surrounds the eye; the legs and feet of a flesh tint. The nest is readily constructed in the nearest available receptacle, be it a nest box, small cage, Cocoa-nut husk, or shrub. The young are reared upon ants'-eggs, and the old birds subsist for the most part on Millet. The pretty Zebra Finch with its purple-spotted sides, chestnut-coloured ear-patches, and coral-red beak, also breeds very freely in confinement, producing three or four broods in the season. Another free breeder in the aviary is the Java Sparrow. It produces two or three broods during the breeding season, and the young are reared upon fresh bread-and-milk and ants'-eggs, the diet of the old birds being Millet and Canary-seed. There are two varieties of this species—the leaden-blue and the white. Cardinals are satisfactory aviary birds and breed freely, but should be allowed the whole of the aviary to themselves, as they are very quarrelsome during the breeding season, and any companions in the aviary weaker than themselves are liable to be very much persecuted. The Cardinal rears two broods in the season, the young varying from three to five in number, and are easily reared on ants'-eggs and insects of any kind, but require a great quantity of food. It is well to furnish the aviary containing these birds with two or three pot shrubs, such as Box or Fir, as in these they will construct their nests. The food of the adult birds should consist of Millet and Canary-seed in addition to insects, ants'-eggs, and ripe fruit. S. S. G.

LAW AND CUSTOM.

A gardener's contract (K. C.).—You were engaged as gardener at 2s. a week, but your wages have since been raised to 2s. a week. No house was provided by your employer and you rented a house from a third party. Your employer has now purchased a house for his gardener, and the purchase was completed on Saturday, January 3rd. The same day he told you to move into the house on Monday the 5th, but it seems that you have not yet moved. You say you shall not be able to move for some time "because the tenant who is in the house has six weeks' notice." I do not exactly know what this expression means, but if it means that the present tenant of the house your master has purchased is under notice to quit, but that the notice will not expire for six weeks, it is clear that you cannot remove into the house until the tenant goes out. And no matter whether he is under notice or not, you cannot be compelled to attempt to enter until he has gone out. It is no part of your business to get him out—that is your master's affair. You say that there is an agreement that your wages shall be reduced to 1l per week, and that you are to have the house rent free, and that although you have not yet got possession, your master has stopped 4s. a week, and has paid only 2s. a week. But he cannot do this, and until such time as he can give you possession he must pay you 2s. a week. He may, of course, give you notice to determine your service, and on its expiration you and he may enter into a new contract on any terms agreed upon; but until he can give you possession of the house, or until he determines the existing contract by proper notice, he must continue to pay 2s. a week. There is a further matter which may be of importance: your master must allow you time to determine the tenancy of the house you occupy if he did not give you sufficient notice before January 3rd. I do not know what previous intimation you have had, but until such time as you are displaced as would be necessary for

the determination of your own tenancy by a notice given for that purpose as soon as you received the intimation from your employer, no deduction from your wages can be made. But, of course, if your employer has given you notice to determine your service, and that notice has expired, or if you and he have entered into a new agreement, the preceding answer does not apply.—K. C. T.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in *Gardening Illustrated* free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of *Gardening Illustrated*, 17, Pall Mall, London, E.C. Letters on business should be sent to the Publishers. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate leaf of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as *Gardening Illustrated* has to be sent to press some time in advance of date, queries cannot always be replied to in the terms immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trying that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Removing paint from glass (East Hilywell).—You can remove this either with a cloth dipped in turpentine and rubbed over the paint or with strong pearlash, such as is used for cleaning printing type. If turpentine is used the glass will need cleaning afterwards with water in which a little washing soda has been dissolved.

Pot Roses not flowering (Chester).—It is possible the growths are what is known as "blind"—that is, they will not blossom until succeeded by another growth. But it is rather early to say for certain that the present young growths are flowerless. You must not prune them just yet—wait until the young wood has become firm. When you observe the topmost eyes or buds commence to start out into growth, and no flower-buds appear, then will be a good time to cut back the shoots, say to about 9 inches from their base. Do not replot again until the summer-time.

Roses from cuttings (Roma White).—If you have such a thing as a frame or bed of leaves where a gentle heat can be maintained, the cuttings could be potted in March into small 60 pots and plunged in Coolin Glass-house refuse in such a frame. Some of the cuttings may only have the white wax-like substance at base, which is termed "callus," and from which roots eventually appear. This gentle bottom-heat would be of great assistance to such. A slight syringing over each fine day would be of much help to the plants, but water at the roots must be very carefully applied, and when it is given it should be made lukewarm. The plants could be planted out from the pots in May or June.

Carnation spot (Mabel Hilywell and Lady L. Egerton).—Your Carnations have been attacked by what is known as "spot" due to a fungible soil or overcropping. This latter being evidently the cause in the case of your plants. No cure has as yet been found for it. Cut off all the diseased leaves and burn them; in fact, we should not hesitate to pull up such plants as the ones you send and at once burn it. Growing the plants for two years in one place is a mistake, as Carnations ought to be fresh ground every year, or, at all events, the soil be renewed before replanting. The spot is always worst in a wet, cold season, and the Old Clove is very liable to its attacks.

Growing plants (A. B.).—Almost impossible to answer in a satisfactory manner, and your better way would be to get some practical gardener to see your plants and advise thereon. With regard to the watering, the plants should not only be watered when they require it, and then enough must be given to thoroughly wet the ball of earth. On no account must any water be allowed to stand in the saucer, as this keeps the soil in a sodden condition. Let the plants have as much light as possible. Potting is best done in the spring. Soil composed of equal parts of good loam and leaf-mould, with a quart of a part of sand, will suit all the plants you mention. Cut off all withered leaves and dead shoots. No fertilizer of any kind should be used unless the roots of the plants are in a healthy condition, and yours are scarcely likely to be in that state.

Manuring garden ground (W. K.).—Common Buck is a poor manure, and seaweed, if half-decayed, is a fair manure. But in using these things it is wisest to mix them in a heap, turning them two or three times at intervals of a month, and at each turning adding a good amount of soot. At the final turning, which should be a couple of weeks before using, add to each cartload 12 lb. of bone flour (phosphate) and the same of kainit (potash). If that be well mixed with the heap when finally turned it rapidly incorporates with it, and then the whole may be dressed on the ground at the rate of a cartload to each 3 rods of ground. But where artificial manure alone is used, especially in flower borders, the proportion of 8 lb. of the two manures named, forked in and at once, is not too much. But with that give 5 lb. of nitrate of soda per rod in the spring—say, end of May or in June. Plants cannot walk take up more than a certain proportion of manure, the rest being so far waste. Give the ground a good dressing of stable manure once in three years if you

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Table listing various plants and their prices, including Gaillardia grandiflora, Coreopsis grandiflora, and others.

Names of plants. A Subscriber. Kindly send your specimens with numbers affixed to each, otherwise it is impossible to distinguish them. Catalogues received. W. Walters, 10, Water Lane, Ct. Tower street, E.C. Catalogue of Lath, Roller Blinds, etc. Dobie and Mason, Manchester. Vegetable and Flower Seeds. W. G. Mountain, Bulb Grower, Constantinople. Trade Office of Galanthus, etc. I. Goody, Bulchamp Paul, Clare, Suffolk. Latest seedling.

MRS. P. M. DELPH HOUSE, PETERBOROUGH.

Cleaning weedy lawn ground (Myrrhis).—As you say it is not possible to lay your proposed lawn ground mowed and the crop on it dug in with the manure deeply, your only course to fit the ground to receive Grass seed. In April—which was, we believe, the purpose of your original question—is to have all the weeds now on it pulled or hoed, then cleared off, and the surface just pointed a couple of inches to break it well and fine, leaving it fallow, when any surface weed seeds will soon germinate. When growth has resulted have all hoed over and the weeds removed, then re-hoe as deep as possible again, and at once sow Grass seed. That should be done end of April. If with that you sow, at the rate of 2 lb. per rod, finely crushed sulphate of ammonia, obtained from the gas works, the Grass growth should be very quick, and no doubt then would smother any weeds that might grow later. It is unfortunate that your ground is so foul with weeds, and turning would in your case be the safer mode of forming a lawn.

Plants for rock garden (K. P.).—Quite a large number of plants of the free-growing sort are not at all fastidious, such, for instance, as the whole family of Aubrietias, a large number of the dwarf Campanulas, a variety of Gentiana, while such as G. scutellipidea and G. Andrewsii prefer a moister place and some shade also. You could, however, make a feature of Sempervivum, Sedums, Saxifrage of several sections, the dwarf Irises, such as pumila, nudicaulis, obtensis, stylosa, and a few of the bulbous Irises, which cannot now be planted, as the season is too far advanced. Other suitable things may be found in the dwarf Phloxes, the alpine Pinks, alpine Poppies and Polygona, Megacaea, Arnebia, Thymus, Iberis, Tropaeolum polyphyllum, Arenarias, alba, Aster, Geopharas, Anemones in variety, Adonis, a selection of hardy Opuntias, Helianthemums, Scillas, Chionodoxa, Snow-drops, Muscaris, and in the autumn will produce a fine effect in the early spring months. All this, however, depends upon the extent of the work, and of this we have no information.

Chrysanthemums Mrs. H. Weeks and R. Hooper Pearson as bush plants for late display (H. P. M. S.).—The former is a very late-flowering kind, while the latter is a mid-season or November-flowering variety. As you desire to make bushy plants, you should insert the cuttings without delay. As soon as the latter are rooted, pot them up and grow on with all possible vigour. When the young plants are some 6 inches to 8 inches in height, pinch out the point of each one, and grow on the strongest shoots. When these shoots attain a length of about 6 inches, they in turn should be pinched, and the operation repeated from time to time until the last pinching has been done. Pinch plants of Mrs. H. Weeks for the last time in the first week of July, and in the case of R. Hooper Pearson, the last pinching should be carried out about the third week of the same month. The plants should be grown on to the terminal buds, and when the latter develop retain one bud only on each shoot. This treatment should give you nice blossoms, on stout, erect footstalks. Do not hose the plants until the middle of October, or even later, should the weather be mild or free from frosts. With the advent of cold weather, place the plants under cover at once, keeping them cool until the buds begin to show colour. A genial temperature when the buds begin to unfold is most desirable, as this assists in the development of the blooms, and also prevents damping. At all times see that the house is adequately ventilated.

Climbers for arches (Rustic).—Vigorous climbing or rambling plants suitable to cover rustic arches and summer-houses are: Virginian Creeper, Celastrus scandens, the stronger growing Clematises, such as Flammula, montana, and Vitalba, Honeysuckles, Lycium barbarum, Cut-leaved Grape-Vine, Wisteria sinensis, Forsythia suspensa, white Jasmine, and above all some of the more vigorous and free-flowering climbing Roses.

A good hardy Apple (J. E.).—We fear that even the hardest of Apples will not do well in the position you propose to plant—150 yards from a brickyard on one side and 300 yards from a colliery on the other, and from both you get quantities of sulphurous smoke. It is a position that may well cause to suffer the hardest of trees. If, however, you determine to plant, you may select from three varieties—Walsbam Abbey Seedling, Newton Wonder, and Bramley's Seedling, all fine free-cropping kitchen Apples and ranking as distinctly hardy. The last is, however, a very strong grower, and on standard trees worked on the Crab stock, the class of tree we presume you propose to plant, is late coming into bearing. Probably you would do well to plant some of each of the two first named.

Japanese Wineberry and Logan Berry (Massachusetts).—Unfortunately, out of nurseries, not much is yet known of the habit and strength of the Logan Berry in this country. But being a Blackberry, we have naturally assumed that it needed the space usually allotted to the ordinary strong-growing Blackberries, such as the Parsley-leaved variety, for instance, one of the very best. The Japanese Wineberry is, we know, a strong grower, needing ample room. We should certainly plant these Brambles at equal distances apart, carrying the strongest growths after they have formed away on each side and the weaker ones upright. Otherwise, the fruit of the Logan Berry is large, rather long, and black. That of the Wineberry is very red, but rather small, sharp, and not suited for dessert. Really, it is more ornamental as a climber than it is useful as a fruit producer.

Manuring Asparagus beds (Blue Lias).—Yes, you may use chemical manures for your Asparagus-beds this season, as they had a dressing of farmyard manure last year. The following is a good mixture to take of superphosphate 5 lb.; kainit 1 lb. Mix both well together and apply at the rate of 1 lb. to the square yard next month. When the heads begin to appear apply nitrate of soda, or common salt—preferably that first named—at the rate of 2j oz. to square yard, and repeat the dose on two other occasions while the plants are in full growth during the summer months. Bone-meal would

not prove very beneficial, and the other manures named are superior to sulphate of ammonia for Asparagus.

Potato plant grafted on Tomato plant (J. C.).—When a few years ago Tomato plants were grafted on Potato plants grown in pots, it was found, although in a limited way, that whilst the Tomato tops produced Tomato fruits, the Potato roots produced Potatoes. On the other hand, Potato plants grafted on to Tomato plants only caused the Potato tops to produce green swellings, like small Potatoes, at the leaf joints, but there were no Potatoes. These experiments were made more from mere curiosity than from hope of securing any beneficial results. It was found that whilst the Tomato leaves could elaborate Potato-forming sap and pass it into the Potato plant stem below the union of graft, Potato leaves, whilst elaborating Potato-forming sap, could not pass it into the Tomato plant below the union or graft. The above experiment was conducted by Messrs. Sutton and Sons, Reading.

Fowl-manure for Onions (R. W. W.).—Fowl-manure should be well mixed with root and twice its own bulk of soil, be thrown into a heap, and turned two or three times to get it all well incorporated before the whole is dressed on the soil. Even then it should be deeply dug in, a month before seeds be sown or plants put out on to the soil. You should have sown your Onion seed for transplanting early in February and thinly, so that you could have strong plants fully 7 inches to 8 inches in height, with balls of soil attached, to pot out. Maggot would not injure those, especially if at once well mixed with soil. Good stable-manure, turned and well mixed and moistened with house sewage or slops two or three times to get it half decayed and sweet, then dug in a few weeks before sowing the seed is best for all crops. Course stuff should be buried deep down under the crops.

Cleaning and manuring garden (R. M.).—Your garden, so far as the soil is concerned, is about 20 rods. The usual dressing of guano would be about 6 lb. per rod. You could apply so much as that now and well dig it in, then give a dressing of half that quantity amongst the crops in June and hoe it in. You do not state what your sack of guano weighs. Before you apply the pig-manure, if you have not done so, turn it two or three times first, so that it sweetens it. Use soot with that freely. Use it thinly and bury it well down. You cannot too thoroughly cleanse the ground of the bindweed roots before cropping, and if any should grow later, then use the hoe freely, so as to keep down growths. If Turnip seed grow hoe and kill the plants. Guano should be used very sparingly with Cucumbers. A mere sprinkle over the roots once a month to be washed in when watering is enough.

SHORT REPLIES.

C. M. Dyer.—See article "Hardy flowering plants for shady positions" in our issue of Dec. 27, 1902, p. 565, which can be had of our publisher, post free, 1/4d. —A. B. Y.—I am keeping the house too close and warm, and also watering too freely. —B. P. M.—Do not on any account use the old rotten wood, as it will only breed fungus and cause no end of trouble. Try in your pond some of the better Water Lilies, which ought to do well. —Anonymous One.—We know of no such Clematis as you speak of. —D. M.—Any bookseller in your neighbourhood could get for you whatever books you require if you tell him what you want. —M. C.—See article in our issue of Feb. 22, 1902, "How to obtain an early supply of Sweet Peas." This can be had of the publisher, post free. —D. H. S.—Dullness ought to be planted out at the end of May, and must be given a start in a well-manured position. —G. E. E.—We know of no book such as you mention. —The best book on "Vines and Vine Culture," by A. F. Barrow, price 5s. 6d., post free. —A. S.—See reply to H. Brown in our issue of Jan. 31, re "Outdoor aviary." —K. A. R.—The only thing you can do is to keep the surface freely stirred and persevere with the soot and lime-dressing. —Enquirer.—Apply to Messrs. Jas. Carter and Co., 237, 243, High Holborn, W.C. —Notice.—You had better consult our pages, where such small houses as you want are advertised. —Magdala.—It might be done if great care is taken; but on the whole we would advise you to let it alone. —Arthur P. Cook.—You cannot do better than plant the best of the Tea-scented Roses, which bloom early and also continue to start till the season. —Rector.—We know of no book that will answer your purpose. It is at any time you are in doubt we are always ready to assist to the best of our ability. —Kent.—You had best consult our advertisement columns. —Your Currant-bushes are attacked by the Currant-mite. See our issue of Jan. 24, p. 618. —South Stafford.—1, Your best plan will be to leave a chink of air on the frame. 2, You should submit your thermometers to some maker of the same, who will verify the same for you. —W. S. Taylor.—Unless your soil is very heavy clay, coal-ashes are of no value. They only in such a case help to lighten the soil, and it would be far better to give a good dressing of lime. If, on the other hand, you soil is light apply a good dressing of cow-manure. —Celery.—1, See reply to A. Croft in our issue of Jan. 31, p. 628, re "Celery running to seed." 2, The soil was out at all suitable for Savoye, which requires a good stiff, loamy soil to do well. —3, Fill it with Tea Roses, with Tufted Fantaisie planted freely over the surface. —H. V. H.—Apply to Messrs. Dickson's Limited, Chester, or Anthony Waterer, Knaphill, Woking, Surrey. —A. Langton.—"Be Keeping, book of," by W. B. Webster, post free, 1s. 2d. L. Upcott Hill, 770, Strand, London. We shall always be pleased to help you when you are in doubt. —Staffordshire Knot.—You ought to plant Spiraea Aruncus, which flowers in June; S. Umaria blooming in August, and S. filipendula and its double form which flower in September. —J. C. Bloomfield.—Do you mean the indoor or the hardy Tradescantias?

NAMES OF PLANTS AND FRUITS.

Names of plants.—A Subscriber.—Kindly send your specimens with numbers affixed to each, otherwise it is impossible to distinguish them. Catalogues received.—W. Walters, 10, Water Lane, Ct. Tower street, E.C.—Catalogue of Lath, Roller Blinds, etc.—Dobie and Mason, Manchester.—Vegetable and Flower Seeds.—W. G. Mountain, Bulb Grower, Constantinople.—Trade Office of Galanthus, etc.—I. Goody, Bulchamp Paul, Clare, Suffolk.—Latest seedling.

GARDENING ILLUSTRATED.

No. 1,249.—Vol. XXIV.

Founded by W. Robinson, Author of "The English Flower Garden."

FEBRUARY 14, 1903.

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FRUIT.

THE VINERY IN WINTER.

By this date all leaves will have fallen from the Vines. This, then, is the time for pruning, which is best completed at the earliest date following the leaf-fall. Pruned early, there is time for the surface to dry and heal before the sap becomes active again in early spring. Late pruning brings a trouble in what is known as bleeding, because this once set up is most difficult to suppress. With Vines well-matured, and pruned as early as their state of rest allows, there is seldom any trouble from bleeding. As a preventive, many gardeners apply styptic or painter's knotting immediately after pruning. The pruning once completed, proceed to clean the rods by trimming off air-roots, loose bark, and dead spurs, but unless there lurk any Vine pests, such as mealy-bug, red-spider, or thrips in the bark, do not strip this off clean, as so many are disposed to do as a custom more often than necessity. When any of these insects have been in evidence during the summer—and particularly mealy-bug—then more drastic steps must be taken to clear them out. The removal of all loose bark is the first necessity, and then a dressing of an insecticide calculated to destroy it without injury to the rods. Whatever is used needs to be well and thoroughly rubbed in with a brush, being most careful that no injury is done to the dormant buds in the course of the work. It is necessary when insects have given trouble to first well clean the Vines, and then to deal with the house generally. Plants often are a means of introducing noxious insects, and where necessity compels the joint occupation by plants and Vines, some little effort should be made in winter to clear out their old haunts. Mealy-bug secretes itself in any possible crevice in the roof, plant-stages, walls, etc. Those having a hose or garden-engine, and a good force of water can do much good by applying hot or cold water with the strongest force possible. This will dislodge many. Previous to this all plants should be removed, so that they do not receive an overdose of water. They can be dealt with separately before being reintroduced. If the border be an inside one, one important detail is to remove a little of the surface soil, replacing it with fresh, preferably that obtained from decayed turf, cut and stacked in the past spring or summer. Add to this some lime rubble, burnt refuse, and a little horse-droppings, and, if possible, a coating of artificial Vine-manure. Ascertain whether the border contains sufficient moisture, and if not give a moderate soaking some time prior to the resterting of the vinery. In the case of old established Vines, and the border well occupied with roots, there is a gain in the application of liquid-manure derived from the stables, pigeries, or cow-yard. Soot is also good for Vines. Some canes, particularly young ones, are troublesome, starting irregularly in spring. This can be partially obviated by slinging

them to the roof wires and allowing the points of the rods to hang in such a manner that they almost touch the ground, or bending them round in hoop fashion, the object in every case being to check the sap from rushing to the extremities. Care is necessary in bending them that the inner bark does not get ruptured. Once the buds have burst and commenced growth tie the rods in their places, but in doing so allow ample space for swelling. W. S.

MANURING THE FRUIT GARDEN.

This does not meet with the attention it should do, for unless the soil possesses extraordinary fertility it is impossible for the trees and bushes to continue yielding heavy crops of fruit annually without assistance of some description. This is best afforded in the shape of well-rotted manure to Currants, Gooseberries, Raspberries, Apples on the Paradise and Doucin stocks, Pears, particularly those on the Quince, and to Cherries, no matter what the kind of stock may be. All of the foregoing may have a good dressing of manure to be dug in round about the roots in the case of Currants and Gooseberries, and to be spread and left on the surface in regard to Raspberries. Respecting Apples, Pears, and Cherries, it is always advisable to spread the manure to as wide a distance as the branches of the trees may extend, and then to lightly prick it in with a five-tined fork, just covering the manure and no more. Sometimes even this cannot be done owing to the great quantity of roots lying just under the surface of the soil. It would be the height of folly to disturb or injure these, therefore under such conditions it must suffice to place the manure on the surface, and to cast a little soil over it to hold it down, and to prevent birds from scratching it about. Wall Pear-trees, especially cordons, that are worked on the Quince, are always benefited by being attended to in this way yearly, and where the soil in the alley has become hard and exhausted through constant traffic it pays to remove the top 3 inches and replace with good loam and a fair percentage of wood-ashes and a little lime-rubble added to ensure porosity. If the trees need feeding, and the roots are within a few inches of the surface, this will give them the useful filp. The same kind of treatment will suit Plums, Morello and dessert Cherries, and in the last-named case do not neglect to add calcareous matter if a top-dressing of fresh compost in addition to the manure is required. Apricots and Peaches should always have a light dressing of lime-rubble spread on the alleys, even if fresh soil is not needed, for being such moisture-loving subjects during the summer months, it is requisite that water can sink in quickly, which it cannot do if the surface soil is of too heavy and close a nature. Advantage should be taken of frosty weather to get the manure wheeled on to the open ground and the alleys, and the proper quantity of compost should also be mixed in readiness for applying in the manner indicated above, as soon as the trees have received attention in the way of pruning, nailing, or tying, as the case may be. Should the weather

continue mild and there be no prospect of hard frost occurring, use planks, on which to wheel the manure and compost to where it is wanted rather than delay the work until late in the season, when there is a risk of its being done in an imperfect manner through other matters demanding attention at the same time. If lime-rubble or "scraps" cannot be obtained, bone-meal should be substituted for it, sprinkling enough of this on the surface of the ground to whiten it, and for fresh compost use a 7-inch potful to each barrow-load of soil. Wood-ashes or charred refuse is easily obtained by burning up prunings, road sweepings, vegetable refuse, etc. A. W.

DESSERT PLUMS AND GAGES AS CORDONS.

The introductory remarks are the subject of Pears as cordons appearing in a recent issue apply with equal force to dessert Plums and Gages, when grown on the same principle, as far as regards their suitability and usefulness for clothing walls to obtain greater variety where wall space is limited, also for planting to fill up blank spaces, either on walls or fences. But with regard to the question of soil, matters differ, as it does not pay to afford these cordon Plums the same rich compost that is required for Pears on the Quince, otherwise they will make nothing but rank growth, fail to bear, and disappoint the planter. In planting care must be taken to exclude animal manures, either in enriching the staple, if that is considered sufficiently good without further preparation, or in the mixing of a special compost, and to use bone-meal instead. A good compost for cordon Plums is two-thirds sound loam and the remaining third charred refuse, with a fair percentage of lime-rubble or scraps broken small added, using the latter rather liberally if the loam is heavy and retentive. The bone-meal may be used in the proportion of 1 cwt. to 1 ton of the prepared compost, and after this is added keep the mass well covered and secure from rain. It is also a good plan to prepare the compost some little time in advance, as a slight fermentation usually takes place when all the ingredients are mixed together. In such compost Plums make a much shorter-jointed growth and more medium-sized wood, consequently they come more quickly into bearing than when planted in soil containing richer constituents. Even when all this care is taken, it becomes necessary to lift and transplant some of the varieties to check their inclination to make gross growth. This lifting and the replanting of them at once in the same spot are so simple and can be done so expeditiously that it need not act as a deterrent to anyone desirous of cultivating choice Plums and Gages in this way, for, generally speaking, the one lifting suffices to throw them into a fruitful state, and they give no further trouble in this direction. One other matter before enumerating the best varieties to select from is the necessity to feed the trees when in full bearing. If this is neglected they soon become starved, make poor growth, and produce fruit of inferior quality.

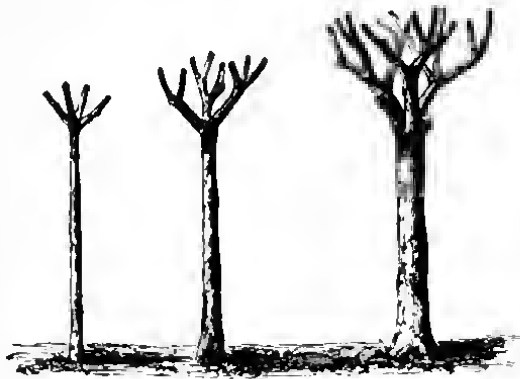
The stimulant may be applied in the form of a mulching of half-rotted manure, to be placed over the roots after the fruits begin to swell, as the condition and extent of the crop can then be more easily ascertained, and the risk of affording manure to trees carrying partial or no crops at all is obviated. Where liquid-mannre is plentiful it may be used with beneficial results, and the same with the artificially-compounded "fruit" manures, if used according to the directions which usually accompany them. Rivers' Early Prolific, Stunt, Oulih's Golden Gage, Denniston's Suporb, Belgian Purple, New Early Transparent Gage, Green Gage, Bryanston Gage, Comte d'Atthem's Gage, Bonne Bouche, Anna Spath, Angelina Bardett, Purple Gage, Boulouf, Jefferson, Roine Claude de Bay, Late Transparent Gage, Coe's Golden Drop, Lato Orange, and Primate are good varieties grown as cordons. Rivers' Early Prolific is included owing to its being the earliest of Plums to ripen, and when fully so is then very sweet and agreeably flavoured. Among the other varieties named will be found the choicest and richest flavoured Plums and Gages in cultivation. G. P.

SPRING FRUIT-TREE GRAFTING.

THERE are so many comparatively worthless trees growing in gardens and orchards all over the kingdom that it is to be deplored the drastic method of renovating them by means of grafting is not widely adopted. The process is far from difficult. It means the absence of any crops on the trees operated upon for two or three years, but when the work has been well done it later means a greater improvement in the bearing and quality of fruit on the trees as compared with what has been previously seen. Literally, myriads of trees can be through grafting made into new trees. Quite old trees in a state of semi-decay are of no value for this purpose. Better grub them out and burn them, replacing Apples and Peers with Plums. The trees that are much infested with American-blight, have gnarled stems, or seem to suffer much from canker, may also be best grubbed up and burned. But there would still be left so many clean, healthy trees that only need to be worked with superior varieties to render them profitable.

The first thing to do, if not previously done, should be to at once cut from the trees of the good varieties it is proposed to use as grafting scions, stout, strong young shoots, not taken from inner stem growths, but from branches well exposed to the light. These should vary in size from that of a man's finger or less, and be at least 12 inches long. Each variety should be tied into a bundle, be labelled, then have the bottom ends fixed into the ground 6 inches deep, and in a shaded place. There they will keep fresh and quiescent until after the sap has begun to move in the trees to be grafted. Grafts should be more or less stout, according to the breadth of the stems to be worked. Large limbs or stems some 4 inches broad will require three of the stoutest grafts each. Larger ones may require four grafts, and smaller ones but two. In beheading old trees it is far wiser always to cut back near to the top of the main stem, just above where the branches fork out from the stem, rather than to leave arms some 3 feet to 4 feet long, as is sometimes done, needing so many smaller grafts being inserted. Such working never results in the production of heads of the good, robust, massive kind that is seen when the grafting is done on stont, low cut stems. Where large limbs are worked with extra stout grafts, wedge grafting—that is, opening the bark of the stem wide 4 inches down, cutting out a small wedge-shaped piece of wood within the bark, making the base of the graft, which may be 7 inches long, wedge-shaped also, just to fit the cut, driving it into the position firmly, drawing the bark over it, and when the other grafts are inserted tying them

securely into place by means of lengths of raffia, or some other suitable material. Smaller grafts need only to have their bottom ends cut sloping or wedge-shaped to a length of from 4 inches to 5 inches, then the bark of the stock or limb to be grafted slit down so far with a sharp knife, the bark opened or removed from the wood just there by forcing into it a piece of pointed wood, the graft forced firmly into the place, then tied round securely. The old practice of placing some clay, which has been just mixed with one-third its bulk of beaten horse-droppings, mixed and kneaded over and about the graft to exclude air and rain is a good one, and should be done neatly. If in finishing off the claying the worker's hands be dipped once or twice into water, the smoothing off is very complete. That coating can remain until the swelling of the graft later breaks it up; then also the ties should be cut. But to prevent strong winds from blowing the grafts out, a stout stick should be tied to the main stem below the grafts, and to that the young shoots from the grafts be tied, as in that way injury is avoided. Grafting wax painted on whilst hot over the ties and wounds to exclude air and wet is also an effective protection. Grafting is, as a rule, done about the middle of April. In any case, the work should be done just as leaf-buds begin to swell, as then the sap is becoming active. Tree-heads to be finally removed may be hard cut back at once, leaving lengths of from 2 feet to 3 feet stems to be cut off clean without breaking the bark, just when the operation of grafting is to be performed. A. D.



Old fruit-trees cut down and ready for re-grafting.

NOTES AND REPLIES.

Peach-buds dropping.—I have a Peach-tree under my care. I am not quite certain as to variety—it may be Hale's Early. The fruit ripens in August. The tree, growing on a south wall, is healthy, makes very nice bearing wood and full of bloom-buds, which fall in the spring. I have followed the instructions given in GARDENING as to pruning, lime, manure, etc., etc. I have covered with netting. The bees worked the blossoms. I also used the rabbit-tail, and had eight Peaches for my trouble.—WORTHING.

[It is very probable that your Peach is one of the American varieties, which are very subject to bud dropping; or it may be that the border was too dry in the autumn, and the requisite moisture for the proper nourishment of the buds not being forthcoming in the spring the buds fail to properly develop, dropping off in scores when the trees again become active.]

Grape falling.—I should be glad if you would advise me as to the treatment of Vines? I have two Grape-Vines in a greenhouse about 18 feet square. They are planted in a bed outside about 12 feet by 9 feet, enclosed by a wall, the surface of the bed being about 2½ feet above the surrounding ground. The Vines are about 24 years old. They have never done well, and they have done worse still the last few years. The Grapes appear to be doing well until they begin to ripen, when a large portion of them shank or remain red and sour. The roof is shaded in very hot weather, and there are hot-water pipes which are used in severe weather only. I have sometimes thought the trouble was caused by dryness at the roots, but that could not have been the cause last summer, when the Grapes suffered more than usual. I notice that you sometimes recommend replanting. Would you advise it in this case, and if so, when?—EAST ANGLIAN.

[The fact of your Grapes doing well until the colouring stage is reached shows that it is a bad case of shanking, caused either through the roots having got out of control by descend-

ing into the cold subsoil, or in consequence of the soil in the border being sour and inert; most likely the former cause, according to your note. The best remedy for this is to lift the roots of the Vines and lay them out afresh in new, sweet compost, after clearing out all the old material and concreting the base of the border to prevent a recurrence of the evil. Seeing that lifting cannot be done until autumn, your best course would be to hasten the ripening of the Grapes this season, so that they may be cleared off the Vines not later than mid-September, and then lift the roots at once. As full directions for carrying out this operation would take up considerable space in this reply, an article dealing specially on this subject will appear in the columns of GARDENING shortly, wherein you will find very necessary detail treated upon. On the other hand, should you deem the Vines not worth the trouble of lifting, then we advise you to root them out and replant, and the present is an excellent time to do it. In this case no half-measures will suffice, and we strongly advise you to clear out the whole of the old border, and concrete the bottom if you find that has not been done. The total depth of the border, including the drainage, need not exceed 3 feet, so that you may fill up the bottom somewhat before concreting if the excavation when cleared out exceeds that depth. Provide an outlet at one corner—the lowest—to carry off water, and connect it with the nearest drain. The concrete floor should have a fall of 6 inches from back to front, and a drain should be laid along the front to conduct the water to the outlet already mentioned. This would not be required at present, as the border, which is best made up in sections, need not be wider than 3 feet the first year. The following year another strip or section may be added, and repeat this each year until the boundary wall is reached. On the concrete place clean drainage, 9 inches deep, consisting of broken bricks in two sizes, the largest or whole bats at the bottom, and the smaller, of similar size to road metal, on the top, and about 4 feet in width. On the place curves, Grass side downwards, or a thin layer of oaten straw, to prevent the compost from getting amongst and choking the drainage. You will not require a great quantity of compost to start with. The basis of this should be sand, calcareous loam, or, in other words, virgin loam, which is the top 3 inches cut from an old sheep-pasture or deer park. Put on one side sufficient whole turves for covering the drainage with, also to build up a wall to form the front of the border with, and to hold the body of compost in place. Then chop up the remainder, not too small, and to each cartload add ½ cwt. of bone-meal, ½ cwt. of ½-inch bones, one barrowload of wood-ashes, and the same of lime-rubble. Mix well together, and make up the border while the ingredients are dry, spreading the compost evenly as it is wheeled in, and consolidate it by treading, for the border can hardly be made too firm. Allow a week or ten days to elapse after the border is finished, and then plant the Vines, which should be what are termed planting canes.]

Apple-trees producing small fruit.—I should be extremely grateful if you would give me some advice as regards my Apple-trees. They are Blenheim Orange, King of Spain, Wellington, and Duchess's Favorite, and I few I do not know the name of. They bear a large quantity, as a rule, every year, but they are mostly small fruit. The trees are mostly 10 to 20 years old they tell me. The soil is clay. I read your answer to "H. H." in issue of December 13, and to "M. J." on December 27. Would this treatment be advisable? It would be a great expense to root-prune, as I only have a youth of 16 in the garden, who would not be able to tackle this by himself, as there are about 30 trees.—E. V. H.

[Your Apple-trees bearing such a quantity of fruit proves to us that they do not require root-pruning, and we think that the cause of the fruits being small arises either from the trees standing in need of a general thinning of the heads (branch pruning), or that they may have become impoverished through such constant fruit bearing and need feeding at the roots. If, then, the heads of the trees are crowded with wood or branches through which sunlight and air cannot penetrate, or but imperfectly, to the inner parts, the way to proceed is as follows: With a sharp saw begin by first taking out the dead and all branches and any portions of wood that cross and rub against each other, and which tend to block up

the centre of the trees. After this the remainder of the branches should be judiciously thinned, so that they stand clear of each other, retaining those which grow in an outward direction in preference to any that may be inclined to grow towards the centre, and when finished the heads should be just thin enough that both light and air can have free play in the interior of the trees—two most important factors in fruit culture. It is just possible that some of the branches retained may need shortening back somewhat to preserve an even balance of growth, and if this is necessary, cut to where a spur or young growth emanates from the branch. If the trees and varieties are mossy or covered with Lichen, spray them with alkali solution, or dust them well with equal quantities of freshly-slaked lime and soot when damp after rain, choosing a still day for applying it. On the other hand, should the pruning have had proper attention, and a root stimulant only be required, set about it in the following manner: First remove the soil round about the trees (to as far as the branches extend) carefully with a fork, until a good few roots are met with. Then apply a dressing of

and raised under the same conditions as advised for Cucumbers. Rather more loam may be used for the seed pots, and nothing else when shifting the seedlings into larger sized pots. If the pot system of growing the earliest crop finds favour, get the pots prepared in due course, and, again, on the other hand, if the planting-out system is preferred, get the house or pit cleaned and the bed made up, if pits overlying hot-water pipes to afford bottom-heat are not present, using Oak or Beech-leaves for the purpose. Such a bed is valuable at this season, and can be utilised for many purposes until the Melons are ready for planting out. Like Cucumbers, most growers have their pot varieties, but if it can be procured true, there is nothing to surpass Devonham Early for first crop, as it is not only a good cropper, but it arrives at maturity more quickly than any other Melon I am acquainted with.—A. W.

APPLE MERE DE MENAGE.

This is a large flatish fruit, taking on a rich dark crimson colour most seasons. It makes a very telling dish on the exhibition table as a



Apple Mere de Menage

well-rotted manure, 4 inches thick, placing this right over the roots, tread it firmly, and then return the soil. A better method still, if you have the material at command, is to make a compost consisting of one-half rotted manure, and the other half fibrous loam and charred refuse, such as the residue left after burning prunings, sweepings, etc., and as this latter contains a certain amount of potash, is valuable manure for Apples. Mix this together, and apply a dressing of it 6 inches thick over the roots, and cover this with as much of the staple as is required to bring all up to the proper level. If the trees are growing on Grass, place the top spit Grass side downwards either on the manure or compost when filling in, as the roots will in time take possession of and appreciate this when they push upwards. Much may also be done by applying chemical manure on the surface during the growing season, but the above remedies are by far the best if the trees are, as we imagine them to be, full of wood and stunted, or incapable of making little or no new growth, and we strongly advise you to proceed with the work on the lines indicated as early as possible.]

cooking variety. We have it now (first week in February) in fine condition, though this has not been an ideal season for keeping fruit. The tree finishes up good fruit on the Paradise, but is inclined to spread rather much, so that most of our trees are grown in the bush style. It does well as a standard, and will be found to crop best on old trees. If grafted on the Pear-stock or regrafted on healthy young orchard trees, it soon forms a remunerative tree, but should it grow too rampant, it is best to transplant each season until fruit-bearing wood is formed, when root-pruning every few years will keep the tree fruitful.

EAST DEVON.

Wyken or Warwickshire Pippin.—

An old favourite Apple in the midlands, fruiting well as a standard, and about right from Christmas onwards, the flesh being very tender and easy of digestion. It crops every other year with me, and is much in request for the table. The fruit is not particularly large but good, of dessert size, and has a yellowish-green appearance. Espalier or bush trees crop well under any treatment, and no fruit could be more regretted adding this variety to a however small a collection.—EAST DEVON.

TREES AND SHRUBS.

NOTES AND REPLIES.

The Sweet Pepper Bush (*Clethra alnifolia*).—In our issue of Jan. 31, the illustration of the above was prepared from a photograph sent by Miss Sophie M. Wallace, South Lake, Co. Donegal, and not as there stated.

Forcing Lilac and Guelder Rose.—Will you kindly tell me whether Lilac and Guelder Rose can be forced in the same way as Deutzia, or is any special treatment required? I have been told that Lilac must be put into a warm, dark cellar until the flower-buds can be seen, otherwise I shall get all leaf and no bloom. My plants of Lilac were taken up about a month ago and potted, and are still standing on a bed of ashes in the open ground.—IN THE DARK.

[Both Lilac and Guelder Rose can be forced in the same way as Deutzia gracilis—that is to say, no special treatment is required. Lilac is often forced in the dark, but that is when it is needed to be in bloom very early. At this season there is no difficulty whatever in the matter, provided, of course, the plants are well set with bloom buds. You may take the plants that are potted under glass at once, but a temperature of 45 degs. to 50 degs. will be sufficient for a start.]

Cedrus Decidua unhealthy.—I enclose photo of trunk of Cedrus Decidua, which is losing a great quantity of sap from wounds about 10 feet from the ground. My employer is anxious not to lose the tree. The sap as it flows down seems to be in a state of fermentation. I have not been here long, but I am told the tree has been like it about twelve months. I should be greatly obliged if you could make any suggestion as to cause and cure?—DROBARA.

[Your Doodar seems to be in a bad state, and we question if there is any effectual remedy. The better way will be to trim off any decaying matter from the wounds with a sharp knife, and thoroughly dress the place with gas-tar. This should be kept to the wound only, and not carried over the healthy bark. Two or three applications may check the discharge. The cause of the trouble is difficult to say. Perhaps the subsoil is in a stagnant condition, in which case a slight accident to the bark of the trunk has gone from bad to worse.]

The Golden Tree-Ivy.—There is a bush Ivy, quite golden, which, by grafting in a certain way, produces low-growing plants a few inches high. I shall be much obliged if you can tell me how to proceed—what roots to get and what grafts? I am told it takes two years to come to perfection.—O. K. E.

[There is a form of the Tree-Ivy with pretty golden foliage known as *Hedera arborescens foliis aureis*. It is usually propagated by grafting, but not because it exercises a dwarfing influence on the plant. The reason is, the Tree-Ivy in its various forms does not strike readily from cuttings; hence in nurseries, where the object is to obtain saleable plants in as short a time as possible, they are frequently grafted. Still, cuttings can be struck, though they take a long time, and plants obtained in this way are preferable to the grafted ones. For grafting, young healthy plants of the common Ivy are chosen as stocks. These are cut down to a height of 5 inches to 6 inches, and then grafted as near the root as possible. Side grafting is usually employed, and when the operation is complete, and the scion tied securely in position, they are potted at such a depth that the point of union is fully covered with the soil. After this they are placed in a case frame and kept shaded till the union is complete. From May to August is a good time for grafting the Golden-leaved Ivy.]

Trees and shrubs for gardens

(J. E. Keenan).—As the autumnal tints of the Sugar Maple are more or less yellow, they cannot be considered likely to clash with those of the Scarlet Oak. When trees have been planted some years they will need but very little attention. Certainly the soil about the roots should not be dug, but in poor soils, especially, the trees are benefited by a mulch of decayed leaves or something in that way. In the case of young trees they should certainly be kept clear of Lichens, but in the case of an old specimen they add to its picturesque appearance. The number of trees suitable for fairly large gardens is, exclusive of Conifers, very considerable, a few very desirable ones being as follows: *Acer dasycarpum* (Silver Maple); *Acer pennsylvanicum* (Moose-wood), remarkable for its striped bark; *Acer platanoides* (Norway Maple); *Acer rubrum* (Scarlet-flowered Maple); *Acer saccharinum* (Sugar Maple); *Fraxinus pennsylvanicum* (Horse Chestnut); *Esculus rubicunda* (Scarlet-flowered

Horse Chestnut); *Ailanthus glandulosa* (Tree of Heaven), long pinnate leaves, keeps green throughout hot summers; *Amelanchier canadensis* (Snowy Mespilus), a low tree, but a beautiful flowering one; *Amygdalus* (Almond), charming flowers in early spring; *Betula* (Birch) in its different forms; *Catalpa bignonioides*, flowers in July; *Cerasus* (Cherry) in different forms; *Crataegus* (Thorn), a great number of beautiful kinds; *Fagus* (Beech); *Fraxinus* (Ash); *Lahurnum*; *Liquidambar styraciflua*, remarkable for its rich autumn tints; *Liriodendron tulipiferum* (Tulip Tree); *Magnolias* of sorts; *Morus nigra* (Mulberry); *Fraxinus Ornus* (Flowering Ash); *Platanus* (Plane); *Pyrus* of sorts; *Quercus* (Oak); *Robinia Pseud-Acacia* and its varieties, retain the brightness of their leafage throughout the hottest summers; *Tilia* (Lime); and *Ulmus* (the Elm). Of evergreen trees, exclusive of Conifers, the best are: *Arbutus Unedo*, and its variety *Crooni* with scarlet flowers; *Ilex* (Holly) in various forms; *Magnolia grandiflora*, and *Quercus Ilex* (Evergreen Oak). All of the above are beautiful and not particular in their requirements, but if you had stated a definite number we should have been able to have helped you in a more satisfactory manner. However, should you require any point further elucidated we shall be pleased to give our attention to it.

PLANTS AND FLOWERS.

ROOM AND WINDOW.

COCOS WEDDELIANA FOR ROOMS.

AMONG the many Palms which are highly ornamental when young is this *Cocos*, and for the embellishment of the warm-house it is very popular. A general idea prevails that because it is a native of Brazil stove culture is absolutely necessary for its well-doing. Such is, however, by no means the case, as it is a thoroughly good room plant, and one that flourishes with me in a room where a fire is only occasionally lighted. Of course, the precaution is taken of shifting the plant to the centre of the room during frosty weather. My plant has stood for the last three years under such conditions, and I am acquainted with one that has been for the last ten years so treated, and now forms a beautiful specimen. Very important items concerning Palms kept in a dwelling-house are, firstly, to see that the leaves are frequently sponged clean, and, secondly, to take care in watering, for the soil should never be allowed to get very dry, and at the same time an excess of moisture is just as injurious. Above all, do not allow water to remain in the ornamental pot or saucer in which the plant stands. The mortality among Palms kept indoors is very great, and this is, apart from the irregular treatment they often meet with, largely caused by the conditions under which their early life has been passed, as in nurseries, where they are grown in quantity, the object is to get saleable specimens in as short a time as possible, hence they are pushed on in a warm, moist atmosphere, and consequently suffer greatly when they are removed therefrom to less favourable conditions. If these Palms were grown cooler from the first, or gradually inured to the altered conditions of things, the mortality among them would be far less. W. T.

Fine foliaged plants in rooms.—All fine foliaged plants that are kept in dwelling rooms benefit by a little extra attention at this, the duller part of the year, especially in rooms where fires and gas are much used. It is surprising what an amount of dust and soot will accumulate on the leaves of Palms, Aralias, India-rubber plants, Aspidistras, and similar subjects having a broad surface, and to keep such plants in a normal condition is often a puzzle to those who have little or no glass accommodation. A deal may be done, however, by simply using soap and water and a sponge, and then washing off with clear water. A change of room, too, perhaps, where the little sunlight we have reaches the plants earlier, often makes a wonderful difference, not omitting, of course, to open the window for a short time each midday.

ROSES.

Climbing Rosea on old trees.—I have some old Austrian Pines which I wish to utilise as props for Rosea. I find that when their branches are injured they make no fresh growth. Would the Ramblers succeed in such a position, or would the roots of the trees rot them? If so, can I do anything now to kill the roots, and still keep the trees firmly fixed? As my garden is absolutely unsheltered, firm staking is of the utmost importance. The garden is open to N., W., and S., about 200 feet above the sea, so the exposure is great, but in summer *Tropaeolum speciosum* blooms splendidly on the N. side of house, facing the sea.—LONDON.

[What magnificent objects Roses are on old trees—that is, when proper sorts are chosen and a little trouble is taken in planting them, as then they grow freely and send their long shoots up and over every branch where they can find support. Any tree going into decay, or that is half dead or shabby, will do, as all that is wanted is a support for the Roses. The way to give the Roses a good start is to well break up the ground where they are to be planted and to work in a heavy dressing of rotten manure. If, however, the soil is poor and bad, it is advisable to dig out a largo hole and put in some fresh soil, as much depends on the way the Roses are treated at first and the attention they get at that time. Any of the hardy climbers are the best to use, and they look well when the colours are blended, such as Cheshunt Hybrid and Aimée Vibert, while Clematises and pale coloured Roses make a fine contrast.]

Cocoa-nut-fibre refuse as a protection.—I have not used the long fibre alluded to by your correspondent in GARDENING, p. 611, at least, not as a protecting material, but having had occasion to employ it this season for packing, I can well believe this fibre would be an excellent substitute for Bracken Fern. A hundredweight of it would go a long way, and it could not fail to be very useful, especially for standard Tea Roses. I never hesitate, however, to recommend dry straw to all who find a difficulty in obtaining Bracken. Take a truss of straw and cut it in half with a hay-knife, then stand some of it among the branches. This is better than slaking on the straw with a fork. If earth is well drawn up to the base of the plants previous to applying the straw, bush Tea Roses will pass through any average winter unharmed. Avoid the use of any material when in a damp condition. The growths of Tea Roses suffer much injury from this cause alone. It would be better merely to earth up the plants. Evergreen boughs stuck in among the branches of the Roses are also excellent material, common Yew, Spruce, Fir, or Arbor-vitæ being the best.—ROSA.

Tea Roses in cool greenhouse.—Some Tea Roses potted last year in 5-inch pots were altered blooming placed outside to ripen. When the frost came a fortnight ago I placed them in a cool greenhouse with a lamp to keep out the frost, which has not been used since the frost departed. I find the Roses are pushing on very quickly, and a *L'Idéal* and *Catherine Mermet* are getting into leaf. Must I place them outside again to keep them backward, or must I keep them as cool as possible inside, and prune them rather earlier than usual? I suppose in the natural order of things they should be pruned in March? The temperature for some days during the frost was from 24 deg. to 26 deg.; to-day the thermometer in the shade outside shows 31 deg. Having been potted last year, probably they will not require repotting this year.—BIRKDALE.

[Your best plan will be to prune the plants at once. Cut them back to plump, dormant eyes, taking care to leave the ripened growths of *L'Idéal* as long as possible, and afterwards, by twining them around three sticks stuck in the pot, you will obtain much more blossom than if grown erect. As the plants are rather forward, paint over the cut ends of the growths with some painter's knotting to prevent loss of sap, or "bleeding," as it is technically termed. It is much better to prune now than defer it until March; but you must endeavour to keep out frost when the new growths are advancing. If you keep the temperature low now the plants will break into new growth very steadily, and be better able to stand a low temperature next month. The plants will not require repotting again until midsummer, and even then it may be advisable to defer the work until another year. This will depend upon the condition of the roots. If the pots are full of roots, then repotting is beneficial, but much harm is often done to Roses by repotting too frequently, or at unsuitable periods of the year.]

OUTDOOR PLANTS.

EVERLASTING FLOWERS.

A GOOD supply of the different kinds of Everlasting-flowers cannot fail to be appreciated, especially at this season, and by those who have not the means of obtaining fresh ones. Nicely made-up bouquets of variously-coloured Everlastings, with a few dried Grasses, etc., are very effective, and do duty throughout the whole of the winter, or with care sometimes longer still. The

HELICHRYSUMS are still among the most useful and popular of all the different descriptions of Everlastings, and fortunately the plants thrive nearly, if not quite, as well in a smoky back-yard as under the most favourable surroundings. The plants are hardy annuals, and easily raised from seed; but as they require a rather long season of growth, it is desirable to sow the seeds as early in the year as possible, so that a little artificial heat in which to raise the plants is very desirable. Sow, then, in February or March, rather later in town than in country places, using any light, rich soil, and placing the pan or box in any moderately warm frame or greenhouse. Prick off the plants singly when fit, and when a certain amount of growth has been made harden them off, and finally plant out at the end of April or May in good, rich soil, at 18 inches or 2 feet apart. Such early raised plants will make fine bushes before the end of the summer, and produce quantities of the white, golden, bronze, pink, scarlet, or crimson blossoms. These must be gathered—with good long stalks—when little (if any) more than half expanded, and always on a dry and sunny day. Tie them up in small bunches, which hang heads downward in a sunny window or other dry place, until the stalks become stiff as wire, when the flowers may be hunched. If left on the plant until fully expanded, the flowers are overblown when dry, as they open a good deal in the drying. It is a good plan to gather some in various stages, but none more than half expanded. The seed is sometimes sown in autumn in the open air, and on light warm soil this answers well; but it does not answer for town gardeners, where the ordeal of winter is often too much for the plants. Those who cannot grow *Helicrysums* in any other way will find they make very nice pot-plants, one plant in each 3-inch or 6-inch pot. The

RUOHANTHES are very graceful, the pink and white forms being chiefly grown. The plants are, however, more slender and delicate than the last, and need more care as well as to be planted closer. Sow in March or April, pricking off and planting out 5 inches apart when strong enough. These are largely grown in pots for the London markets, a dozen to twenty plants being placed in each 5-inch pot. ACROCLINIUMS, white and rose, are very pretty; they are half-hardy annuals, as easily grown as *Asters*, and there is also a fine double-flowered form. Like the *Helicrysums*, the flowers must be gathered before they expand fully.

NERANTHEM ANNUM produces flowers of a bright violet-purple colour, and will be found very useful. It is a hardy annual, and may be treated the same as the *Helicrysum*. There is also a form with double white flowers. The old-fashioned

HONESTY (*Lunaria biennis*) is another very useful plant in this connection, though in this case it is not the flowers, but the silvery-white inner membrane of the large oval seed-pod that is the lasting and useful portion of the plant. This is a biennial, and must be sown in April to flower and "pod" the following summer. It is best to sow where the plants can remain, as they do not relish being disturbed. As soon as the outer skins of the seed-pods become loose, cut the spikes bodily and remove both them and the seeds carefully; if left too long they become discoloured by wet. When cut the spikes should be put in a dry cupboard, safe from dust, until wanted for room decoration, when they can be arranged very effectively with dried Grasses, etc.

Bush Sweet Peas.—During the last summer this type of Sweet Pea was found in a few gardens. I had six kinds sent me to try. These I sowed in 7-inch pots in February,

bringing them forward in cold pit. When strong enough, they were planted out in deeply-worked soil without disturbing the roots. On the approach of summer they were mulched and spray stakes put to them when growth had advanced sufficiently. I thought these would have bloomed somewhat close to the ground. But this was not the case. They grew from 3 feet to 4 feet high and bloomed freely to the very tips, but the colours were poor compared to those of the tall-growing forms. I would not grow them if I had accommodation for the tall ones, and I doubt if these or the Cupid type will ever be grown to any extent, the size of bloom being so much against them.—J. CROOK.

GYNERIUM ARGENTEUM (PAMPAS GRASS).

This noble Grass, 4 feet to 14 feet high, according to soil or district, is most precious for our

and watered copiously in hot, dry weather. Of this there are several forms, including

G. ARGENTEUM ACUTI-LINEATUM, in which the habit is generally not so strong, the leaves narrower than in the type, and arching so that the tips reach the ground, and

G. ARGENTEUM RENDATLERI, in which the plumes are more one-sided than in the original form. Its chief value lies in the great freedom of flowering, as also in its robust growth.

G. JUBATUM as yet has not been tried much, except in favoured spots. The leaves resemble those of *G. argenteum*, but are of a deeper green, and droop elegantly at the extremities. From the centre of the tuft, and exceeding it by 2 feet or 3 feet, arise numerous stems, each bearing an immense loose panicle of long filamentous silvery flowers, of a rosy tint with silvery sheen. It is a native of Ecuador, and comes earlier into bloom than *G. argenteum*.

The sexes are borne on separate plants in all the species, and the plumes of male flowers are

POISONOUS PLANTS.

SOME of the most dangerous plants that are to be found in English hedgerows and fields possess properties that make them of great value medicinally. The Deadly Nightshade (*Atropa Belladonna*), the Aconite or Monkshood (*Aconitum Napellus*), the Meadow Saffron (*Colchicum autumnale*), the common spotted Hemlock (*Conium maculatum*) are all powerful for good in skilful hands, and equally powerful for evil when consumed without knowledge of their character. Belladonna is obtained from the Deadly Nightshade; aconite from the Monkshood; colchicum wine is made from the seed and root of the Meadow Saffron; Succas conii is prepared from the juice of the Hemlock; digitalis is obtained from the leaves of the Foxglove (*Digitalis purpurea*).

THE DEADLY NIGHTSHADE grows wild in most parts of England. It is usually found in the hedges of shady lanes and planta-



The Pampas Grass (*Gynerium argenteum*). From a photograph sent by Sir G. Errington, Bt., Ramsfort Park, Gorey, Co. Wexford.

gardens, but in many districts suffers from severe winters, and we seldom see such a fine group of it as that we figure to-day. There is reason to believe that some varieties are better in habit than others and flower earlier. In such cases it would be better to patiently divide them than to trust to seedlings. It should be planted far more extensively than at present, and given very deep and good soil. The soils of many gardens are insufficient to give it the highest vigour, and no plant better repays a thorough preparation, especially since one preparation suffices for many years. If convenient, give it a somewhat sheltered position, so as to prevent as much as possible that ceaseless searing away of the foliage which occurs wherever it is much exposed to the wind; and because, when beaked by shrubs, its bright silvery plumes are less liable to be injured. It should be planted about the beginning of April, mulched with rotten manure,

neither so handsome nor so durable as the plumes of female flowers.

Sir George Errington, to whom we are indebted for the photograph from which our illustration is prepared, has kindly sent us the following notes as to the plant figured:—

"The illustration is from a photograph, dated Christmas, 1892, of a group of Pampas Grass at Ramsfort, Gorey, Ireland. The climate and soil are so suitable that the Pampas Grass grows over 20 feet high, and in a calm winter, like this one, lasts well into February without being much dishevelled. There are three or four varieties here, but the common one I think most effective. The New Zealand Flax (*Phormium*) also grows here to a great size, and constantly flowers. There is no peat, but there is also entire absence of lime, so that Rhododendrons thrive wonderfully, and, I might say, in a sort of cold white clay."

tions and about ruins. The flowers are bell shaped. In colour they are purple or lilac. The berries are a rich deep black and very sweet. The odour of the whole plant is nauseous and oppressive, and in this way it gives warning of its venomous nature. The Deadly Nightshade ought to be uprooted and removed from all places that stock have access to, otherwise, sooner or later, a serious loss may be sustained.

THE ACONITE is also called Monk's Hood and Wolf's-bane. The flowers are deep blue in colour. Monk's Hood can easily be recognised because one sepal of the calyx is in the form of a hood. It is not generally believed to be a native plant. It is found growing wild in some parts of England, but is more frequently seen in cottage gardens and in shrubberies. Lindley said that the Aconite yields to no plant in the virulent poison of its roots. All parts of the plant are poisonous. Many people

have been poisoned by carelessly eating the root of the Aconite in mistake for Horse-radish; in colour and in shape the roots of these two plants differ considerably. The power that Aconite possesses of controlling inflammation and cutting short the accompanying fever is said to be marvellous: it is of marked service in erysipelas. Poisonous plants are frequently grown in gardens for the sake of their flowers. If the garden happens to be situated near a stream or river, it is the dangerous practice of some people to throw plants of this kind into the water. They are thus carried to fields through which the stream flows, and occasionally take root in the banks, and thus become a source of danger to stock that may easily be overlooked.

MEADOW SAFFRON is a native of England, and is found growing in pastures and meadows in many parts of the country. I have seen large beds of it in pastures adjoining the Severn, and also on an estate near Ludlow. The son of the owner of this estate pointed out a field where a number of cattle were poisoned and died in consequence of eating the Meadow Saffron that grew there. A few years ago I was warned by a farmer not to rent a pasture near Shrewsbury that was advertised to be let, the reason given being that it was "unlucky land." A dealer in cows, he said, who occupied the pasture for many years lost heavily by the tenancy, many newly-purchased cows having died suddenly. The cause of this mortality, though it was attributed simply to bad luck, is doubtless explained by the fact that the pasture contained a bed of Meadow Saffron. The Meadow Saffron is rather like the Crocus in appearance; the flowers are purple in colour, and do not appear till the autumn. The leaves appear in spring. The plant is dangerous for cattle, both when it springs out of the ground and when it is in bloom. Drying does not destroy its poisonous property. Hay containing Meadow Saffron is said to "purge horses and all stock that eat it." Colchicum wine, which is made from the root and seed of the Meadow Saffron, is said to be the most valuable remedy we possess for the treatment of gout. From the leaves of the

FOXGLOVE the well-known drug digitalis is obtained. Digitalis is useful both in heart cases and in dropsy. Dr. English, of Sleight, recommends Foxglove leaves, after being steeped in boiling water, as an external application in the case of heart pain. I can testify that the leaves used in this way are efficacious. The

COMMON SPOTTED HEMLOCK is a biennial, and varies from 3 feet to 6 feet in height, according to the soil in which it grows. The Hemlock is umbelliferous, the flower-stalks growing like the framework of an open umbrella. There are purple blotches or spots on the stem, which is erect, hollow, and perfectly smooth. The root leaves are large and deeply cut. The flowers are white, and, on being bruised, give out an odour like mice. Hemlock was the state poison of ancient Athens. The death of Socrates was caused by poison obtained from this plant. Cancerous ulcers, according to a medical authority, are often relieved by a preparation obtained from the juice. Although Hemlock is very injurious to stock when consumed green, it loses much of its poisonous properties when dried, as in hay.

FOOL'S PARSLEY is described by my brother, Mr. John Turnbull, as follows—

"This is also an umbelliferous plant. It has three little bristle-shaped leaves hanging down from the top of each branch of the umbel just under the flowers, giving a bearded look. It cannot be mistaken when once seen. A most dangerous plant I found it here (Great Linford), infesting our Horseradish-bed. This plant has caused many accidents, its leaves having been mistaken for Parsley. The flowers of the Parsley are yellow, and the stem of the Parsley, when bruised, is free from the disagreeable odour that characterises the Fool's Parsley. The root contains a virulent poison."

Yew (*Taxus baccata*) is a dangerously poisonous tree. When plants have an ill odour or flavour, animals naturally avoid eating the foliage, but the Yew gives no warning of this kind. Every part of the tree is poisonous. The leaves when old are more dangerous than

when they first appear. The Rev. Professor G. Henslow, in his interesting work on "Poisonous Plants in Field and Garden" (published in 1901 by the Society for Promoting Christian Knowledge), records the case of three horses that were to have been sold at a country fair. On their way the horses were tethered to the railings of a churchyard, over which some Yew boughs were hanging. The horses ate the leaves, and all three died. Notwithstanding the well-known evil reputation that the Yew has in this respect, the clippings of Yew-hedges are frequently deposited on rubbish-heaps situated where stock have access to them. A considerable number of cattle on a Leicestershire farm were poisoned as the result of this thoughtless practice. There is one other plant,

THE LABURNUM, a tree found in gardens all over the kingdom, that I think is desirable to call special attention to, as so many children have been made seriously ill by eating the green pods and seeds.

There are many other poisonous plants besides those I have named, amongst others: Black Nightshade, Woolly Nightshade, Hemlock, Water Dropwort, great Water Parsnip, Water Hemlock or Cowbane, Honbane, Spearwort, Fetid Hellebore, Columbine, Lesser Stitchwort, Sheep's Sorrel, and Black Bryony. Having regard to the large number of men, women, and children, and of farm animals that have been poisoned in England by eating noxious roots and berries, the importance of imparting accurate knowledge on this subject to country children cannot be doubted.

ROBERT E. TURNBULL, in *The Field*.

SWEET PEAS.

THESE are deservedly popular, and their popularity is likely to extend in consequence of the great improvements that have been made in a comparatively short period. There are now in existence many varieties so beautiful and striking that they have been named, but this has been carried a little too far, for there is no denying the fact that shades barely perceptible characterise varieties totally different in name. There are a great many that are too much alike. There is always a danger of this happening. Though we are glad to accept anything new and distinct, and welcome it by a name under which we can henceforth be sure of obtaining it, if naming is pursued too freely confusion results. It will be so among Sweet Peas; in fact, it is so now, for a great many have no opportunities to try and find out the distinct ones, and thus they are not known to many. Sweet Peas are so easily grown that they may truly be called everybody's flower. We ought to find a place for them somewhere, be the garden ever so small, and if any unsightly object is to be screened from view for the summer, what is there better than these? Next to their exceeding beauty when growing, we must take into account

THEIR VALUE AND USEFULNESS for cutting. They may be cut in unlimited quantities, and it is wise to do so. If the flowers are not cut they fade and produce seed, and, unless seed-pods are removed, the flowering season is a short one. When I cut them I do not merely cut the flower-spike, but the shoot as well. In the first place, it is not possible to arrange Sweet Peas prettily and informally unless they are cut in this way. No foliage suits them so well as their own. Although at first it appears to be a sacrifice—a ruthless destruction of future blossoms—as a matter of fact, the very practice ensures continuity of bloom. The shoot that is thus stopped breaks out into many laterals, and these are quickly in flower. It is only by hard cutting that we find out what an amazing quantity of bloom a small row of Sweet Peas will produce, and the results are even better than come from merely picking off the seed-pods, as in this case the climbing shoots keep lengthening without branching, and unless provided with very tall sticks they reach the top and fall over. By persistent cutting the plants are never out of reach, and though we strip the row of flowers to-day, before a week is past they are abundant again. Those that have many friends to whom they like to give flowers can be generous indeed, if they grow Sweet Peas. Not only do they look well and last when cut, but they are well

and, above all, their refreshing sweetness is universally appreciated, as there is nothing faint, heavy, or oppressive in their scent. Their successful culture is summed up in a few words. First, prepare the ground thoroughly by digging and enriching it with manure. Sow early in February if weather permits, but in any case in March. Do not sow too thickly, as the plants branch freely. Birds and slugs must be watched for; dusting the plants with soot when damp with dew or rain makes the shoots distasteful to either class of depredators, and, in addition, promotes healthy growth. Stakes should be given before the plants are too tall, and then all that remains is to keep them from seeding, and they are a source of pleasure and enjoyment for five months at least. H.

TUFTED PANSIES.

EARLY SPRING PROPAGATION.

FEW persons are aware that Tufted Pansies may be propagated with ease from cuttings in late winter and early spring. Where stock is scarce in the autumn it is a good plan to leave the old stools undisturbed until the earliest days of February. The old clumps have recovered from the spell of severe weather recently experienced, and are now breaking freely into growth. Cold-frames are ready for their reception, and nice light and gritty soil has been prepared into which to dibble the cuttings. I prefer a layer of this compost on soil which has been deeply dug and subsequently levelled down. A layer of this light and gritty soil to a depth of quite 4 inches is necessary. The soil should be made fairly firm. Cold-frames that are shallow are preferable to all others for this work, the ordinary deep frames being less easy to manage. If possible, the soil in the deeper cold-frames should be raised near to the glass by sinking the sides of the frames to the necessary depth. At this season I lift the plants bodily, and after carefully relieving the roots of as much soil as possible divide the clumps into as many pieces as possible. Assuming the old stools elongated growths were cut back last autumn, the shoots are now stout and short-jointed, and the plant should break up into pieces quite easily, each piece having plenty of roots adhering. A few of the older pieces are likely to have a number of very long and coarse roots firmly attached, in which case the roots should be cut back to some extent, so that they can be the better handled. Such drastic treatment of these older pieces should give no cause for alarm, as they soon make vigorous root action. If two frames can be utilised, place the rooted portions in one frame. Do not be afraid of planting these divided portions of the old plants deeply, as they succeed so much better when treated in this way. The shoots which are broken off in course of dividing up the old clumps should be inserted in a small frame by themselves. Before inserting these broken shoots they should be made into proper cuttings, cutting the shoot immediately below a joint and trimming off the two or three lower leaves. When ready for insertion in the cutting-bed the shoot should not be more than 3 inches in length. Cuttings measuring between 2 inches and 3 inches in length are the best. Dibble in the cuttings, pressing the soil firmly at the base of each one, and take care that the cutting does not "hang." Deal with one variety at a time, and label each one before proceeding with another. The cold frame into which the divided portions of the old plants are put will not need to be watered for some time. It is wise to keep the frame close for a few days, after which admit just a "crack" of air. As these pieces begin to grow, more air should be given, increasing the quantity from time to time. With the advent of more genial weather the lights may be entirely removed, and when the plants appear to be dry give them a thorough watering. The cuttings should receive very similar treatment, only in their case they should be watered, using a flowered can, and it will also be necessary to keep the frame close rather longer. By these means it should be possible to have a batch of healthy and vigorous plants ready for planting out in their flowering quarters in good time in the spring.

D. B. CRANK.

YUCCAS.

THESE noble plants, with their distinct foliage and tall spires of ivory-white bells, are of estimable value in the garden, since they combine hardiness with sub-tropical effect, and when once planted increase in dimensions and beauty from year to year. Where sufficient space is available, Yuccas are never out of place, and are useful for a variety of sites. Perhaps they never create such a striking picture as when forming a large group on the grass backed by evergreens. The numerous heads of varying size composed of sword-shaped, spiko-pointed leaves, some standing erect above the ground-level, and others resting their lower blades upon the grass, are picturesque in their outlines and grouping at all seasons of the year, and become particularly attractive when in the autumn a dozen or tall flower-spikes tower aloft above the long grey-green foliage. As a break in a long herbaceous border Yuccas are valuable, a group of three or more plants coming well forward in the border giving a sense of formality by arresting the eye travelling down the long line of flowers with the relief of sterile foliage. As single plants on a lawn Yuccas are decorative, and as the centre of a bed a plant forms an effective foil to the flat brilliancy of Zonal Pelargoniums and Tuberosus begonias. Yuccas look well in the rock

from that species, for in addition to its arching foliage being totally distinct from the stiff leaves of the latter, the individual flowers are far more sparingly set on the spikes. It is almost as robust a grower as *Y. gloriosa*, and may be similarly treated when selecting sites. It is sometimes known as *Y. recurva*.

Y. FILAMENTOSA.—This is a dwarfier species, seldom exceeding 5 feet in height. Its specific name is due to the thread-like filaments that hang from the edges of the sharply-pointed leaves, which together have earned for it the title of Adam's Needle. It is a very free bloomer, and generally flowers unusually, and being of less vigorous growth is suitable for quite narrow borders, and for positions where the two former species would be inadmissible on account of their size. This and the next-named species are Yuccas for small gardens, and in spacious grounds they should be added to those already mentioned in this note.

Y. FLACIDA.—This is by some thought to be merely a variety of the last-named, but it differs from it in that the older leaves are abruptly bent so that they appear almost broken, it is also somewhat dwarfier, rarely exceeding 4 feet in height. The flower panicles of the two latter species are more branching than those of *Y. gloriosa* and *Y. pendula*. All the four here named are natives of North America.

lawn which takes two men with a lawn mower three hours to cut. How do you advise me to deal with it? It forms a very attractive feature of the garden, and I am loath to let it grow wild. It has some fine old trees on it—a Chestnut, a Mulberry, and a Silver Birch. Would it be possible to turn sheep on it without damaging the flower beds, separated by a gravel path?—RETTON.

[Your position is apparently an unfortunate one. It would indeed be a pity to allow the garden to run wild, and the only possible way is to keep the Grass cut, which is equivalent to more labour, which we imagine you wish to avoid. By naturalising the cheaper bulbs in the Grass you have at once a good excuse for a semi-wild condition and rural beauty at small cost. In this way, by once mowing the Grass early in the season you could allow it to go until there were no more flowers to open on the Grass. If you allow sheep thereon it will be necessary to protect the beds in some way. If sheep are admitted to the green pasture we cannot advise you to plant bulbs in the Grass. If you have no other use for the animal, a donkey controlled by lads should be able to do the mowing quite easily. What we object to in the sheep is the fact of their leaving all such rough Grasses as Cocksfoot, etc. This in time would be most unsightly in itself. Beds planted with shrubs would modify the space but not the cost or the labour for the time being. We wish you had given us more particulars of the surroundings to guide us.]

GARDEN PESTS AND FRIENDS.

CANKER IN FRUIT-TREES.

TO THE EDITOR OF "GARDENING ILLUSTRATED."

SIR,—I think that your correspondent, Mr. Sam D. Lytle, would do well to write to the Secretary, Board of Agriculture, 4, Whitehall-place, London, S.W. (no need to stamp the letter), asking for leaflet No. 56, issued in August, 1899, on "Canker in trees." It is well illustrated, and is sent gratis. The note in your issue of 5th July (No. 1217, p. 246) was merely a reference to a French gardening review, and what the M. fruit there quoted may mean by "chloridic acid" is not clear. The Board of Agriculture recipes are simple: 1 lb. sulphate of iron to 1 gallon of water, or else 1 lb. sulphate of copper to 5 gallons, to be applied two or three times during the winter. Since canker is quite likely to follow attacks of plant lice, whether American woolly aphid or any other sort, this treatment is pretty sure to do good. During winter the aphid pests are out of sight, but if their lurking-places are smothered with soft-soap now there will be fewer to deal with in the summer, when the treatment given in your article of the 14th January ought to do justice to them. There is nothing the American sort curls up in quicker than the petrolum or "kerosene" of its native land, applied as you recommended. They do more harm in a month than canker fungus does in five years, I fancy, as they fly and are blown by wind from tree to tree, and multiply so very fast; besides that, they carry spores of the canker too. May I add that popular names are peculiarly misleading. Blight meant originally decay caused by lightning, but we apply it to insect pests. Mildew meant honeydew, but is now used to mean a fungus growth. So also canker in origin implied an eating away by mites or insects thought similar to crabs, now it means the fungus *Nectria*. A REGULAR READER.

Pests in garden.—Last year my garden was badly infested with ants, earwigs, spiders, etc. Would a dressing of lime be of any good? If so, how much per square yard? Would it injure any bulbs I planted last year?—PAUL NEVON.

[A dressing of lime would not be of any use in destroying the insects you mention. Unless it was a very heavy one it would have no effect upon the ants. Any earwigs that were in the ground would simply move away to some other shelter, which they would probably find at no great distance off, and the spiders, on second thoughts, you would hardly wish to molest, as they are perfectly harmless in gardens and kill a large number of insects. The simplest way to destroy ants is to find out where their nests are, and then when the insects have retired for the night, to open them with a spade and pour in boiling water. If the nest he formed too near the roots of some plant to do this with safety, the plant had better be first removed.



Yuccas on the Grass.

NOTES AND REPLIES.

A purple Clematis, a Jackman, I think, which is usually out down in February, is putting out such long new shoots from roots, and on old wood on top of arch, that I hesitate to cut it down this spring. Will it bloom as freely if left alone?—G. M. H.

[Provided the Clematis is really a Jackman, or of this type, it will flower quite as well, possibly more freely, on the let-alone principle than when pruned. The flowers individually, however, may be a little less fine. The strong and new growths from the base should receive every encouragement, as these in grafted plants, provided they issue from the scion or trunk portion, as opposed to the grafted or underground portion, virtually renew the lease of life to the plant. It may not be easy to distinguish where such shoots issue from, and if deeply planted it can only be decided by differences of leafage. If the foliage from these new shoots now pushing from the roots is distinctly smaller than in the top growth, and not smaller only but decidedly inferior, you may be justified in assuming the ground shoots to be those of the stock and not the scion. When the two are in growth the difference will be obvious, and the removal of the ground shoots should be at once decided upon. One of the main objects in the annual pruning of these Clematises is that of securing clean growth, free from dead wood and such encumbrances. There are hosts of instances, however, where the plant has been grown on year after year without pruning at all, and though forming a tangled, more or less impenetrable mass, flowers well on the outermost shoots each year.]

Circle Garden.—I have a garden of from two to three acres to manage without a gardener, and without very much of my own to give to it. There is a large

garden, and make a telling contrast to the dwarf subjects with which such a site is for the most part filled; in fact, it may be said that well-developed specimens of these hardy plants are, whatever may be their surroundings, as worthy of admiration as any tender sub-tropical subject that can only be removed from a glass-house to the open garden for a few months in the summer. There are many species of Yucca, but for all practical purposes the following four will suffice for garden decoration.

Y. GLORIOSA.—This is a fine species, sometimes attaining a height of 10 feet. Its tall and imposing flower-spike is composed of many hundreds of pendent ivory-white blossoms very closely set which form a solid spire of flowers. Its leaves are rigid, wide, and terminated by a sharp spike. Though handsome as a single plant, it is seen at its best when a dozen or more are planted in an informal group, each plant being distant 6 feet from its nearest neighbour. When these have grown to a flowering size they form an exceedingly handsome feature in the landscape and eventually grow into an impenetrable mass with branching stems and *cheveux-de-frise* of sword-leaves, from which, in the flowering season, numerous tall bloom-spikes arise.

Y. PENDULA.—This, the subject of the accompanying illustration, is perhaps the most beautiful of all the Yuccas, its curving leaves giving the plant a very graceful appearance. It is considered by some authorities merely a form of *Y. gloriosa*, but differs considerably

Advertisement for 'Circle Garden' or similar, partially obscured by the text above.

URBANA-CHAMPAIGN

If the nests are in lawns, the Grass must be rolled back from the entrance to the nest for a foot or so. The inmates of a nest are so numerous that it is almost impossible to destroy them all by trapping them. When the earwigs begin to be troublesome again, lay pieces of folded sack about on the ground near the plants they infest, and hollow stems, such as those of Beans, Sunflowers, etc., among the shoots and leaves, and examine the traps every morning.—G. S. S.]

INDOOR PLANTS.

GROWING AMARYLLIS, ETC.

Will you through your correspondence column say when is the time to buy and pot Hippeastrums or Amaryllis, Arum Lilies, and Caladiums? If your space allows, will you add a few cultural directions?—W. H. OXLEY.

[Hippeastrums or Amaryllis, and Caladiums, may be bought and potted at once. The advantage of purchasing them now is that being still dormant they can be sent for a considerable distance at a little expense. Arum Lilies, on the other hand, are in full growth, so that you can only obtain them established in pots. They are never really dormant, but their resting period is from midsummer onwards for a month or so. In the case of the

HIPEASTRUMS, a suitable soil for them may be formed of two parts loam to one part leaf-mould, and half a part of sand, the whole being well incorporated together. For ordinary-sized bulbs pots 5 inches and 6 inches in diameter are ample. These pots should be clean and effectually but not excessively drained—say one good crock placed concave side downwards over the hole, with a few smaller pieces above it. In potting press the soil moderately firm, and leave just the upper portion of the neck of the bulb exposed. After potting very little water will be needed till growth recommences, but as the leaves and flowers develop far more will be required. They will need a temperature of 55 degs. to 65 degs., with a corresponding increase as the sun gains strength. After flowering they must be encouraged to make good growth, and in the latter half of the summer be well exposed to full sunshine in order to thoroughly ripen the bulbs. As the leaves turn yellow less water must be given, and during the winter they may be kept perfectly dry.

CALADIUMS vary considerably in the size of their corms, hence no particular size of pot can be recommended. As a rule, however, pots 3 inches to 4 inches in diameter are large enough to start them at first, as it is much better to treat them in this way and shift into larger pots as they require it than to pot them into the large pots at first. As with the Hippeastrums, very little water will be needed till they start. Caladiums are essentially stove plants and will need a temperature of 60 degs. to 70 degs. During the summer a reasonable but not excessive amount of shading is beneficial.

ARUM LILIES are quite greenhouse plants—that is to say, a temperature of 45 degs. to 60 degs. will suit them. If you purchase them now as growing plants, except keeping well supplied with water they will give but little trouble. By June they will have lost their freshness, when they may be stood out-of-doors in a sunny spot. Under this treatment they will become partially dormant, and about the end of July may be shaken clear of the old soil and repotted. They can be again stood out-of-doors and kept watered when they will grow away freely. Take them under cover when the nights get cold.]

Tuberoses.—Those who wish to grow Tuberoses should procure now the American bulbs, selecting those that are the strongest, using a compost of loam, peat, and sand, with some well-rotted manure. If the compost is in a fairly moist and workable condition at the time of planting there will be no necessity to water at all until growth has commenced, and, as soon as this is evident, then they may be placed in a pit or propagator where a minimum temperature of 60 degs. to 65 degs. is maintained, plunging the pots in some light warm material as Cocoa-nut-fibre if bloom is wanted early. When grown has well commenced

water may be supplied liberally, and when buds show they will derive considerable assistance if liquid-manure is given, but moisture must not be overdone. Regard must, of course, be paid to the temperature in which the Tuberoses are growing—a temperature of 65 degs. suits them to perfection, as in this they bloom freely. They dislike sudden changes, and that is why some fail to succeed with them, especially with the South African bulbs which are potted in early autumn for winter blooming. For button-holes, bouquets, etc., they make charming additions.—TOWNSMAN.

THE SWAINSONIAS.

In a greenhouse heated with hot water from 55 degs. to 65 degs. F. I have a Swainsonia (white) which keeps growing all winter, but not flowering in winter. It has six or seven runners 5 feet or 6 feet long. Must I cut them down now and treat it as an herbaceous plant, or tie them up to wires?—A. B.

[The Swainsonias are pretty, free-flowering plants, whose Pea-shaped blossoms vary in colour from white to pink and a kind of reddish-purple. *S. galegifolia* and its variety *alba* are the best, and will either flower freely in fairly small pots, or under more liberal treatment develop into climbing or, more properly, rambling plants that may be employed for furnishing a rafter in a greenhouse or for a

hurried in their growth. Leaf-mould and old loam, with a good proportion of silver-sand finely sifted, the roughest placed at the bottom of a well-crooked pot or pan and the finest at the top, is the compost best suited to their requirements, scattering the seeds thinly, and thus guarding against overcrowding in the first stage. See that before sowing the soil is neither too wet nor too dry. After making it level the seeds may be placed thereon, and gently watered in with a fine-roset pot; of course, if the soil is damp no moisture need be given for a few days. Place the pans on the staging in a cool-house—one, say, with a north or north-west aspect—or in a cold-frame on a north border. Over the pan or pot it is best to place a sheet of glass, covered on one side with whitening or paste, or a sheet of paper, to prevent moisture evaporating too quickly, just leaving sufficient space to admit air. When the plants are near the covering it should at once be removed, taking care that the seedlings do not want for water. When should they be removed from the pans? When they begin to touch each other, and by this time the second leaf has appeared. With this in view, one should prepare small pots, still giving plenty of drainage material and using the previously mentioned compost. Place one plant in each pot, and put them in a cold-frame, standing



Swainsonia galegifolia "alba."

similar purpose. A healthy specimen will flower from midsummer or even earlier, so that the season of blooming is spread over a considerable period. The flowers, which are produced in erect racemes from the axils of the leaves, are nearly as large as those of a Sweet Pea. Seeds are often easily obtained, and the Swainsonia will strike readily from cuttings, which is by far the better plan where dwarf plants are required. They may, however, be kept and flowered year after year if cut back in the spring and repotted when they have started into growth. All through the growing season the Swainsonias require abundance of water, but in the autumn, when they cease growing, and during the winter, only give enough to keep the soil fairly moist. You have evidently watered your plant during the winter when it should have been allowed to rest.]

HERBACEOUS CALCEOLARIAS.

In nine cases out of ten failure to grow these beautiful showy plants may generally be attributed to giving too much heat and overcrowding. To have them in bloom early in May, seed should be sown the previous June, in order to give the plants the longest period of growth, instead of, as is not infrequently done, making a sowing in July and August, and pushing the plants along under glass. It is always well to remember that in connection with the growing of herbaceous Calceolarias they will not be

them on a bed of ashes, and thus prevent any chance of their becoming prematurely dry. For the second removal, which should be immediately it is seen the roots are well rooted in the pot, one may add to the compost partly decayed cow or horse-dung—the former if it can be obtained, as it is cooler—and in shifting them the "collar" of the plant should not be buried, as it predisposes to damping off.

In September a change from the frame will be necessary, as from about the middle of the month the nights become cool. To this end room should be prepared for them in the greenhouse, and instead of arranging them with other plants, it is much better to have them all together where their wants may be easily looked after. Do not keep the ventilators closed and pack them together, but give them what room can be spared, and just enough fire-heat to keep damp out of the place. Watering should be done in the morning, and the water ought to be tepid. During the winter maintain a steady growth. Those who have plants in their houses now will be well advised in giving them a stimulant twice a week—not too strong—weak liquid manure or guano. Presently the flower-stems will be showing above the foliage, and these should be tied to thin stakes. Do not attempt to hurry the plants into bloom by increasing the temperature of the house. I would rather have a group in flower in May by maintaining a temperature of 55 degs. than have them in

blossom in April in an atmosphere of 65 degs. with green-fly lurking under every leaf. Herbaceous Calceolarias are amongst the handsomest of our greenhouse flowers, but many "coddle" them, instead of maintaining a cool treatment from seed-sowing to blooming time.

LEAHurst.

NOTES AND REPLIES.

Franciscæa.—I have a nice plant of Franciscæa which was full of bud, but after a few of the flowers had opened most of the buds fell off. It is in a stove facing west, and catches a good deal of wind, so that the temperature varies a good deal. Will you kindly tell me the treatment necessary, and if it requires feeding?—A. B.

[The Franciscæa is essentially a stove plant, and doubtless the reason of the buds dropping is that the plant has sustained a severe check of some kind, in all probability caused by a considerable drop in temperature, which, according to your note, varies a good deal. The coldest period of the day is often in early morning, and as the fire is then usually at its lowest ebb, it is more than probable that the mischief was done at that time. The temperature even in winter should not fall below 55 degs. The cultural requirements of the Franciscæa are the same as are needed for the majority of stove plants—that is to say, a compost of equal parts of peat and loam, with a liberal sprinkling of sand, and shading from bright sunshine during the summer months. If thoroughly well rooted a little weak liquid-manure may be given occasionally (say three or four times) during the summer when in full growth, but even without this the plants may be kept in good condition.]

Leggy Camellias.—I have seven Camellias which have long, straggling branches, naked all the way up except at the points. If I cut them back now, can I get them to throw flower-buds for next year? How can I plant the cuttings to succeed in getting them to grow?—A. B.

[You may cut back your Camellias as soon as possible, or if you require the present crop of flowers it should be done directly they are over. After cutting back give only enough water to keep the soil fairly moist, but a drenching over with the syringe three or four times a day, particularly if the weather is bright, will be very beneficial. However well they break out after the operation, you cannot expect anything more than a solitary bloom or two next year. Camellia cuttings are extremely difficult to strike, and we cannot hold out much hope of your attaining any great measure of success in this respect. The best chance will be to form the cuttings of the tops of the last year's shoots. Six inches is a very suitable length for them, and if cut off at a joint and the bottom leaf or two removed, they are then fit for insertion. For this purpose take some clean 5-inch pots, put broken crocks in the bottom to one-third of their depth, then fill with a mixture of equal parts of loam and sand, passed through a quarter of an inch sieve. Press this down very firmly, dibble the cuttings therein, give a good watering through a fine rose, and then cover with a bell glass, or place in a close propagating case in a shady part of the greenhouse. After a couple of months or so a little more heat will be beneficial, but you must be prepared for failures.]

Hydrangea Hortensia.—I bought recently at a sale some Hydrangea Hortensia in pots, and shall be glad if you will give me some hints as to culture? They are, I believe, gross feeders, but seem to me to be very pot-bound. Would it be wise to repot now? They are just coming into leaf at the tips: they have not been pruned for some time. Would you advise planting out later on, plunging, or growing on in a cold-house?—E. C.

[As your Hydrangeas are so much pot-bound, it will be wise to repot at once, but, as the leaves at the tips are just starting, do not disturb the roots to any great extent. A suitable compost may be formed of two parts loam to one part each of leaf-mould or peat and well-decayed manure, with a little sand. In potting, press the soil down moderately firm, and leave a good space at the top for watering, as during the summer months copious supplies will be needed. We presume the plants to which you refer are growing in the cold-house, in which case the better way will be to keep them there till the month of May, when all danger from frosts being over they can be plunged out-of-doors, taking care that they are not allowed to suffer from want of water. Your letter is headed from the south coast, where the Hydrangeas should be hardy, and if such be the case you may, if you prefer it, plant them out,

but as they have already started while under glass, the planting should not be done till all danger from frosts is over. If kept altogether in pots, a little weak liquid-manure during the growing season is beneficial.]

Striking Gardenias.—My Gardenias are beginning to grow. Would you kindly tell me the proper method of striking same, as I am very unsuccessful in striking them?—READER.

[Gardenias may be readily propagated from cuttings at any time during the spring months. Shoots of medium vigour make the best cuttings. These should be cut off cleanly just below a joint, removing the bottom pair of leaves. A very suitable length for the cutting is about 4 inches. They should be inserted into small pots filled with a compost consisting of equal parts of loam, leaf-mould or peat, and silver sand, made moderately firm. After this, place them in a close propagating house in the stove, or, at all events, where a minimum temperature of 61 degs. is maintained. They will root in about a month, when more air must be given, and the plants gradually inured to the

moaly-hug, and scale, but all these can readily be kept in check by any of the numerous insecticides that are now obtainable.]

BROWALLIA SPECIOSA MAJOR.

THIS, which we figure to-day, may be had in bloom at all seasons, but during the winter months it is, perhaps, most appreciated, though at that time, should the weather be dull, the flowers are scarcely so bright in colour as those that expand in the summer. It is a plant of easy culture, and easily increased either from cuttings or seed. Cuttings of the growing shoots strike root as freely as a Fuchsia, while seed which frequently ripens germinates quickly. Good specimens may be grown in pots 5 inches or 6 inches in diameter. When raised from seed, about half a dozen plants pricked into a single pot and grown on without further disturbance are very effective. Cuttings are best grown three in a pot. The flowers, which are produced in great profusion, are of a beautiful shade of blue with a light



Browallia speciosa major. From a photograph by Mr. Geo. E. Low.

ordinary atmosphere of the structure in which they have been. Then, in a week or two, shift into pots 4½ inches in diameter, and pinch the points of the young shoots from time to time, in order to lay the foundation of a good, bushy plant. If they are grown on freely in a stove temperature the plants will by the end of June be ready to shift into 6-inch pots. By the end of August they must be kept somewhat cooler; a minimum temperature of 55 degs. will suit them in the autumn and winter, when, on the return of spring, the flowers will soon open. This is the quickest way of obtaining good flowering plants; but where conveniences for this do not exist the Gardenia may be grown in the warmest part of the greenhouse, but its rate of progress is then, of course, slower. Under this cool treatment it will take two seasons to form effective specimens. It is by no means necessary to have young plants every year, for they may be kept for many years in a perfectly satisfactory state. A compost of two-thirds loam, one-third leaf-mould, with a little rough sand and a little cow-manure, will suit Gardenias well. They are liable to be attacked by aphides,

centre—that is, when first open, for after a time they become paler, and, singularly enough, also increase in size. A mixture of loam, leaf-mould, manure, and sand will suit this Browallia well. As the pots get full of roots occasional doses of liquid-manure are very beneficial, the flowering season being greatly prolonged thereby.

Sparmannia africana.—A couple of starved plants of this Sparmannia are in the warmest part of the greenhouse, each bearing several clusters of their uncommon yet charming blossoms. These, which are borne several in a loose head, are about an inch and a half across, and composed of four white petals of a delicate satiny lustre. By far the showiest portion of the inflorescence, however, consists of the large globular cluster of stamens, the basal half of which is of a rich golden-yellow, while the upper portion is crimson-purple—a very marked contrast. It is by no means a novelty, having been introduced from South Africa in 1790. It is a very easy subject to propagate from cuttings, and it also grows

with great freedom, but many fail to flower it in a satisfactory manner. The principal reason of this is the plants are grown too freely, perhaps, in a more or less shady structure. In this way they soon form large bushes, clothed with luxuriant heart-shaped foliage, but thin in texture, while flowers are very few. To ensure a good display of blossoms the plants should, during the latter part of the summer, be stood out-of-doors in a spot fully exposed to the sun in order to thoroughly ripen the wood. They will not need repotting every year, but, if necessary, may be assisted during the growing season by a little manure-water. Being naturally a large shrub or small tree, pots 10 inches to 1 foot in diameter are about the smallest size in which effective specimens can be grown. Early spring is the usual season of flowering, but the clusters of bloom on my plants now are very welcome.—W.

CHRYSANTHEMUMS.

NOTES AND REPLIES.

A good late Chrysanthemum—Mme. Felix Perrin.—During the latter part of December there is no Chrysanthemum of a pink colour to compare with the Japanese Mme. Felix Perrin. Some trade growers describe the colour as soft rose-pink, but this is hardly correct. As a matter of fact, when grown in the country, the colour is a very lovely shade of soft pink. This kind is now largely grown for market, and at this late season bunches of bloom may be seen in almost every florist's shop. This variety should be grown to develop its blooms freely, and with this object in view, should be stopped or pinched several times during the growing season. No pinching or stopping should, however, take place after the early days of July. The plant has a good constitution, and grows about 4 feet high.—C. A. H.

Late-flowering Chrysanthemums failing.—I cannot succeed with late Chrysanthemums, notably Princess Victoria and W. H. Lincoln. I usually root cuttings about February and pot on by degrees into flowering pots end of May, leaving outside till October, sometimes, as this season, later. They do well all the summer, but, when removed into cool greenhouse, buds invariably go blind. I feed them along with others from July onwards, and the only reason I can suggest for failure is that when atmosphere gets damper, with more rain, less manure must be used, and that, consequently, buds are starved. Is this so, and how can it be avoided?—A. MATHER.

[We are at a loss to explain the cause of your failure with the late-flowering Chrysanthemums. At any time during the present month or in March insert cuttings of any late-flowering kinds you may have stock of. Give the cuttings and young plants subsequently fairly cool treatment. Pot them up from time to time as they need it, and three or four times during the growing season pinch out the point of the shoots of the plants. Never stop or pinch the plants at the same time that they are repotted. We are quite satisfied you made a mistake in finally potting your plants so early as May. We should be disposed to leave the final potting until quite the end of June or July even. The last pinching should take place towards the end of July. Give the plants a good open position during the summer and early autumn, in this way encouraging the development of sturdy, well ripened wood, without which you cannot expect to achieve success. No manure-water should be given until the pots are well filled with roots, and at first the doses should be weak and often applied. Terminal buds in the ordinary course of events should develop late in September or early October, and, if the plants are nice and bushy, they should be disbudded to one bud on each shoot. Keep the plants outdoors as long as possible, only removing them under glass when frosty weather threatens. Ventilate the house freely, always avoiding draughts. While the buds are swelling satisfactorily keep the house in a cool condition. All that is needed is to see that frost is excluded. As the buds progress and many of them begin to show colour it will be necessary to keep the air of the greenhouse in a more buoyant condition. You must keep the hot-water pipes sufficiently warm to dispel moisture and also to assist the development of the unfolding flowers. Observe this system of culture, and you should, we think, succeed.]

VEGETABLES.

FORCING ASPARAGUS.

THIS may be forced in many ways, and had from November onward. Some people think it is an expensive commodity, but this is not so if room can be found to grow the roots. These may be raised from seed, but where space is a consideration I prefer to purchase good three-year-old roots. These, if planted in good soil in rows 20 inches apart and a foot from plant to plant, make fine crowns in two or three years. In this way a good many roots may be had from a small space. I prefer these strong young roots to weak old ones that have been exhausted by cutting. Radishes or Lettoes may be grown between the rows the first year, as these come off quickly. In this way the Asparagus does not occupy the ground long. Land that has been trenched for Onions or used for Celery does not need much preparation beyond levelling. To have good forced Asparagus it is important the roots should be strong, and that no grass has been cut the previous year. In this way all the strength is concentrated in the crowns. The more roots can be had when lifting the better the results.

Given good roots, forcing is a simple matter, seeing they may be brought forward in any glass structure, placed on a bed of leaves, or anything that produces a gentle heat, with rough boards round to keep the soil and roots in position. On these garden lights or any glass frame may be placed. Lacking these, shutters or even mats will do. This rough-and-ready method is only suitable for late crops, seeing Asparagus must have light to produce flavour. I have seen splendid Grass grown in vineries by placing the roots on the border and covering with leaf-mould. When the Vines are started at the beginning of the year, it is easy to bring it on, as the moisture and heat that are suited to the Vines are just the thing, and by the time the Vines are in bloom the Asparagus is about over. Some three years ago, when visiting Rood Ashton, near Trowbridge, in early spring, I was impressed with the way Mr. Strugnell was forcing Asparagus under the front of a stage in a warm plant-house. Although some of the roots were near the hot-water pipes, they did not effect it, seeing it had a good covering of material that held water. In a general way, hot-beds in pits and frames are brought into use for this crop, which is an easy and simple method. I obtain a supply by placing roots on a bed in the centre of a vinery, and in this way I bring forward this with the late Grapes. I usually fill this bed about the middle of January, and in about three weeks I am able to cut the first dish. For years I disliked seeing the bare soil that covered the roots, and I resolved to try sowing a quick-growing Radish on the surface at the time of covering the roots. As these beds are raised 3 feet to 4 feet above the level, they are well up to the light. From this I soon obtained a good supply of tender roots. J. CROOK.

NOTES AND REPLIES.

Early Cabbages.—Where these were put out in shallow trenches—and it is much the better plan to do this than plant on the level—the soil should be pulled around the plants. This will steady the plants against winds, and shelter them should hard frost or cutting east winds set in, the latter always playing more havoc with green stuff than actual frost.

Using a bed of leaves.—I have a bed of leaves 2 feet deep in a long trench covered with a few inches of soil, in which I propose to start a few vegetables. When done with, should I fork it up and spread it over beds, or grow a crop of Onions on it as advised by a neighbour?—MORAY.

[On the bed of leaves in a trench on which you have but a few inches of soil you will presently, as the leaves decay, find it needful to place more soil before you plant it, or it will be too shallow. Grow Runner Beans for choice on the trench, then next winter throw out decayed leaves to dig in on other ground, and refill the trench with fresh wet leaves and treat it as before.]

Drills for Peas.—I should be very much obliged if you would kindly tell me through GARDENING what length of drill 1 quart of early Peas should be made to sow, also the length of drill 1 quart of late Peas should sow?—W. S.

[Usually a quart of early Peas is sufficient to sow a row 1½ feet in length, while the like quantity of a late variety will cover a row 2½ feet in length.]

may well do a row 130 feet long. It is wise to sow a bit thicker in early spring, because the mice are a much greater nuisance during February and March than they are in the summer months, and it sometimes happens that the weather in these two months proves exceptionally cold and wet, which is against germination of seeds in the open garden. Later sown crops are not so handicapped, and the individual plant does very much better when the haulm is allowed plenty of space to spread about, and it is also better for the roots when not unduly crowded with those of its neighbours, and the plants continue to crop much longer, when light, sun, good air can penetrate well among the branches. Last season being very much against a good harvest of seeds, it is advisable to sow a trifle thicker, and not commit seeds to the ground in too great a hurry. For better results will accrue if such work be postponed until the soil is in a more congenial state.]

Brussels Sprouts clubbed.—I have had a very poor crop this year. The garden was virgin soil six years ago. A great many are quite clubbed at the root. I should be grateful for advice on the subject?—I. ALFRED DAVIS.

[Whether the clubbing of Brussels Sprout plants, of which you complain, be due to a tiny maggot or to a fungus, the best preventive is an application of gas-lime, at the rate of about a bushel per two rods. Spread about evenly, well broken, then allow to lie exposed to the weather, and later dig it in. It is best to do this in November, allowing the lime to lie exposed for four weeks, then digging it in. If you cannot get gas-lime, then dress the ground on which you propose to plant the Sprouts with ordinary lime. That can be used just before the planting is done. Put down bushels of lime fresh from the kiln in heaps for each two rods, and cover up thickly with soil. It will soon slack; then spread it about and dig in. Do not plant Sprouts where they have grown this winter, but in fresh ground. When you have the plants, look over the roots, and if you see any swellings on them cut them off. Dip the roots into a solution of soft-soap, soot, and clay, well stirred, before you plant. Have the ground deeply dug, and plant end of June, or as soon after as possible. Brussels Sprouts like a fairly firm soil.]

Storing stable manure.—Kindly tell me what to do with ordinary stable manure which contains a lot of straw? By keeping it, will it ever become really manure? Ought one to have a cement pit for it, and if so, how should it be made? Should the manure be kept under cover, so that rain and sun cannot affect it? If you can get into the subject thoroughly, you will benefit many of your readers, who, like me, are very vague on the subject.—H. TRENKLEMAN.

[When stable manure contains an excess of long straw, the wisest course to take is to shake out a quantity of this, allow it to dry, then either use it to bed pigs, cows, or horses again, or else make a stack of it on a dry base and cover it from rain, so that it can be used to shake over seed-beds or early Potatoes, or lightly over outside Vine borders, or for any similar uses. If not so removed from the manure the proportion of straw is to the real manure far too great. If left with the rest, then the best course is to turn the heap frequently, casting over it all sorts of horse-slops or water to cause the straw to more rapidly decay, as until it is in an advanced stage of decomposition it is practically useless as manure. When stable or any other animal manure has to be stored in the open, it should always be on a hard floor, such as one of concrete or cement, the floor being a little hollow or concave, so as to retain any liquid that may exude from the manure. If a pipe were laid from the heap to a big tub or cistern sunk in the ground, the whole of this liquid could be caught and utilised, really at any time of the year except in hard frost, as liquid manure. It would most likely need to have its bulk doubled, or even trebled, by the addition of water before being used. Even if the manure be so stored it should be turned now and then not only to check fermentation, but also to ensure equable mixing and decomposition. If manure cannot be so treated, then it is best to store it under a shed, but even then frequent turnings are needful. So covered there is practically no loss. On the other hand, in the open, what fertile property is washed out of it is secured and utilised in the liquid manure, which is, after all, one of the most effective ways of manuring crops.]

GARDEN WORK.

Conservatory.—One of the best forcing shrubs is *Prunus triloba* *flora-pleno*. Good-sized bushes may be had in 6-inch and 7-inch pots, and it does not require a very high temperature to get them into flower in January. After flowering, prune back and get the new growth made and a little firm before plunging them outside. Just the same treatment usually given to *Deutzias* will suit the *Prunus* family. Bulbs are making a brave show. Narcissi are very effective, and those who are foreign English-grown bulbs find them as useful as those imported from Holland. The most disappointing bulbs this year have been the Roman Hyacinths, which have not only been inferior, but much higher in price. The small Italian Hyacinths are not only cheap, but come as early as early, and are altogether much better and finer, and may be had in several colours. Solomon's Seal forces easily, and, being a British plant, may easily be grown at home in any good ordinary soil. *Horbaucosus Spiraeas* recently imported will soon be in bloom and make a charming group. Those kept in cold storage chambers have been in flower some time, but this adds to the cost. A bulb or plant which has been retarded in this way starts away with much less heat than others not retarded, so that there is something gained in the matter of fuel and time. Standard plants of *Roses*, *Scarlet Thorns*, *Lahurnums*, and *Almonds* when established in pots will force easily in a Peach-house at work, and such things are very effective among the dwarfier plants in the conservatory borders. There is a very heavy demand now for cut flowers, and to a large extent this has to be met by forcing bulbs and other things. I have already mentioned *Solomon's Seal*, and to this might be added the *Bleeding Heart* (*Dielytra spectabilis*). Long sprays of this and *Solomon's Seal* are lovely in tall glasses. Of course, *Lily of the Valley* and the *Narcissus* family will supply many beautiful flowers for cutting, and they are very popular everywhere. With longer days we may reasonably expect more sunshine, and more water will be required. It will be better for some time yet to do the watering in the morning, though this will not prevent a look round early in the afternoon if any plant requires it.

Propagating summer-flowering plants.—Those who have no regular propagating-house may do a good deal of useful work in an ordinary hotbed with the pots plunged in leaves or *Cocos-nut-fibre*. All soft-wooded plants, except *Geraniums*, will do well in a warm hotbed. *Cucumber* and *Melon*-frames are generally utilised for the growth of young stuff and raising seedlings till the *Cucumbers* and *Melons* require the space. The temporary tenants will do no harm if not kept in too long. When we used to do a good deal of work in this way now beds were continually being made for different things, so that there was always room for moving things on. This is necessary if much work of the kind has to be done. It is important also that a close watch should be kept for insects. Cuttings with succulent stems, such as *Geraniums*, will damp off if placed in the hotbed, but every cutting will strike if planted in sandy soil in shallow boxes, and placed near the hot-water pipes. Our boxes of *Geranium* cuttings are standing on the pipes, with a 3-inch board under them resting on the pipes. Those who have only a few cuttings may ribble them into pots, but with thousands to deal with boxes save both time and space, and by the time the cuttings require potting off other houses will be ready for them with the necessary warmth to give them a start.

Ferns under glass.—Maiden-hair and other Ferns which have more or less been at rest are now on the move, and if it is intended to divide any to increase stock the work should be done now or soon, and as soon as this is done give a little more heat to push them into growth. Young plants of various kinds in pots may have a shift. Seedlings in boxes should be potted off when large enough. If left starving in boxes they will want time to recover from the shock. *Adiantum Farleyense* may be divided into single crowns.

Work in the early vinery.—The young shoots should not be crowded. Ample room should be left for the full development of the foliage. For this purpose the young shoots should be reduced to something like 15 inches apart on each side of the rod. This may be taken as the average distance where a full crop is required. As soon as two leaves can be seen beyond the bunch, the terminal bud should be rubbed or pinched out. When the main rods are trained very near each other one leaf only will be left beyond the bunch, but two are better if there is room. Black Hamburgh and Sweetwater are good setters, and if the rods are topped with the hand or a padded stick when the pollen is dry and ripe, there will be a good set. Thinning may begin as soon as the berries are large enough to show which are taking the lead. Sublaterals below the bunches should be rubbed out, and others pinched to one leaf.

Mushroom-house.—Now beds should be made up as the old ones cease to bear. Enough has been said from time to time regarding the selection and preparation of the manure, which should be from hard-fed horses in good health, and the manure during its preparation should not be washed by rains. Spawn also should be good, preferably new, and should be inserted in firm beds when the temperature is steady at about 85 degs. Firmness in the beds is essential to obtain the best results, and the covering of earth, which should be about 1½ inches thick, should be beaten firm with the back of the spade. A covering of hay is useful in keeping in the warmth and moisture, though for a time after spawning the thermometer or watch-stick should be tested often, as sometimes the temperature may rise too high if too much covering is used.

Cold-frames.—Give air freely on mild days. Remove dead leaves from *Auriculas* and prepare compost for repotting. Good loam and a little leaf-mould and old cow-manure, with some coarse sand, will do this family well. Sow seeds of the *Primula* family in boxes, and give a little warmth to hasten germination. Keep *Carnations* on the side of dryness at the root, but with lengthening days and more sunshine more water will be required.

Outdoor garden.—*Roses* on south walls intended for early flowering, if not already pruned, may have attention now. Cut away all weak shoots and enough of the old wood to leave enough space to trim in the strong young wood of the past year, as this will bear the finest blossoms. When all are pruned and trained a syringing with an insecticide will be useful in getting rid of the eggs of insects. A *Rose* which has been severely attacked by insects takes a long time to recover, and prevention is better than cure in this case. There is plenty of time to plant *Roses* and other plants on walls, arbours, or pillars. I am not saying that November is not a better time, but I do not desire to fix a limit to the time, as very often the site is not ready in the autumn, and I would rather plant in March if the site were well prepared than put off till the autumn. It is merely a question of giving a little more attention to the plants in dry weather through the spring. Stir the soil among autumn-planted *Carnations* and *Pinks* when the surface is dry. Nothing encourages growth so much at this or any other season as stirring the surface to let in the air. Bulb borders, now that the plants for the most part are coming through, may be stirred up also. Box edgings may be replanted and walks turned over and regrevelled where necessary. Repair worn places on lawns, and top-dress with basic slag and nitrate of soda, or some other stimulant. We find ordinary weed-killer very good for killing *Plantain* on lawns.

Fruit garden.—The quarter given up to bush fruits, as soon as the bushes are pruned and dressed with lime and soot to keep off the birds, should be measured and forked over to let in the air to sweeten and pulverise the surface. Sometimes bush fruits are given the side of the walks. *Gooseberries* are sometimes trained to wire trellises, and this is a good plan where the fruit is required for dessert. Red and White *Currants* are often planted on the north sides of garden walks to fill in between the permanent trees of *Plums* and *Cherries*, and the fruits on the north wall

come in well for late use with the autumn-bearing *Raspberries*. But where many bush-fruits are grown it becomes necessary to group them together in one plot at regular distances apart, as under such conditions they usually bear better. Finish pruning and training *Raspberries*. The mode of training is a matter for individual decision. I have had good results by adopting the field method by growing the canes sturdy in an open position, well mulched and pruned down to 3 feet. In pruning *Blackberries* and the *Logan Berry* the weak shoots should be removed and the strong young canes left a considerable length for fruiting. There is yet time to plant both bush and other fruits. It may not always be convenient to plant in autumn, and if the ground is not in condition for planting it will be better to wait till it is.

Vegetable garden.—Old gardens now much benefited by a dressing of lime. Gas-lime may be used anywhere, even among growing crops, at the rate of a pound per square yard. On vacant ground double the quantity or more may be used. Ordinary air-elaked lime may be used at the rate of a bushel per square rod. Slugs and snails will be giving trouble now in mild weather. Such gardens are usually surrounded by tall hedges, or heaps of rubbish may be left lying about near the garden, and these form suitable breeding places for the pests. If a general clear up is given there will be a reduction in their numbers. Lime and soot used in mild, damp weather during spring will be useful. The weather is better now for sowing and planting and as soon as the surface is dry early crops of Peas, Beans, Potatoes, Cabbages, Lettuces, Horn Carrots, and Radishes may be sown or planted. New plantations of *Horseradish* may be made, and the ground trampled and manured for *Globe Artichokes*. Those who wish for early heads of *Globe Artichokes* usually put up a few roots and start them under glass and plant out when the weather is warm and settled in April. Draw a little earth up to the early Cabbages, and stir the soil everywhere. E. HORNAY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

February 15th.—We want plenty of early Peas, therefore several sowings have been made, and the earliest are up and doing well. A ridge of soil has been drawn up on each side of the row. Gradas is a favourite with us, though not quite so early as several others. We leave the early border now and sow long rows across the quarters. Put in cuttings of soft-wooded stove or warm-house plants, including *Euphorbia jacquieiflora*, *Begonias*, *Justicias*, &c. The propagating-house is kept full up now.

February 16th.—Early Potatoes are being planted now in sunny, open positions. Cauliflowers under handlights have been dusted with soot and earthed up a little. Other Cauliflowers are coming on—some in cold-frames, others in heat for succession, and just a few of Veitch's Forcing in 6-inch pots in pit for early use. These do not get very large, but the hearts are white and close. Liquid-manure is given as soon as the roots are numerous enough to use it. Planted out root cuttings of *Seakale*.

February 17th.—There is always work to do in the vineries and Peach-houses, especially where there are several of each. Potted trees in orchard-house are coming on quietly, and the blossoms will soon be open. Simply tapping the stems with a padded stick will scatter the pollen when it is dry and ready, if the house is sufficiently ventilated. *Rivero's Early Nectarine* is a valuable kind; so also is *Lord Napier*, which comes in succession. Among *Peschas* in pots the old *Royal George* still keeps its place. Insects are easily dealt with by vapouring.

February 18th.—Sowed seeds of *Potunias*, *Verbenas*, *Zinnias*, and *Phlox Drummondii* in heat. Replanted a long herbaceous border which had been treached and manured. This, of course, necessitated taking all things up. Some of the common things have been discarded, and other plants of better character introduced. The arrangement of the plants

has been chiefly in groups of contrasting colours, a few spiral-growing things being dotted about among the groups. Finished training Peaches on walls. Removed more of the covers from Figs on walls.

February 17th.—Put in more cuttings of various kinds of bedding plants. Shifted on early-struck Chrysanthemums and put in more cuttings for late blooming. Strawberries in pots swelling the berries are now having liquid-manure. Other plants are taken in from cold-frames from time to time as required, as when gathering there must be no break in the supply till they are ready outside. Covered a bed of Asparagus with old lights to hasten the growth and protect the heads from frost.

February 20th.—Earthen up early Potatoes in frames. The earth had been placed between the rows to get warm before placing it against the Potatoes. Sowed Spinach between rows of Peas. Thinned young Carrots in frames. Made up hot-beds for the Asparagus and more Potatoes. One small frame on a hot-bed has been filled with Lily of the Valley crowns. The frame will be matted up till some progress has been made. These warm hot-beds suit the Lily of the Valley, especially when the flowers are required in quantity.

AQUARIA.

Fresh water snails (J. M. C.).—For consuming decayed vegetable matter and keeping the water of the aquarium in a wholesome condition you would find the species *Planorbis cornuus* very useful. The shell of this snail is flat-coiled in shape, and is of a dark reddish-brown colour, while the body is black above and greyish underneath. Another snail which is a favourite with aquarium keepers is the "fresh water wrinkle" (*Paludina vivipara*). This snail has an oblong shell of a brownish-green tint. Another useful snail is *Bythia tentaculata*. This is smaller than the above, the shell being conical, of a yellowish horn colour. You would no doubt be able to obtain these of any dealer in necessaries for the aquarium.—S. S. G.

LAW AND CUSTOM.

A gardener's plants.—I am a single-handed gardener, and when I came here I brought with me cuttings, seedlings, and bulbs of different kinds. Can I claim compensation for any of them, or take them away?—G. G.
[You cannot claim compensation for these, but unless you have given them to your employer, or entered into any arrangement with him by which these have become his property, you may remove them.—K. C. T.]

Payment of tithe.—Am I compelled to send the tithe to the parson's solicitor, costing me 1d. for letter and 1d. for cheque? Is he not bound to call or send for it in the same way as any tax or debt is collected?—C. T.

[This point has never been decided in a court of law, but the general opinion is that the tithepayer is only bound to attend at the place out of which the tithe issues or in some place convenient thereto. So if the tithe is demanded in the parish where you live, you should take it or send it to that place, but if you are asked to send it elsewhere you may deduct the cost of the remittance. You are mistaken in supposing that it is the duty of a creditor to collect his debt; the contrary is the law, and every debtor is bound to seek out his creditor and pay him the amount due. To this rule there are certain exceptions, as where rent is not reserved under any written instrument, and in the case of rates.—K. C. T.]

Wire on boundary.—I own the house where I live, and my neighbour occupies and owns the adjoining house. The gardens are divided by a wooden railing, half of which belongs to each of us, and the fence is affixed to the centre of both houses. Cats and fowls enter my garden, and are a source of nuisance. Can I, without my neighbour's consent, place wire-netting on the top of the railings to keep the fowls and cats out?—CRON.

[If half the length of the fence belongs to you and the other half to your neighbour you cannot erect wire upon his half without his consent. If the whole length of the fence belongs to you both jointly, and the fence is a party-fence, I think you may erect wire upon it, attaching the wire to your side of the fence. It will only be courteous on your part to inform your neighbour of your intention, but if the fowls belong to him you may recover damages from him for their trespass, and you need not put up any wire to keep them out.—K. C. T.]

CORRESPONDENCE.

Questions.—Queries and answers are inserted in **GARDENING ILLUSTRATED** free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of **GARDENING ILLUSTRATED**, 17, Finsbury-street, Holborn, London, E.C. Letters on business should be sent to the Publisher. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as **GARDENING ILLUSTRATED** is sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being unripe and otherwise poor. The difficulty between you is of fruits, are, in many cases, not trying that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Tropaeolum for stags (C. M. H.).—The best *Nasturtium* for this purpose is the rich-coloured climbing form known as *Tropaeolum Lobbianum*, as it is slender in growth, and will drape a stage in a pleasing and informal manner. The best nurserymen offer several forms in their seed catalogues, and a very superior kind if true is *Tropaeolum Lobbianum Brilliant*, seed of which can be purchased at a moderate price.

Arum leaf damaged (Miss Garrett).—The leaf sent appears to be very thin in texture, as if it had been grown in a structure where very little air was given, and with moisture collecting on the leaves, they, from the lack of substance, quickly decayed. Do you use an oil lamp to keep out the frost, Arums quickly resent this? A sturdy plant with cut solid leaves will retain its foliage under adverse conditions much better than one that has been grown without a free circulation of air.

Hyacinths after blooming (Tulip).—Stand the pots outside in some sheltered place and cover them and the plants with light litter, so that they may be protected from frost. One may stand them in a frame, watering them until the foliage has died down. It is of no use relying on these for forcing again, and, when the weather gets settled about April, you should plant them out in a sunny border. They will then bloom every year, certainly not so fine as pot specimens, but still such as will repay your trouble.

Flowers from seed (Hastings).—You do not state whether you require annuals and biennials or perennials. In each set there are many that flower about midsummer, but to get them in perfection the seedlings should be raised at home. You do not say whether you have a frame or greenhouse or other convenience for raising such plants. Give a few more particulars, and we will try to help you. The ground should at once be dug deeply—at least 18 inches deep—and heavily manured as the work proceeds.

Passion-flower not blooming (C. W. M.).—Your Passion-flower seems to have unlimited root room, and we should also think that the structure must be considerably shaded, otherwise you should certainly have had many flowers. It may be kept within bounds by cutting it back to the old wood—that is, leaving the main branches which go up the rafters or roof, and removing all the flexible shoots. This should be done at once. We presume it is the common blue Passion-flower, in which case you may, if you like, plant it out-of-doors, choosing for the purpose a wall facing south or south-west. In this case the month of April is a good time to move it.

Moving Camellias (Kinglake).—Camellias can be readily shifted from a bed in the greenhouse if the operation is carefully carried out, but you are not at all likely to get plants of the size you mention into tubs 2 feet square, particularly after the roots have had free run in a bed of soil. It would, in all probability, be necessary to mutilate the roots considerably to get them into tubs of that size, with, perhaps, fatal results. As far as one can say without seeing the plants, tubs 3 feet square would be quite small enough. The autumn or early winter is a good time to carry out the removal, but in this case you must make up your mind to lose a season's flowering, and next to that period they may be shifted immediately the blossoms are over.

Furnishing conservatory (H. K.).—If the back wall is rough brick, good cement should suffice to fix the clinkers. The uppermost pockets should be 2 feet from the top of the wall. You could certainly arrange a shelf as suggested, but it appears to us that it would be very dark for any Orchid. The most likely to thrive there is *Cypripedium insigne*. Climbers may be planted in the spaces indicated, but in the temperate regions mentioned you will not get much life in the winter. *Clematis indivisa* is a good climbing plant for a greenhouse. The flowers are white and borne in spring. A Passion-flower, such as *Pasiflora Imperatrice Eugenie*, will do well for the opposite bed. The centre space may be occupied by a table-like stage, with the sides 2 feet 6 inches high, and the central position a step higher. Such a stage a local carpenter could easily erect for you.

Treatment of Clematises (An 11 Years Reader).—*Clematis Danubia* of Albany, which is one of the pretty hybrid forms raised from *Clematis cocinea*, needs very little pruning, all that is necessary being to cut out any very weak and exhausted shoots, while the principal ones may be cut back to a good eye. Your small plants of *Clematis Jackmanii* may be planted out at once if you do not intend to separate them, but if divided, which should be done now, it will be better to pot them and allow them to recover from the check of removal before planting out. The month of May will be a good time to do this. You may, if you desire it, grow the variety Mrs. George Jackman in a large pot or tub, and train it up the roof of the

greenhouse. This variety flowers early in the year from the old or ripened wood, so you must not cut it back yet. Any pruning required may be done immediately after flowering.

Aspidistra (Edwin).—It is not at all necessary to remove the *Aspidistra* flowers, as their weakening effects are very small indeed. Why one of the leaves of your plant turns yellow it is impossible to say with certainty, and we can only suggest two or three probable causes. The watering once a week may not be sufficient, though, generally speaking, it is ample, but unusual conditions may prevail that cause the soil to dry rapidly. Again, the reverse may be the case, as if the water is allowed to stand in the pan or saucer mischief will be caused. Gas, too, is very injurious to plant life in general, and your plant may have been exposed to the fumes thereof; if so, the mischief is readily accounted for. We have also seen a single leaf perish from taking a candle or lighted lamp in search of something close to the *Aspidistra*, and if either of these is held below the leaf for only a very short time, it will be greatly injured, if not actually killed.

Soil for aquatics (Knutsford).—We would first saturate the tubs with peat-moss, pouring in a quart or more, and painting the sides till it was absorbed. Now place a few shavings inside and set fire to them. Then turn the tubs upside down and so another fire. This will thoroughly char the inside, and destroy fungus, &c., in the wood. Pitch would be infinitely better than tar for painting the inside of the tubs, and it must be at boiling point when put on so as to run thinly. Six inches of soil will do quite well for *Nymphaea* and *Aponogeton*, and twice this for *Menyanthes*. If your refuse-heap is but the old potting soil of the past, this may be added freely; but not, we would not use it. The rain-water will be best if the other supply is very hard. Such water usually contains a large proportion of lime, which is injurious. The *Aponogeton*, for instance, rarely does much good in very hard water.

Scarlet Salvia (Amateur).—For keeping up a bright display in the conservatory from early autumn until Christmas the above are the best we have. Nothing would exceed in brilliancy the long racemes of crimson-scarlet, the tube and calyx being equally bright. Unfortunately, the flowers soon die, and are exposed to a change of temperature, therefore, they cannot be recommended for cutting and forcing, they are, therefore, not recommended. There is little difficulty in their culture. If a few plants are well cared for through the winter they will give plenty of cuttings early in the spring. Take the first cuttings as soon as they are ready, and these will give good strong cuttings later on. The best plants are obtained from the strong growing tops, which, if cut in about the end of May, will make fine plants by the autumn. By taking the tops of young plants it is easier to keep the plants free from red-spider, which is their greatest enemy. The plants may be grown on during the summer in a cool-frame or out-of-doors. Potted in a rich loamy compost and grown on without any stopping, they make fine pyramids if given plenty of room, and will come into flower early in September. If given sufficient pot-room and liquid-manure from time to time the same plants will continue to bloom for a long time.

Bedding arrangement (Box).—We would not mind you to adopt *Balsams* and *Potentillas* with a view to a successful bedding arrangement for July, August, and early September. The *Potentillas*, like the *Pentstemon* of a year ago, will give a flush of bloom in July, and occasional blooms at intervals. A more successful flowering plant would be *Ivy-leaved Pelargoniums*, pegged down light at first, and then, subject to the decaying flowers being removed, allowing the plant every freedom. Another suggestion is a groundwork of *Tufted Pansies* of some delicate colour, with *Balsams* freely distributed over all. These or *Zinnias* would do quite well. You do not give us the size of the bed, and our suggestion is necessarily restricted. Had you wished for a later and more continuous flowering we would unhesitatingly have recommended *Tufted Pansies*, planting good rooted cuttings quite early in July or before, and inserting *Tuberous Begonias* in between the middle of May or earlier. Or you may plant 3 inches deep, the *Begonias* in March, with mixed *Gладиoli* of the *Lemoinei* and *Childrei* sets, finally mixing the *Pansies* and *Begonias* in the bed when the other things are set. In this way you would have a bed as beautiful for a long time, while the bulbous plants would, if cared for, do just as well.

Palms and Ferns for greenhouses (A Country Reader).—Palms that will suit your purpose are: *Areca Baccata*, *Breca nana*, *Chamaerops excelsa*, *Chamaerops humilis*, *Cosca Weddelliana*, *Corypha australis*, *Heliconia Reimoserana*, *Kentia Forsteriana*, *Lantana borbonica*, *Phenix rupicola*, *Phorox tenuis*, and *Rhapiz distachyoides*. Ferns: *Adiantum cuneatum* (*Maidenhair*), *Adiantum decorum*, *Adiantum fulvum*, *Asplenium bulbiferum*, *Asplenium dimorphum*, *Blechnum occidentale*, *Cytosorus filicatum*, *Davallia bullata*, *Dicksonia antarctica*, *Polypodium aureum*, *Polystichum capense*, *Polystichum setosum*, *Pteris cretica*, *Pteris cretica albo-lineata*, *Pteris longifolia cristata*, *Pteris intermedia*, *Pteris serrulata*, *Pteris serrulata cristata*, *Pteris serrulata minima*, *Pteris setacea*, *Pteris plantaginea*, *Pteris Alcockii*, with leathery, Fig-like leaves and variegated variety; *Aracaceae excelsa*, *Aspidistra minima*, dark green, strap-shaped leaves, and clusters of terra-cotta-tinted blossoms now opening; *Cordyline* (*Dracena*) *australis*, *Cordyline rubra*, *Isolepis gracilis*, drooping tufts of dark green Grass-like leaves; *Ophiopogon Jaburum variegatum*, and *Ophiopogon spicatum argenteo-variegatum*, Grass-like plants, with white and yellow variegation respectively.

TREES AND SHRUBS.

Dead branches in Yew-trees (West Country).—The dead branches of the Yew should certainly be cut out, otherwise they will always be an eyesore. If, after removing the dead portions, there are any ugly gaps, this difficulty may be overcome by tying two or three of the neighbouring branches in such a way that they hide, or at all events, partially hide the defects.

Clipping Ivy (West Country).—It was quite right to clip the Ivy last spring, and we should say the ill-health owing to some other cause. You speak of it having been

measured. Was this overdone? It is difficult to say...

FRUIT.

Grafting wax (J. C. Bloomfield).—This everybody should keep on hand ready for use whenever needed...

VEGETABLES.

Celeriac (Morag).—If you allow your Celeriac plants to remain, no doubt they will all go to flower rather than their bulbs...

Lamb's Lettuce or Oorn salad (Morag).—In the case of Lamb's Lettuce or Corn salad the plants are usually sown...

Growing Spinach (Bastings).—Spinach is best sown in drills 10 inches or 12 inches apart...

Salt and carbonate of soda (R. J.).—Salt is a valuable ingredient to utilize partly as manure and partly as a retainer of moisture...

SHORT REPLIES.

La Cochin. See reply to Roma White re "Roses from the States," in our issue of Feb. 7, p. 653. Tulip.—Any smaller growing Perlis are the best for your purpose...

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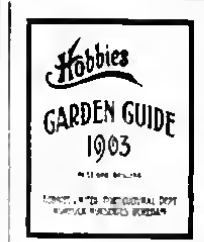
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FEBRUARY 21, 1903.

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VEGETABLES.

SEED POTATOES.

ALTHOUGH we are having a comparatively open winter, it is satisfactory to find seed Potatoes are keeping well. When in past seasons we had hot, dry summers, which ripened the tubers very early, and left them often immature, the past summer being both moister and cooler, evidently so far as reproductiveness is concerned, created more sappy tubers, and less disposed to dry or shrivel, also less ripened. The result is now seen in tubers that are fully exposed to light and air, even in a temperature of 45 degs., keeping fairly dormant. In past winters I have had the tubers bearing shoots several weeks earlier, thus giving material trouble to keep restful. When shoots are thus early formed also, they are usually weaker than are those from which more sappy tubers grow later. It must not be assumed that tubers having more rather than less sap or water in them are less fitted for seed than are those fuller of starch granules. A dry tuber lacks capacity to throw stout, hard shoots; a sappy tuber not only does so later, but can produce stouter shoots. I deduce from the present condition of Potato tubers as kept well exposed to light and air for ultimate planting, that we shall see next May or June far less of those bare patches such as marked the Potato breadths of last year, allied to which it is hoped may be much more robust growth. Should that be so, it will be something to be thankful for to a cool, wet summer, for the Potato stocks thus planted will recuperate and again show evidences of normal strength and productiveness.

Generally those who plant Potatoes do so far too early. They forget that although the stock of this exotic has been with us 300 years it has gained nothing in hardiness. Planting the tubers in cold soil in March may do the tuber itself little appreciable harm, but it does militate greatly against the production of robust shoots, as the blanched ones yet in darkness in the soil are very tender, and do naturally suffer because of the lack of warmth such tender products need. Even when the shoots have forced their way through the cold soil into daylight, and have begun to form leafage, they have to face white frosts, which to them are most destructive, and if but once thus injured the plants never again become strong or are so tuber productive. If seed tubers be now placed in shallow boxes, with their eye or bud ends upward, set close together, then kept in ample light and air, yet free from frost, they will push one or two stout, firm shoots or sprouts, and these in light will not exceed an inch in length. Then if kept so stored till the end of April, by which time the soil will probably have become several degrees warmer than it was in March, and when growth does follow, as it will from these sprouted tubers quite rapidly, the tops will escape harm from frost, and thus ensure that the plants will, uninjured, be enabled to produce in the autumn liberal crops of tubers. On

warm borders, where it is possible to furnish some shelter for the tender tops on frosty nights in the spring, it is safe to plant some early variety even at the end of February, but that should be done only on south borders that are well sheltered and where the soil has been slightly warmed by having a dressing of half-heated stable manure dug in as the planting proceeds. For main crops it is much the wisest to have ground for them trenched, the manure dressing being buried down in the subsoil. That helps to impart some warmth to it, and later induces the roots of the Potato plants to go deep. A dressing of potash and superphosphate, mixed and well crushed, put on the ground and forked in on the surface a few weeks before planting is done, does great good. Planting should be in rows of good average width—that is, according to strength of tops—from 30 inches to 36 inches apart, the tubers from 14 inches to 16 inches apart in the rows, and buried just about 4 inches under the soil, which should before covering be well broken and pulverised, so as to lie light on the sets.

VEITCH'S SELF-PROTECTING BROCCOLI.

ONE of the most valuable—indeed, a most indispensable Broccoli is Veitch's Self-protecting Autumn, and no seed order would be complete that did not include it. Since its introduction, now a good many years ago, others similar have come to light, but a good selection of the original still remains without a rival for the late autumn and early winter months. Its hardiness is wonderful. Only this past season, after a spell of severe frost and cold, cutting winds, I came across heads undamaged and pure in colour, much to my surprise, and which proved the more useful because unexpected. To get a supply over a long season more than one sowing is needful; not that a succession is denied those who depend on one sowing. It is, however, not from one solitary sowing that one is furnished with heads over a good portion of the winter. It is necessary to carefully select your stock, for there are good and inferior strains in commerce, though not, perhaps, in this more than in other kinds. The Self-protecting, sown at the same time as the Autumn Giant, forms a connecting link in the season of Cauliflowers and Broccolis, and when this is past there are few really reliable varieties that can follow on for kitchen use for a time. Should the weather be normal it is not difficult to have a supply quite up to Christmas, and should the stock of plants hold out and the weather remain favourable heads may be had during January. Its same supplies the secret of its hardiness, for as matter how good a Broccoli may be as regards growth and quality, unless the flower is protected with eafolding leaves it quickly falls a victim to severe or even moderate frosts. In some kinds, as soon as frost touches them the leaves fall away and expose the flower to the weather. It need not be said that these are the first to succumb. During the season I sow at intervals in March until June small batches of Self-protecting, and by these means get

though not perhaps large, heads in daily succession from October until Christmas, if not later.

W. S.

NOTES AND REPLIES.

Garden soil.—I shall be much obliged if you will advise me what to do with a piece of ground, a specimen of the soil of which I enclose? It slopes south and east, and is fully exposed to the sun, and sheltered from the north and north-east winds by a wall. For the last two years, during which time it has been dug and manured after each crop, nothing has grown well—Carrots, Spinach, and Potatoes were failures. The last dressing was good old farmyard manure, the one before not very old, loam stable. I wanted it trenched last year, but my gardener said it was unnecessary, as the soil was so sandy and porous. It has not been trenched for at least seven years. The subsoil is good in the rest of the garden, and it all yields good crops. I shall be grateful for an answer as soon as your space will allow.—I. W. W.

[The sample of soil sent shows it to be of a loamymarl, porous when dry, and apt to become sticky when wet, when, of course, it should not be worked. We expect you have beneath a deep chalk base. Why your gardener should object to trench the ground, breaking up the subsoil well, other 10 inches to 12 inches, we cannot understand, as trenching is one of the most important factors in vegetable culture. Probably you bury your manure too shallow, whereas, to encourage roots to go deep, especially in the summer, when the weather is hot and dry, manure should be mixed with the subsoil in the trenching. It is very probable that this year your soil would benefit by an application, dug or forked in at once, of superphosphate and kainit, at the rate of 5 lb. per rod, in equal portions, and adding a dressing of sulphate of ammonia, 3 lb. per rod, over the surface after crop growth has begun. Your subsoil may be porous, but it needs breaking up, airtight, and manuring for the good of the crops.]

Temperatures for Mushrooms.—Now that we have got into what is generally the coldest period of the year, Mushroom beds will not keep in bearing unless a genial and equable temperature can be maintained within the structure. Where a regular supply of Mushrooms is looked for and no attempt is made to keep up a genial warmth, the supply will naturally fall off suddenly. The beds may not be spoiled and they may even bear again when a genial time arrives for their so doing, but a growing temperature must be maintained if Mushrooms are to be secured. For this reason, if the temperature can be maintained at 55 degs. or a few degrees lower in a very cold weather, there need be but little fear of the Mushrooms failing—that is, other conditions being right. Very often a growing temperature may be maintained by the aid of fermenting material, a heap of this being placed within the structure and turned occasionally, the ammonia which is given off being very beneficial. In unheated sheds and sae-like places where beds are made up, the temperature must be kept up by coverings of dry litter or hay. If it becomes damp through contact with the bed, it should be turned occasionally, placing the drier outer covering against the bed. If this is not done, the spawn is apt to be drawn through into the damp

GARDEN WORK.

Conservatory.—Bulbs of *Lilium Harrisii* that were potted early will now be coming forward, even where only moderately forced. If some use is made of retarded bulbs, one need never be without white *Lilium* now, and the flowers are almost indispensable for wreath making and other decorative work. *Lucaulia gratissima*, which has done flowering, may be pruned back. If grown as bushes in the borders the plants may be cut rather hard back, but when trained to a wall the pruning may be less severe, as the young shoots may be trained in if there is a wall surface to cover. Strong-growing climbers, such as *Tacsonias* and *Passion-flowers*, are breaking into growth, and the young shoots should be thinned, and those left trained in. *Heliotropes* planted in the border should be pruned in more or less, according to the space to be covered. Young plants of *Heliotropes* for early flowering in pots should be shifted on and helped in a warm-house near the glass. Sometimes young plants are selected now and trained as standards for summer flowering. Some of the newer varieties have very large flowers. Lord Roberts has very fine flowers, and *Queen of Whites* is a good companion to it. Cuttings rooted now and grown freely in heat will make fine plants by June. The early-flowering white *Marguerites* are useful, and will soon be coming into bloom. Forget-me-nots and white *Pinks* gently forced are charming for grouping round the margins of the stages or borders, and the flowers are useful for filling small glasses in the drawing-room or on the dining table. The temperature that will suit plants from the forcing-house will not be much under 50 degs. at night. Cuttings of *Tree-Carnations* will strike now in sandy soil in heat. They may be rooted in pens of damp sand very rapidly if the pans are placed over a flue or hot-water pipe, so that the temperature remains constant. The conditions as to moisture must also be equable. Shift herbaceous *Calceolarias* into flowering pots and grow cool, but safe from frost. *Cinerarias* are very useful now, and are among the cheapest things we have, and may easily be made into large specimens by giving plenty of pot room and good soil. When well grown, the green-fly is not so troublesome. Freer use may now be made of liquid-manure in a weak state. Soot-water, when clear, is good for most things.

Stove.—Such summer-flowering bulbs as *Gloxinias* and *Achimenes* may now be started in brisk heat, and seeds of the former may be sown. Seedlings from a good strain produce very fine flowers, and there is more vigour in seedlings than in plants raised from cuttings. The propagation of *Gloxinias* from cuttings can be carried on by taking off the leaves and inserting the leaf-stalk in sandy peat in a warm pit, or the leaves may be laid on pans filled with sandy peat. The midribs of the leaves are severed in several places, and the leaves at these points held down securely on the sand by means of small wire pegs. Bulbs will form where the leaves have been cut, and rest upon the sand, and this is an easy way of working up stock from named varieties. *Begonias* may be rooted from leaf cuttings in a similar manner. A further instalment of *Peel Tuberoses* should be potted and brought forward in heat as required. The dwarf forms of *Cannas*, now so much grown both in the conservatory and outside, may be divided and brought on in heat for early flowering. When some growth has been made they can be moved to a cooler house. Seeds of *Palms* of various kinds may be started now either in pots or boxes, or they will grow if laid on the surface of the propagating bed. They can be potted up when they start into growth.

Orchard-house.—The buds are swelling fast now, and it will be best, unless the weather is very mild, to give all the ventilation from the roof of the house, and not open the front lights till the weather gets quite mild. Harm has been done by permitting a cold rush of air through the trees just as the flower-buds are bursting and the young growth showing the green points of the leaves. More water will be required now, as the roots are active, and must be supported. Do not crowd the trees. Let each have space enough for the roots to circulate freely. When the blossoms open, the

stem of each tree every day when the pollen is dry with a padded stick to distribute the pollen. There is not much difficulty in setting the fruit at this season. Disbudding should be done in a tentative way and spread over several weeks, and the same course should be followed in thinning the fruit.

Late vinery.—In the usual course, late Vines, such as *Gros Colman*, *Alicante*, and *Lady Downes*, will break in March, and it is as well to use a little fire and hasten the start a little, as it will be better to do more of the work at this end of the season and not have to fire up at the end of the summer or autumn to ripen the fruit. *Muscats* must have fire-heat if they are to finish properly, and the start should be made at once. Of course, Vines started now will not require so much fire-heat as those started two months earlier, and 50 degs. will be high enough to start with, and to keep up this temperature, or even more, very little fire-heat will be required. At this season, in mild weather, the thermometer often stands above 50 degs. at night without fire. It is during the cold, damp weather that fire-heat is wanted.

Tomatoes.—In the early house the plants have now made considerable growth, and the first trusses of blossoms are appearing. The first crop, anyway, should be grown in pots, and there will be time enough to fill the house again with the second lot of plants to come in later, so as to succeed the open-air crop and bear through the autumn and winter. If a house can be given up to Tomatoes, two crops should be produced in any season to make them pay.

Window gardening.—A few pots of *Forget-me-not* can be brought on in the cold frames through the winter, and moved to the window now with *Snowdrops*, *Crocuses*, and *Narcissus*. *Canterbury Bells* will come later. The various forms of hardy *Primulas* are lovely in the window now. Among tender plants *Cinerarias* are bright and effective. The only trouble with them is to keep down green-fly. If they cannot be smoked or vaporised turn the plants upside down and dust a little Tobacco-powder among the leaves.

Outdoor garden.—Beds intended for choice *Carnations* should have the last turn over with the fork. A sprinkling of soot just previous to forking will be useful. Fresh leam, if obtainable, is a better dressing than manure. I am assuming the soil in the beds is not poor. Disease often attacks the over-manured plants. Hybrid *Columbines* are lovely things in the borders. Those who have no stock may sow seeds now in a little warmth, and grow on under glass till strong and then plant out in groups. Those who want bright, cheap masses of flowers in beds and borders may sow *Antirrhinums* in heat now. Prick off into boxes when large enough, and plant out, when sufficiently hardened by exposure, in cold-frames. Great improvement has been effected in these plants of late years. The self colours are best for general effect, and if the seeds are carefully saved the seedlings come fairly true. *Dahlias* may be started in heat and seeds sown to raise new varieties. Finish planting late-flowering *Lilies* and prepare beds for *Ranunculus*. These have been neglected of late years, but they make lovely masses. Like all the *Buttercup* family they want moisture, and to meet this need place a layer of cow-manure, about 10 inches or so in depth, in the bed. When the beds are ready draw drills 8 inches apart and 2 inches deep, and plant the bulbs, claws downward, 5 inches or so apart. All kinds of planting may be done now. When planting now and onwards settle the soil round the roots with water.

Fruit garden.—Morello Cherries and cooking Plums are the most profitable fruits to plant on the north walls, and the spaces between the trees may be filled with *Red* and *White Currants*. To grow good *Figs* away from the south coast the roots must be kept within reach. This can be done either by planting on a bed of concrete or by placing from 9 inches to a foot of brickbats or clinkers and grouting them in with lime, which will be cheaper than concrete. This foundation under each tree should be 5 feet square, and at any future time the trees make too much growth the roots which have passed the edge of the

foundation can easily be lifted and shortened. The same course can be adopted with *Peaches* and *Apricots* where the subsoil is clay. The depth at which the foundation is placed must depend upon the character of the subsoil, drainage, etc. But when the soil is bad the roots can easily be kept out of it, and the cost need not be excessive. Those who are thinking of planting open-air *Grapes* might adopt the same course with advantage. All pruning and training should be completed as soon as possible, as the buds are swelling. It is difficult to give an opinion upon next year's fruit prospects. The wood in many places was badly ripened, and blooms will set badly, if at all.

Vegetable garden.—There is one piece of advice which may be given with advantage now, and that is: Do not tread on the land when it is wet. If seeds have to be sown on the early borders, and the sower cannot wait, let him use a board and move it along as the work proceeds. This is a very old plan when planting out small plants, such as *Lettuces*, and for sowing small seeds on damp land. In most gardens the seeds for many crops will remain a little longer in the seed bags, unless the weather should compel us to come out and sow. Onions may be sown towards the end of the month, but if anyone wants big Onions he will have sown the seeds in a box, and they will now be on a shelf in the greenhouse gathering strength ready for planting out in April. Parsnips may be sown now, and *Salsify* shortly. Plant out *Seakale* cuttings in rows 15 inches apart and 12 inches from each other. The land both for this crop and *Asparagus* should be deep and in good heart. Soil forms a good dressing for both plants, and may be used at the rate of 1 lb. per square yard and forked in. I like to plant *Asparagus* when the growth is just moving, which is not before the end of March or beginning of April, and if plants have to be purchased, get them as near home as possible and plant on arrival, but it is best to raise *Asparagus* plants at home. Seeds may be sown now. E. HODGKIN.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

February 23rd.—Sowed more Peas, including early and second early kinds. There are never too many early Peas. Longpod Beans have also been freely planted, as the latter crops, as a rule, are not equal to the early ones. The hoe is used freely among the rows of *Spinach*, *Winter Onions*, *Lettuces*, and *Cabbages*. More of the two last have been set out from the seed-beds, and seeds have been sown both under glass and outside, too, for succession. Took up the last of the *Jerusalem Artichokes* and selected sets for planting.

February 24th.—Covered rows of *Seakale* outside with sandy soil for blanching 1 foot deep in a ridge shape. One *Asparagus* bed has been covered with spare lights to forward the growth. This comes in between the forcing-bed and the unprotected crop-beds outside. Sowed *Tomatoes* for planting in cool-houses and on south walls outside. The *Grapes* in earliest houses are now being thinned. These are *Hamburgh* and *Foster's Seedling*. *Spinach* is sown as a catch crop between rows of Peas.

February 25th.—Lawns and walks are rolled as often as is necessary to maintain an even surface, generally after rain or frost, when the surface requires pressure. Finished washing fruit-trees with an insecticide. We find this useful in reducing insect enemies. Wall climbers have been pruned and tied in and thoroughly soaked with an insecticide.

February 26th.—Pruned Ivy on buildings, and where need as edgings or to cover ground under trees the same treatment is given to ensure a close, green growth all through the summer. Some evergreens that had become too large for the position have been cut rather hard back, and a few old *Laurels* have been grubbed up to make room for *Hollies*. Planted more early *Potatoes*. A little warm earth has been placed round *Potatoes* in frames.

February 27th.—The conservatory has been rearranged, and the places of faded plants filled with others just expanding their flowers. Groups of *Hyacinths* and *Narcissus* are very

conspicuous. Hyacinths are arranged in groups of one colour. Lilacs are very useful now, and are easily forced when established in pots. Japanese and Indian Azaleas and the old Azalea pontica, being so sweet, are all effective. Of course, as fast as one batch leaves the forcing-house another takes its place.

February 25th.—Propagating in most of its forms is continually going on. A good deal of the work that was formerly done in pots is now done in shallow boxes. All such plants as Alternanthera, Colens, Iresine, etc., required for hedding do well in boxes, and it saves space. We have commenced repotting our collection of stove plants, and suitable cuttings are taken when required to keep up stock. Most things will root freely during the next two months if kept close in a brisk bottom-heat.

FRUIT.

APPLE BELLE DU BOIS.

This, one of our best cooking Apples, is often grown under the names of Gloria Mundi and

planted 3 feet apart in fairly good ground, and may so remain for two years. After planted now, though best a few weeks later, the single shoots or stems on each maiden should be cut back to some 9 inches from the bud insertion. They will form probably three or four shoots from each stem, and those should be encouraged by giving liberal waterings and a mulebing of manure over the roots in the summer to make strong growth. The following year these shoots may be in turn hard cut back to, say, 12 inches length of branch, and each one breaking into two or three shoots will thus practically lay the sure foundation of a proper bush-tree. Early that winter the trees, then well worth 2s. each, will need to be lifted and replanted in entirely fresh soil; indeed, now they will be ready to furnish the ground they are intended to permanently occupy. But, being yet so small, the trees may be planted in rows 12 feet apart, and the trees in the rows 6 feet apart. So planted and more moderately pruned each year they can all remain for two years, the intermediate ground being otherwise cropped. Then, if other ground be ready, every other tree can be lifted

young trees have evidenced. That shows how well frequent transplanting tends to create what all fruit growers need—early fruitfulness in their trees. A. D.

NOTES AND REPLIES.

Suckers from Plums.—I had a quantity of suckers from an old Victoria Plum-tree given me about a month ago, which I straightway planted. The average size of them is about 26 inches high, and of good, stout growth. Will these be suitable for budding this coming season? Should they be cut down before budding or after, and could they be grafted the following season if budding failed this season?—S. W.

[These should be fit for budding next July, provided they go on satisfactorily. See that they do not suffer from the want of water later on, should the weather set in hot and dry during May and June. Cut back the growths to within 6 inches of the ground, a little before budding takes place. Should the buds fail, the stocks may be grafted next spring. Why not head down now at once, and graft this spring as soon as the sap is well on the move, so as to gain time, the Plum doing equally as well when grafted as when budded?]

Treating Strawberry-bed.—I made a bed of young Strawberry plants about a year ago, and put a great deal of manure into the bed at the time. I gave none since then, but during the summer time and autumn I covered the beds with dry straw from the manure heap. It is still on them, and looks very wet, kindly tell me should it now be taken off, and if this is the proper time to dig in fresh manure between the lines, and when should straw again be put on the beds?—G. M. N.

[Provided your straw dressing applied to your Strawberry bed last summer did not cover the plants, but allowed the leaves to be fully exposed to light and air, no harm was done, and perhaps some good. But leaving it amongst the plants now can only result in causing the soil to be wet and cold. Remove it at once, let the soil dry a little, then to allow air to penetrate, with a fork just point over the surface from 2 inches to 3 inches in depth to sweeten it, but do not dig, by any means, as that would harm the roots greatly. The plants cannot now need more manure as you seem to have dressed them very liberally. So soon as the plants have bloomed, lay them out carefully under the leaves and trusses of forming fruit some clean straw or dry straw-litter just to keep the fruit from the soil and clean. After gathering the fruit and clearing off all runners in the summer, then you may apply a dressing of manure to be washed in.]

Winter pruning.—Now is the time to get on with this important work, for although most cultivators have different ideas as to the extent to which pruning should be carried, few would go so far as to say that it can be dispensed with altogether. The first thing to do in pruning is to begin in the centre and clear out all useless spurs and cross-pieces, so that the light and air can penetrate right into the centre, then thin out any pieces that seem to be overcrowding their neighbours and shorten the leading annual growths to about half their length. Any that are required for forming new fruiting spurs must be shortened to three or four buds. Of course, this refers to bearing trees. Younger trees that are forming heads must have the leading growths left two-thirds of their length, so that they may form the main branches of the tree. The grower should know the habit and peculiar growth of each kind and regulate the pruning accordingly, as some kinds fruit on the tips of the young wood better than on spurs.—J. G., Gosport.

Bush fruit planting.—When carrying out the annual planting operations the bush fruits should not be overlooked or neglected. Undoubtedly October and November are the best months for this work, but all are not able to get through the work so early, and very little if any difference will be seen ultimately in bushes planted early or late in the winter so long as mild and open weather is chosen for the work. Currant and Gooseberry bushes are often kept cumbering the ground for years after they have passed their prime, and the same remark applies, in perhaps a less degree, to Raspberries. No doubt this is often the result of having no available young bushes to take the place of the old ones, but cuttings are so easily struck and brought on to bearing size that this should be no excuse. There may be a slight lessening of the bulk of fruit from young bushes, but the fruit will be much finer and more satisfactory. Wholesale clearance of



Apple Belle du Bois (syn. Gloria Mundi, Baltimore).

Baltimore. As our illustration shows, it is a very fine fruit, and used to do well at Chiswick when grown on the Paradise stock. It is a favourite Apple with exhibitors, owing to its large size, its season being from October to Christmas. Belle du Bois is a large, pale green fruit with flattened base, angular, sometimes oblong, flesh firm, with a somewhat acid flavour. It is best used early in the season, as it soon loses its briskness. Many object to it as being a shy bearer, which in some soils is true when worked on the Crab, but on the Paradise we have never found it fail. Grown in bush or pyramid form it makes a handsome tree, but the bush is the better, as the fruit can be more easily thinned in this way, and no one will regret having a tree of this Apple in bush form in the garden.

BUSH FRUIT-TREES.

If anyone not too advanced in years wishes to embark in the culture of hush fruits—Apples especially—and wants to obtain trees fairly cheap, he can hardly do better than purchase maidens suitable for making bush trees, worked on the Paradise stock, which may be had from 9s. to 10s. per dozen. Those can be

and be replanted, still in rows 12 feet apart, and each tree 12 feet from the other in the row. The check thus given will prove very advantageous in inducing the young trees to carry fruit, and, in the case of the latest transplanted, it is probable that gross root or wood growth never would result. Of the trees left, should some seem to be too gross, it will be wise to lift them carefully and replant them, as they, too, will greatly benefit by the check. When very young trees, and especially maidens but one year from the bud, are planted permanently, they are apt to become too deep-rooted for fruit production.

It may be said that all that has been advised means considerable labour. That may be so, but it has, on the other hand, two important compensations. First, the plan advised recognises the fact that economy in the use of land, which in the interim may be producing other and profitable crops, is important until the trees become productive. The second is, that the transplanting not only saves great waste of labour later in root-pruning big trees, but tends to induce earlier fruiting, and thus the extra cost for labour is well repaid. I have often noticed in nurseries the result of the precocity of fruiting yearly moved

plots may not be wise, but a row or two at least could be destroyed yearly. Very old stools of Raspberries get their roots matted together, this and the dead remains of previous growth making good progress impossible. As plantations are made to last a few years, the ground should be trenched and heavily manured. Raw manure, however, is not good for the roots, and where this has to be used a good plan is to crop the ground once after trenching and before planting the bushes. This answers a two-fold purpose, as it enables the manure to become mellow and gives the ground a chance to settle. All manuring done after planting should be in the form of an annual mulching, and no digging should ever be permitted between the bushes.

Planting Apples.—The right time to advocate the claims of any class of fruit is during the planting season, so that intending planters may be able to form some idea as to which are the most reliable varieties as regards quality, cropping, and the length of time the fruit will keep fit for use. It must be borne in mind that soil has not a little to do with each item mentioned, but much may, and is done in supplying to the soil whatever element may be found wanting. Not only this, I consider it should be clearly stated by those writing for the benefit of others, what kinds of soil they find certain varieties a success in when advocating their extended culture. The fruits sent with this were grown on a good deep loam, resting on the old red sandstone—an ideal soil for the Apple. Lane's Prince Albert was not so fine last season as is usual with this variety on standards. Last year the trees were literally loaded, and thinning of the fruit was put off from time to time, until it was too late, hence the indifferent fruit. One can tackle bush or pyramid trees, but to thin out fruit on a large-headed standard tree means labour, and just then it is a busy season. The accompanying fruits were grown on bush, espalier, and standard trees respectively.—DEVONIAN.

[With the above note we received some very fine, highly-coloured specimens of Peasgood's Nonsuch, Newtown Wonder, Lane's Prince Albert, and Gascoigne's Scarlet. Peasgood's Nonsuch and Gascoigne's Scarlet were especially fine, showing that even in an unfavourable season the soil has much to do with the high colour invariably found in Apples grown in the West of England, more especially South Devon.—En.]

Pruning Apricots.—Assuming the trees were well attended to as regards pinching in the early summer months, little pruning with the knife will be required beyond shortening back to the second or third basal buds, shoots so operated on to form spurs, and shortening to about one-third their length ill-ripened or very robust shoots, though the latter should have been done in the summer, and the tree root-pruned in October or November if considered necessary. Cut out any dead branches or spurs before training in the past season's wood, in case the tree requires readjusting. It is necessary to lay in annually a certain amount of young wood without crowding, as the finest Apricots are got from these shoots, though good fruit are had from spurs which should be kept as near the wall as possible, as the trees flowering so early in the year are liable to get much more damaged by frost when standing out too prominently from the face of the wall. Be careful the shoots do not come into contact with the nail, which soon causes gumming. Newly-planted trees must be cut back before the buds advance, shortening maiden trees to within 9 inches of the union of scion and stock. It is much better to transplant young trees annually when making strong growth than to cut too much with the knife. The border, which should be quite 4 feet in width, requires the same treatment as advocated for Peaches, after the necessary pruning, cleaning up, etc., have been done.—EAST DEVON.

Request to readers of "Gardening."—Readers, both amateur and in the trade, will kindly remember that we are always very glad to see interesting specimens of plants or flowers to illustrate, if they will kindly send them to our office in as good a state as possible.

GARDEN PESTS AND FRIENDS.

GALLS ON OAK LEAVES.

AMONG fell-down Oaks (common) one tree, about 12 feet high, is covered like the enclosed. I should be glad to know the cause, and whether it is an insect or fungus, and the name? It does not seem to injure the tree at all, as the summer growths appear to be healthy.—SOMERSET.

[The strange growths which you found on a small Oak-tree are galls formed by the grubs of gall-flies. You have sent specimens of two different kinds; the sealy and somewhat conical ones are very common on small Oaks, and particularly on those growing in positions in which their growth is to some extent stunted. They are commonly known as Artichoke or Hop-galls, on account of their resemblances when fresh (in miniature) to a Globe Artichoke or a Hop. The scientific name of the fly whose grubs form them is *Andricus pilosus*. Both males and females are produced from these galls. The latter lay their eggs singly in the buds of the Oak in June or July. The action of the grubs, which are hatched from these eggs, in feeding on the buds, causes them to assume the shape of the galls instead of forming a leaf or shoot; if one of these galls be cut open about the beginning of August, it will be found that slightly embedded in the woody base of the gall is a small, somewhat oval gall, about one-eighth of an inch in length. This is the true gall, and contains the grub; a little later in the season this falls to the ground, and the grub in due course undergoes its transformations. In April the fly makes its way out of the gall. The flies from these galls are all females, and, instead of laying their eggs as their mothers did in the buds, they lay them in the male flowers of the Oak, where their grubs form little oval, hairy galls, very unlike those from which their mothers came. From these galls in June or July, according to the season, emerge flies of both sexes, and the females lay their eggs in the buds as their grandmothers did.

The round gall which was cut open is quite a different gall. It is also formed by the grubs of a gall-fly. They are generally known as Oak-Apple-galls, and are among our largest galls, measuring sometimes as much as 1½ inches in diameter. These galls are formed by the grubs of a fly known as *Biorhiza aptera*, which lays its eggs in considerable numbers in an Oak-bud, frequently selecting the terminal-bud on a shoot. The grubs undergo their transformations in the galls which remain on the tree. The flies which emerge from these galls are both males and females, the latter not winged, or having only very rudimentary ones. They crawl down the stems and make their way into the ground, where they lay their eggs in the roots. The galls which result vary considerably in size from that of a Pea to 3-inch in diameter. The flies which are produced from these galls are all females, and usually make their appearance in December or January. They make their way to the surface and climb up the trees until a suitable bud is reached, when they deposit their eggs in it, and it eventually becomes an Oak-Apple. With many other gall-flies, as with those I have alluded to, two generations are necessary before the metamorphoses of the species are complete. This "alternation of generations" is very unusual, but there are other instances in the animal world. In both the Artichoke and Oak-Apple-galls it will be often found that other insects make use of them as breeding places, so that several different kinds may be bred from one gall.—(G. S. S.)

NOTES AND REPLIES.

Leaf curl.—I will be very glad if you can inform me if the leaf curl mentioned in GARDENING, Jan. 31, is what attacks Rose-trees—it has puzzled a good many round here—and, if so, where the Bordeaux mixture can be obtained, if suitable for them?—CHESHAM.

[No; the leaf curl of Roses is caused by a maggot, which can be found enveloped in the leaf. Only handpicking will avail to clear off this pest. We have given the recipe for making Bordeaux mixture frequently in our pages.]

Insects in Rose-bud (H. H.).—The insects which you sent are the grubs of a small fly belonging to the family Anthomyiidae, many members of which are injurious to the roots of plants, particularly to various kinds of Cabbage. They do not, as a rule, attack plants which have only fibrous roots. You do not suggest that they have injured your Roses; many of these grubs feed on, decaying veg-

table matter. Perhaps your Roses have been heavily manured or mulched, in which case the grubs have probably fed on the manure. You would be quite safe in sowing Peas later on, as the grubs would by the time the Peas germinated have become chrysalides, in which condition the insect is perfectly harmless.—G. S. S.]

Grubs in soil.—As I am much troubled with the enclosed grubs, could you give me any idea of its cause, and what are the best remedies? I have them in pots as well as outside. I have lost a lot of *Cinerarias* through them. The plants seem to droop as if dry, then suddenly die. The enclosed were among *Rhubarb*, and are simply swarming there. What could I do not to harm the *Rhubarb*?—J. HITCHINS.

[The insects at the roots of your *Rhubarb* are grubs of a fly, but I am sorry to say I cannot give you its name. It is very difficult to destroy grubs when at the roots of plants without injuring the latter. Many insecticides, such as paraffin emulsion, tobacco-water, etc., would no doubt kill them if it could be made to reach them properly, but passing through an inch of soil takes much of the strength out of the liquid, and even then it is a question if any reaches the grubs so as to cover them. Unless you find that they are actually feeding on the roots of the *Rhubarb* it is possible that they are living on the vegetable matter surrounding the *Rhubarb*. If *Cinerarias* or other plants in pots are attacked, as soon as they show the slightest signs of flagging they should be shaken out and the grubs removed. I cannot suggest any better remedy, though it is a tiresome one.—G. S. S.]

The Apple-blossom weevil.—Last year I had a fair show of Apple-blossom, but no Apples. The buds of bloom died off on the trees. I noticed there were maggots in them. I also noticed a good many flies about the trees, large flies like blue-bottles, only greyer in colour. If you can advise me what to do, so that I may stand a chance of getting a few Apples this year, you will most oblige.—BORTH.

[From what you say, we expect your Apple-blossoms have been attacked by the grubs of the Apple-blossom weevil. These weevils gnaw a small hole in the centre of the flower-bud, in which is deposited an egg, which is hatched in a few days, the grub at once beginning to feed on the interior of the bud, and becoming a chrysalis under the shielded, unopened petals. It would be advisable before the buds show any signs of opening to spray the stem and branches with a caustic wash, for the weevils often pass the winter in the cracks of the loose bark. They also hide under any rubbish at the foot of the trees or in the Grass, so that by keeping the trees clear round the roots much may be done to prevent an attack. A good recipe for the caustic wash is as follows: Put 1 lb. of caustic soda into a gallon of water, then add 3 lb. carbonate of potash, stir until all has dissolved, then add nine gallons of water. Last of all, add 10 oz. of soft-soap that has been dissolved in hot water, stir again, and when all is well mixed it is ready for use. Be careful that none of the wash touches the hands.]

Worms in soil.—I am sorry the little insects which I enclosed to you a week or two ago got dried up in transit. I enclosed some more of the same kind, which I trust will reach you in a good state of preservation. I shall feel grateful if you will kindly tell me what they are, and their cause and cure? They are most destructive to plant life, especially soft-wooded plants. I never see anything like them till about twelve months ago in my garden or plant-houses.—A. WATSON.

[Your second consignment of pests reached me in good order. They are most wonderfully related to the earthworms, but belonging to another family—the Enchytraeidae. Several members of this family are very injurious to the roots of plants. If placed in lime-water they die in the course of three minutes, so I imagine they might be killed by soaking the roots of the plants with this liquid, which should not injure the latter. In the case of plants in pots, when repotting them care should be taken to prevent any of the soil which might contain the worms or their eggs from coming into contact with the soil that is not infested on the potting bench. It would be better to turn the soil on to a sheet of paper than on to the bench, where some of the pests might get into cracks, etc., and afterwards get amongst noncontaminated soil. I cannot find any accounts of experiments having been made to destroy these creatures, and I have had no opportunity of trying any myself, except that of the lime-water, which seems very successful if the worms can be brought thoroughly into contact with it.—G. S. S.]

TREES AND SHRUBS.

FLOWERING SHRUBS.

FLOWERING SHRUBS, of which there is an ever-increasing supply comprising many lovely new species and varieties, are, when rightly used, capable of rendering our gardens interesting and charming from midwinter until autumn. Especially is this the case in the warmer localities of our islands where many tender subjects remarkable for the beauty of their foliage or flowers flourish unprotected in the open air. Such a spot is represented in the accompanying illustration, which shows in the foreground on the left hand an example of the sword-leaved *Cordylina australis*, backed by a vista of blossoming *Rhododendrons*. At Christmas-tide and through January the *Winter Sweet* (*Chimonanthus fragrans*) bears its deliciously fragrant yellowish flowers, inconspicuous when the shrub is trained to a wall, as is the usual custom, but a pretty sight when grown in bush form with a background of some dark evergreen, such as *Yew*. Another striking winter-blooming shrub is *Homamelis arborea*, whose bare branchlets are thickly studded with flowers resembling narrow twisted

shrub perceptibly diminishes, and of those that bloom in August, the list is decidedly limited; but the fewer their number the greater their value, and such as *Arolia spinosa*, *Pavio macrostachya*, *Hibiscus syriacus*, *Clerodendron trichotomum*, and *Indigofera Gerardiana*, in a warm site, are doubly welcome.

Any note on flowering shrubs would be incomplete without a reference to *Rhododendrons*, a host to themselves. Though hundreds of thousands of *Rhododendrons* are grown in the British Isles, only many of the rarer species and varieties flourish in widely separated districts, it is in southern Cornwall that these glorious flowering shrubs can be studied to the best advantage. Their flowering season extends from October, when *R. Nohleanum venustum* commences to bloom, until early June, at which time the grand *R. Nuttallii*, with white blossoms 5 inches in diameter, and *R. Dalhousie*, with large yellowish-white flowers, may be seen in the open. Among the most notable examples in Cornwall are the great *R. Falconeri*, at *Tregothnon*, 22 feet in height and 30 feet in diameter, which in 1902 bore over 1,000 bloom-trusses; *R. argenteum* or *grando*, 16 feet in height, in the same gardens, which last year carried over 300 bloom-trusses; the splendid

bark to stop its cells. This reminds us of a *Magnum Bonum Plum* we saw growing against a wall in the same garden alluded to in *re* *Conifers*. It was a very old tree, whose centre was entirely decayed—in fact, a large hole right through the stem—and the only thing that sustained the tree, which bore heavy crops, was a very small piece of bark on the one side of the tree, which had been treated as above with good results.]

Hedges of Yew and Beech.—The combination of the above well-known plants makes a splendid hedge, and one that may be quickly raised. All who have planted *Beech* are aware how it is apt to become thin at the base, but by mingling with the plantation a number of common *Yew*, the latter supplies an excellent base. How our *Rose* gardens could be shielded from cold north and east blasts if such a hedge were planted in the aspects named. In May and June nothing in the foliage way appears more lovely than the tender *Beech* foliage, and in autumn and winter the russet-brown is also picturesque. —*Rosa*.

The Sea Buckthorn (*Hippophae rhamnoides*).—Shrubs in flower being at this time of

the year very few, those with ornamental fruits now assert themselves, there being a great choice of these open to the planter. In the colour of its berries, however, the *Sea Buckthorn* stands out almost alone, as they are of a bright orange tint, without any of the shades of red which are so prevalent. The *Sea Buckthorn* is in itself a handsome loose-growing shrub, thickly clothed with silvery *Willow*-like leaves, while the shoots of the previous year are closely packed for some distance with these bright coloured berries, which are about the size of *Peas*. It is essentially a moisture-loving plant, and is never so happy when planted close to the water, so that the roots can obtain as much moisture as they need. In planting this delightful shrub it should be borne in mind that the male and female flowers are produced on different plants, hence to ensure berries the two sexes must be planted close to each other. If planted in a group one male plant will be sufficient to ensure the fertilisation of half-a-dozen females. —*X*.

A supposed Desfontainea.—I shall be pleased to receive the specimen referred to by "M. A. H.," page 618, at any time, there being no danger of its slipping my memory, as, strange to say, the greater portion of my schoolboy days (now, alas! a long while ago) was spent at *East Budleigh*, in which village the cheryard occupies such a prominent position. More than this, my youthful love of flowering trees and shrubs was first awakened, and then further stimulated, by a particularly fine specimen of the *Orange Ball Tree* (*Buddleia globosa*), which, forty years ago, flourished in the neighbouring hamlet of *Kersbrook*. —*W. T.*

Shirley Popplee.—No flower borders, where sunshine reaches, need be wanting for gayness in the summer so long as *Shirley Poppy* seed is obtainable. Presently will be the time to make a sowing which should be very thin, as if this is not done the seedlings smother each other. The fine seeds will not need more than just covering with soil. Thinning the plants is almost a necessity, as it is those having the most room which afford the finest blossoms. A pinch of soil should be



A garden vale of hardy flowering shrubs. From a photograph sent by Miss Sophie M. Wallace, Ardnamore, Lough Eske.

trips of gold-leaf. Towards the end of February and in the earliest days of March *Vuttalia cerasiformis* commences to perfect its drooping racemes of small white blossoms, closely followed by the *Cornelian Cherry* (*Cornus mas*), whose little flowers, their petals standing out like wheel-spokes, cloud the shoots with pale yellow. *Prunus Davidiana*, both in its white and rose-coloured forms, is generally in flower in January, as is that noble leafy *Erica codonodes*, which often exceeds a height of 6 feet, and the sweetly-scented bush *Fonysuckle*, *Lonicera fragrantissima*. In the south-west the great *Camellia* bushes are in flower more or less from November to May, and when at the zenith of their display, their shoots drooping beneath a wealth of blossom, white, pink, or crimson, present a charming picture. *Camellias* are hardier than *Laurels*, and in the colder districts their flowers, borne in the winter and early spring, are almost certain to be roodeder unsightly by frost. The *Almond* blossom, expanded in yet spring has dispossessed winter, followed by numerous other early-flowering shrubs, whose ranks are ever augmented as the days lengthen, until the gardens are embowered in their prodigal blossoming. As the summer matures, flowers of *Crab* and

R. Aucklandi or *Griffithianum*, at *Killow*, 13 feet in height and 22 feet in diameter, now nearly 40 years old, that last year was smothered in its great white blossoms: the unequalled specimens of *R. arboreum* and its hybrids, some of them over 25 feet in height and 30 feet in diameter, at *Tremough*, where fine examples of *R. Falconeri*, *R. Aucklandi*, and other rare species are also to be seen. Of other handsome species and varieties to be met with as large bushes in the open are the crimson *R. barbatum* and *R. Shiloni*, *R. fulgens* (almost scarlet), the pale yellow, honey-scented *R. campylocarpum*, *Lady Alice Fitzwilliam*, *Countess of Haddington*, *Beauty of Tremough*, and others too numerous to name. *S. W. F.*

NOTES AND REPLIES.

Decay on tree trunk.—In reading this week's *GARDENING*, I find, in answer to query "Decay on tree trunk" in notes and replies, that you state that *Stockholm tar* ought not to touch bark of trees. Does this apply to fruit-trees, and, if so, please give reasons?—*S. W.*

[Yes, the remarks given upon this subject in our issue for the 31st January apply to fruit trees as well as *Conifers*, and our reason in so advising is that we have always found the bark of damaged trees heal over very much quicker than the bark which has been placed over the

sown on a partly shaded border, as it is from plants grown there that one may obtain blooms that do not drop their petals prematurely.—WOODBRISTICK.

PLANTS AND FLOWERS.

ROOM AND WINDOW.

PLANTS IN ROOMS AND WINDOWS.

Would you kindly let me know some of the best plants for indoors, and how to manage them without a greenhouse? I should be so much obliged if you could give me some hints.—PEPPERED.

[To grow plants in dwelling rooms and windows, in houses where gas is used and fires are regularly kept throughout the winter, further than this, to maintain them in good health, though often attended with difficulties, is not altogether impossible, as some people appear to think, provided certain common-sense rules are followed. In the first place, plants intended for rooms should be obtained when young, as it invariably happens that failures occur to those that are fully grown—generally speaking with specimens forced into bloom with one special object—viz., for sale—and the changed conditions of temperature of the warm, humid atmosphere of a greenhouse, to the dry and not infrequently impure air of a room, quickly bring about an alteration for the worse. One may mention Fuchsias, (clouses, Polargoniums, Heliotropes, Heaths, Azaleas, etc., as examples of this—plants that present a beautiful appearance when offered for sale, but soon deteriorate by so radical a change, and in many instances where one has no greenhouse in which to place them, so that they may have a chance of recuperating, they die off. In order to minimise loss the wisest course to adopt is to procure plants when quite young, so that they may become acclimatised early to the conditions of the rooms.

What are the best fine-foliaged plants, and when is the proper time to obtain them, are questions frequently asked. None give greater satisfaction than smooth-leaved subjects like Aralias, Ficus elastica, and Aspidistras. To this list of fine-foliaged plants one may add Asparagus, like plumosus or nanus, and Cyperus alternifolius, whilst hardy Ferns and Silver and Golden Ivies, trained on frames, are often found useful in rooms where much sunlight cannot enter. If these are obtained young, potted on as they require it, the chances are that success will follow, other cultural directions, of course, being adhered to, whereas fully developed plants from greenhouses often turn yellow after a few weeks in their new surroundings.

With regard to flowering plants for a room, there are many suitable hardy flowers. Campanulas, Spiræas, Pyrethrums, Chrysanthemum maximum, Irises, Lathyrus latifolius albus (for halls and odd corners) are a few of the many plants that may be potted up. Then, again, what cannot one do towards beautifying a room with bulbs? In the autumn, Hyacinths, Tulips, Spiræas, Creceuses, Snowdrops, Scillas, and Narcissi, if potted and brought into the window when growth is showing, will make a place charming weeks before outdoor blossoms open, the chief difficulty being the keeping of the pots and plants in a dwelling house before they can be brought into a window. There are not many houses where space cannot be found for them, perhaps a spare room, and anyone specially interested in plants and flowers will find a way to achieve the object in view.

To keep plants healthy, keep the atmosphere as pure as possible by admitting fresh air every day, remove them occasionally to other rooms where gas is not burnt, water only when they need it, shade them from hot sunshine by drawing blinds, attend to them daily—in other words, treat them in a reasonable manner. Fuchsias, Balsams, and Mimuluses make good window-plants, the two latter being raised from seed in March, but often suffer through inattention in shading them from hot sun. The one also who desires a show of autumn flowers in the window is scarcely likely to overlook procuring a few of the early-flowering sorts of Chrysanthemums in May, and potting them on or plunging them in the

borders until September, when they will lift with little or no harm. You may not have a scrap of "glass," but, nevertheless, you may keep your window gay for many months in the year by a little scheming and planning.]

Freesias as window-plants.—It is quite possible to grow this fragrant flower successfully in rooms. Specimens with seven or eight good spikes may easily be had in May or June, if a few necessary details are attended to. In the first place it is incumbent that good, strong bulbs are obtained. The bulbs that are offered at a very cheap rate are seldom of much good—they either throw up weak flower-spikes, or do not bloom at all. Get them from a reliable source, pay a fair price for them, and you will get some satisfaction from their culture. Five bulbs may be put into a 4½-inch pot, or eight into a 6-inch pot, the compost to consist of loam with a liberal addition of leaf-soil. They should be potted about the middle of August, and the best way is to stand them in the open-air in the full sunshine, watering only when dry, and very moderately until the end of September. In this way the bulbs will start freely, and make short, sturdy growths of a couple of inches before it is time to put them indoors. On no account must they be wintered in a close, constantly-heated apartment—they must be kept where air can be admitted in fine weather, for Freesias continue to make steady growth all the winter in a temperature of from 45 degs. to 50 degs. Water only when dry and moderately, until the bright days come, and then more freely. A little weak manure-water should be given when the flower-spikes appear. After blooming, water until the foliage dies away, and then stand the pots where they are fully exposed to the sun. This is absolutely necessary.—BYFLEET.

INDOOR PLANTS.

THYRSACANTHUS RUTILANS.

I HAVE some plants of *Thyracanthus rutilans* with plenty of foliage. What heat do they require, and what treatment to induce them to flower?—READER.

[At the present day many of our fine flowering old plants are in danger of being lost, the plant about which you inquire being one of them. Some thirty years ago this used to be found in every garden where there was a stove. It blooms during the first three or four months of the year. The flowers, which are tubular in shape and rich bright crimson in colour, are borne in long drooping panicles, so that a plant of it when about a yard high is more effective than when dwarf. It usually runs up with a straight stem that loses the leaves towards the lower part, and consequently the flowers are the more noticeable. It lasts some time in bloom, the spikes coming in succession when the plant is strong. For cutting the flowers last well, and are very useful for suspending over the sides of tall pergolas. After flowering give the plants a slight rest, keeping them dry at the roots. What little pruning is necessary should then be done.

Planting is best done when growth is starting, using turfy loam chiefly with some good peat. It is well to strike a few cuttings every year to keep up the stock. These should be trained on a single stem until about 2 feet high, when a head may be formed. As soon as the warmer weather comes round—say, any time in May—the plants can be kept in a house where the temperature is less than in a stove. In favourable localities the plants are quite safe out-of-doors from June to September, keeping them in a sunny place. Brown scale is the worst enemy the *Thyracanthus* has. Care should be taken to keep this down, otherwise the plant will be spoiled.]

NOTES AND REPLIES.

Acacias from seed.—In buying some *Mimosa* the other day I was fortunate enough to get a piece with a seed-pod on. Will you kindly tell me if I can raise these acacias in a greenhouse, and the best treatment for them?—E. C. B.

[We fear your seed is of little value, as it is not ripe. You can, however, try sowing the seeds in sandy peat in February or March, and standing on a hotbed. Soak the seeds in warm water several hours before sowing.]

Geraniums dying off.—Will you kindly inform me the reason for the rotting away of *Geraniums* (I have in a greenhouse heated by a small gas apparatus?) They

start by turning black at the top of the plant, and gradually work down to the roots. If the top be cut away a mildew seems to adhere, and rotting again takes place. I have sent cuttings to more correctly describe what I mean.—F. M.

[Are you quite sure that none of the fungus can reach the plants, as, if so, this would probably be the cause of failure? Or it may be that you are keeping them too wet at the roots, the atmosphere also being damp and close.]

Carnation Deutche Bruant.—In a recent issue of *GARDENING*, "A. W." praises the above tree or winter-flowering kind. The thing that surprises me in the note referred to is that the variety in question is, according to "A. W.," "quite first rate." I would not even class it so high as second rate; indeed, I would not give it room to-day, for I know of no white Carnation that produces so many blind buds, and so much material that is useless. The experience of "A. W." is limited, however, and it would also appear he has disabused his plants by the reference to "about five blooms expanded on a plant." Those are probably the first or crown-buds. If not disabused these will not only be the first, but the last of any value. It is a type of Carnation I could never regard as "first class," for the petals in form is quite third class, and not less so in its smallness. "A. W." compares this kind to *Mlle. Carlé*. There are many who fail to grow this latter with success. Those who do, however, know that in *Mlle. Carlé* almost every flower will expand, while in *Deutche Bruant* the lateral blossoms, when these open at all, are one-sided and inferior. If "A. W." really wants a winter-flowering Carnation to "quite first rate," he has only to get *Ma S. J. Brooks*.—E. J.

Gloriosas.—It is doubtful whether we have amongst warm greenhouse plants climbers that are more gorgous when in blossom than the subject of this note, the *Gloriosa*, and now depending from the roof of a conservatory the flowers are most attractive. One cannot say that the *Gloriosa* is easy to grow in the sense we may speak of *Clematises* or *Paeonifloras*, as, being of a tuberous growth, the plants require more careful treatment, but all that they do not need so much as many people imagine; indeed, in houses where a minimum heat of 55 degs. to 60 degs. is kept up, there the *Gloriosa* will flourish. When the flowering season is over and the dead stems and foliage have been cut away, the pots should be laid on their sides until spring, out of reach of damp and frost. In March the tubers should be carefully taken out of the pots, the old soil removed, and repotted in a compost of peat, loam, leaf-mould, and sand, with cow-manure in equal parts, particular care being taken to see that drainage is perfect. Place the pots in the brisk heat of a propagator, and avoid giving much moisture until growth has commenced, after which water may be given liberally. A moist, humid atmosphere suits *Gloriosas*. Training of the shoots up the rafters should commence early, as if deferred there is a liability of them breaking off. *Gloriosa superba* is one of the best known flowers being orange-red and yellow.—W. F. C.

Lachenalias in pots.—How sad! *Lachenalias* are, yet of late years they seem to have fallen into disrepute, if one may judge by the comparative few that are now met with. They require to be potted in good rich material and grown on all winter in a cool greenhouse temperature well up to the roof glass. The least coddling causes the foliage to become drawn and flabby, and the flower spikes correspondingly poor. Two parts good holding manure and one part thoroughly decayed manure suit them well. Weak liquid manure may also be given three times a week with advantage when the bloom-spikes are developing in the spring. For arranging in baskets with *Cyclamens*, *Primulas*, and small Ferns they are most useful. Some gardeners grow them in ornamental wire baskets in a compost of loam, Moss, and manure. The young plants are pricked into the top, bottom, and sides of the basket, which is then suspended from the roof of greenhouse or conservatory, and regularly watered throughout the winter. In March and April their graceful mottled foliage and golden flower-spikes form a pleasing contrast and are very elegant. After flowering, the plants should be placed out-of-doors at the base of a wall where only a small amount of sunshine

reaches them, and be allowed to take care of themselves until September, and when half an inch of new growth has been made they should be shaken out, the flowering bulbs separated from the small new offshoots, and repotted. When the plants are left in the same pots two years in succession both foliage and flowers will be meagre.

CHRYSANTHEMUMS.

CHRYSANTHEMUM PHOEBUS.

Though not a new variety, this is still much grown, partly on account of its clear yellow colour and sturdiness of growth when the plant is allowed to carry but three blooms from the first crown-bud. It was thought when Modesto appeared Phœbus would be ousted,

"big or fat" exhibition flowers which sustain the interest in Chrysanthemums and are the mainstay of the shows. What I do object to is the statement "that the trade make it their business to knock out varieties that have been favourites after a couple of years because old varieties have become plentiful and cheap." As a trade grower and raiser I must take exception to it. "A. Dean" adds further, "that it is done by forcing on growers new varieties that can hardly be said now to show advance or diversity on the old ones," and also, "Chrysanthomum showing has been a fine trade boom, but it has seen its best days, happily." Quite true all the introductions do not turn out trumps, but is it not the same among Roses, Peas, Melons, and other flowers, vegetables, and fruits? The trade must retain a variety long after it is superseded

last two years, and the last-mentioned dozen are practically novelties of the past season. Is there another plant which sustains the same interest, and it was never keener than at the present time! The public (or growers) are not foolish enough to pay year after year several shillings for a variety when an old one equally good can be purchased for the same number of pence.

W. J. GODFREY.

[Is it not a fact that an exhibitor, if he wishes to be in the front rank, has a far better chance if he includes in his twenty-four or forty-eight blooms all the novelties of the past year—we mean those kinds that have been recognised either by the N.C.S., or the R.H.S.? Size now seems to be the rule, and unless a flower has this to recommend it, any other good points it may have are ignored. Raisers concentrate their efforts on size, and we have frequently seen an otherwise good bloom in every way passed over because this attribute, so necessary in the eyes of many, is wanting.—Ed.]

Amateurs' Chrysanthemums.

— It seems somewhat presumptuous on the part of "S." to say how many or how few Chrysanthemums an amateur should grow. Surely that matter is decided by taste, time, and space of each individual. I easily grow fifty to sixty plants, and have done for twenty or more years, formerly exhibiting; but, as I said in the query you were good enough to insert, I am now right away from any place where they are grown in quantity, consequently, have no means of seeing new varieties in growth, and making my own selection. Neither have I sufficient knowledge to know the capacity of a plant by seeing a mere name in catalogues, which, by the way, seem compiled for exhibitors only. Every grower knows there are kinds which only the very highest culture will bring to a satisfactory bloom. On the other hand, there are many varieties up to exhibition standard which will give a very satisfactory result without making too much demand on one's time and strength. Hence my query. As to the number, that is a mere detail, so I will amend it by saying any new (I emphasize new) varieties which answer this description. — NORTH CORNWALL.



Phœbus, a useful Chrysanthemum for market.

but though the colour is a deep golden-yellow, the plant is not nearly so strong in growth. The flower of Phœbus is of good depth when well grown. In growth it resembles Avalanche, and it is a great pity that more of the newer varieties do not take after this, as some of them are far too tall. J. M. B.

CHRYSANTHEMUM BLOOMS IN VASES.

"A. DEAN" has expressed his opinion on page 629, and whilst agreeing with much of what is stated, I must take exception to his remarks in respect to the raisers. I quite agree with him that the exhibition of blooms in vases should be encouraged, but join issue with him respecting the remark that the public are rebelling against the "big or fat exhibition flowers" in vases. I quite appreciate the medium-sized flowers known as "market stuff," but it is beyond dispute that it is the

because some growers will demand it, and it is only when a variety is not asked for that the trade grower can discard it. I have to retain scores of out-of-date kinds because they are ordered, and it would be useless to "knock out" any popular and good variety because it was old. Do not new varieties show any advance on the older ones? I will mention twenty-four Japanese sent out during the past three seasons, and ask "A. Dean" to name the same number sent out previously that are equal to these: W. R. Church, Mrs. G. Mileham, Mrs. Greenfield, Mafeking Hero, Kimberley, Henry Stowe, Chas. Longley, Mrs. Herrewige, Loveliness, Lily Mountford, Miss Alice Byron, Calvat's Sun, Mrs. Bagnald Wilde, Mme. Paolo Radaelli, General Hutton, Bessie Godfrey, Ethel Fitzroy, Duchess of Sutherland, Sensation, Godfrey's Pride, Mrs. E. Hummell, Mrs. J. H. W. Ermouth Crimson, and Ben Webb. Most of these are introductions of the

number, that is a mere detail, so I will amend it by saying any new (I emphasize new) varieties which answer this description. — NORTH CORNWALL.

Lobelia cardinalis.—I note the article on herbaceous Lobelias by "S. W. F." in your issue of January 10th, just to hand. *L. cardinalis* is indigenous here on the borders of swamps, where coarse Grasses crowd around it. Sometimes during our winter months the thermometer falls to 23 degs. below zero, yet this species and its allied form *L. sylvatica* do not succumb. *L. cardinalis* is a shallow-rooted plant, and when brought into my garden and planted either in a rather stiff clay loam or in the finer black soil in which it is found native, it is heaved up with the frozen soil and dies. Laying an inverted sod over the plants in the fall often brings them through the winter safely, but I find that the best way is to winter

the old plants in a cold-frame, tear to pieces and put in the early spring, and plant out later on. My impression is that it is not the severe cold affecting the plant itself that winter kills it, but the upheaving of the shallow roots, which in their habitat are held down by the numerous interlacing roots of the neighbouring Grasses.—H. C. EMAN, *Egansville, Highland Park, Illinois, U.S.A.*

ORCHIDS.

ODONTOGLOSSUM CRISPUM.

ODONTOGLOSSUM CRISPUM was first discovered in 1842, near Pacho, in the province of Bogota, by Carl Theodor Hartweg, when collecting for the Royal Horticultural Society of London, and was described from Hartweg's specimens by Dr. Lindley under the above name. Blunt secured plants in 1863 while collecting for Messrs. Hugh Low and Co. The first plant

months. I do not want to convey that during periods of severe frost the falling of the temperature to 40 degs. inside the house will do the plants harm, provided the atmosphere is dry and the plants also dry at the roots. In the hands of an experienced man no harm will happen with the low reading of the temperature for a short time. The nearer we keep the plants to 55 degs. by the use of artificial heat, if under or by ventilation when the temperature rises, the better. In summer the difficulty arises of keeping the plants sufficiently cool. A house with a north aspect is generally found the most suitable for these plants during the summer. A span-roofed house will meet all requirements from September to April. A cool, pure atmosphere, the latter heavily charged with moisture whenever the normal conditions of 55 degs. are reached, is one of the principal requirements of *Odontoglossum crispum*. Froo ventilation as soon as the normal conditions are reached and the

OUTDOOR PLANTS.

NOTES AND REPLIES.

The Shasta Daisy.—Can you or any of your readers give me any particulars from personal experience of the Shasta Daisy (*Chrysanthemum leucanthemum* hybridum)? (The catalogue describes the flower as a foot in circumference, and another nearly a foot in diameter—a rather wide difference. Are the outside white florets long, or is all the flower taken up with a large centre of tubular florets?—A. G. SAVILE.

Value of carbon.—Can you tell me whether broken pieces of carbon are of any use as a fertiliser either in the fruit or flower garden?—KILINN.

[The stuff you mention would not be of the slightest value in any way to the soil. Plants obtain their carbon from the carbonic acid gas contained in the atmosphere, and in the air of the soil, and these media furnish an unlimited supply.—C. F. FERRIS-PHOSOR.]

Water rats.—I am greatly troubled by these pests, which infest the lake in my garden, and shall be thankful for reliable information how to get rid of them. They have made huge runs in my beds of Japanese Iris, the bulbs of which they devour, and disaster follows their visits to my Marillac Water Lilies; in fact, anything choice



Odontoglossum crispum. From a photograph by G. A. Champion.

to flower was in Mr. John Day's collection at Tottenham. Mr. Bateman failing to recognise the plants sent home by Weir, who collected for the Royal Horticultural Society, mistook them for a new species, and named them *O. Alexandra*, in compliment to our present Queen (at that time Princess of Wales). Reichenbach fell into a similar error in respect to Messrs. Low's plants, and gave them the name of *Odontoglossum Bluntii*.

O. CRISPUM is an alpine species, found in its native habitat at an altitude of 7,500 feet to 8,500 feet elevation, and therefore requires cool-house treatment. I want readers to understand my definition of "cool-house." I saw in one of the gardening papers recently an article written by some one who recommends certain species of Orchids for cool-house culture and gives a temperature of 45 degs. sufficient for winter requirements. With a general statement of this kind I cannot agree. The normal temperature for my cool-house Orchid should be 45 degs. during the winter

outside state of the weather permits is also important.

POTTING of established plants is best done in the autumn about September, but as the plants do not all make growth at the same period, they must be dealt with when they are omitting, or about to emit, new roots from the base of the developing growth. The compost I find suitable is a mixture of Oak or Beech leaf-soil, fibrous brown peat, and chopped Sphagnum Moss, with sufficient rough sand to render the compost porous, surfacing the top with Sphagnum, and pressing moderately firm. In the pots Bracken-roots take the place of the usual potsherds to the depth of about one-third. The plants are procured at a moderate outlay either as unflowered semi-established plants, or in an imported state for a moderate outlay of a few shillings. Why I advise purchasing imported and unflowered plants is because one never knows what such plants may be worth until the flowers have expanded.

seems to particularly attract them, and they are increasing to such an extent that the position, from a gardening point of view, is becoming serious.—M.

[We find common gin-traps will catch them, and in that way you can exterminate them more readily than you can the common rat by the same means. Cats help, and also weasels, if you can afford to have a nest of these any way near. The rats are easily shot with a rat gun.]

Olematisses failing.—Will you please say the nature of the soil required for the successful growing of *Olematissa*? I have tried a great many kinds of this plant, and with the exception of Jackman's they have all failed. When first planted they grew well, but as soon as they attained a height of from 5 feet to 10 feet they died away, and did not come again. My garden was an old orchard, with rather heavy loam, which, in the winter, is inclined to be wet. Thinking that the failure was due to the heavy nature of the soil, I mixed a good quantity of well-decayed leaf-mould and sharp sand with it. I have tried both autumn and spring planting, but without success.—PADDY.

[A light loamy soil is the best for *Olematisses*, and if there is any lime in it all the better. Thorough drainage is indispensable, and want of this is possibly the cause of your failure. Attention must also be paid to feeding, using only a dry, hot soil, and mulching of cow-manure.

whilst on such as yours a dressing of leaf-mould would be useful. It may be, too, that all your plants have been grafted. The stock used is *C. viticella*, and though a vigorous growth is obtained at first, they perish in the end.]

Planting a flower border.—I enclose you a rough tracing from plan of a portion of my garden, which is situated in the country, and where a stiffish soil obtains. Roses, Strawberries, and all kinds of shrubs, etc., thrive well. I am a constant reader of your paper, and also of your books, and I therefore know that my plan of a formal garden will not meet with your approval, but I feel sure you will help me in a little matter where I find some difficulty, and that is in furnishing at not too great an expense the long border "A" with herbaceous plants. As you will note, there is a tall pergola at the back, which, however, has only just been planted with climbing roses, etc., and although eventually they will look all right, at the moment they are gaunt and not pretty. Will the taller herbaceous plants detract from the pergola? Should all the plants be now put in, or is it not too early for some and too late for others (bulbs, etc.)?—F. R. M. *WILTSHIRE*.

[You are misled, like so many others, by the loose talk of the formal garden, and a straight border by a straight wall may and should be planted picturesquely. If a garden with a straight outline be formal, then all the beautiful cottage gardens of England would be so; but it is nonsense. Hardy flowers, we should say, would do very well in the place you describe. There is no royal road to get them. Many are easily raised from seed, many may be got in cottage gardens, many are offered in quantity by some of the trade houses, whose notices you will see in our columns, and many may be got by exchanging with friends.]

Tank leaking.—I have a small pond in my garden, triangular shaped, having sides 15 feet long. It is 3 feet deep, and is formed of concrete and cement, but I am troubled by its continual cracking. I wake up in the morning to find that all the water has run away during the night and left the Water Lilies, etc., dry. As soon as I have one place sealed up its cracks in another, with the same result; and last year, when I was away from home, the aquatics and fish were all destroyed. As it forms, when filled, a very effective ornament to the garden, I intend this spring to have it properly repaired, if this is possible without running the risk of its further breaking. It is on somewhat sloping ground, and has three large trees round it. I am wondering whether I could have it lined with zinc or tin. I shall be very much obliged to you for any advice you can give me, through the medium of your valuable paper, on the subject.—*POXB, Upper Purwood, S.E.*

[As we know by experience that many tunnels exist underground in or near your locality, we have thought the continued breaking may be due to this and the continued oscillation produced. This would need be very great to affect it in the way described, however, and we rather attribute the cause to defective work, and mainly due to lack of strength in the materials employed. If the leakage is due to any subsidence of the ground, which, with a large amount of water continually percolating through the soil, increases rather than otherwise, the idea of lining with zinc would be of no use whatever. Such material must needs be joined, and the seams would quickly open with pressure. Lead is the only safe article in this direction, but it is costly and, of course, exposed to the same objection as the last. In capable hands there should be no great difficulty in making a perfectly water-tight compartment for the plants, and it may be done in the following manner: In making the excavation for the pond, a further depth of 9 inches should be removed to admit of a bed of well-tempered clay being first tightly rammed in position. Even a foot in thickness of this for the bottom and 2 feet high at the sides would be better, but less than 12 inches in a treacherous soil is not advisable. Over this bed of clay may be placed the concrete, composed of cement and ballast of two-and-one strength. A bottom of 9 inches in thickness, tapering to 6 inches at 2 feet high on the sides, should be given. The upper part may be rendered in a less strong manner. Each of these parts should be fairly set before the new material is added above. Finally, the concrete should be covered with an inch coating of cement and washed river sand in equal parts, and this, again, more for finish than safety, be floated neatly in neat cement. We have every confidence that a perfectly water-tight place can be made in this way. If there is any cause for fear through the nearness of the large trees, a trench may be cut at a safe distance from trees and tank, and in this way cover all roots that are found. We agree with you as to the added beauty and interest of these

aquatics to the garden scenery, and trust you may succeed in your endeavours to make it quite satisfactory.]

Violet Princess of Wales.—From Mr. A. B. Mills, Roseville, Lismore, Waterford, come some very fine flowers of this handsome Violet, nearly as large as some of the *Violetta*

GLADIOLUS HYBRIDUS PRINCEPS.

This was first put into general cultivation by Herr Max Leichtlin some three or four years since, at the high figure of 20s. a bulb; but, like high-priced seedling Dahlias, those who buy at the first often find it is cheapest in the end. It certainly is so in this case, for it



New hybrid *Gladiolus* (*G. princeps*), raised by Mr. W. Van Fleet. From a photograph of a spike grown last summer in Messrs. Wallace's nursery at Colchester.

forms of Tufted Pansy. On the other types, such as the *Czar* and others nearly allied, *Princess of Wales* shows a marked improvement, both as regards colour and length of flower-stem. The stems in the case of the flowers sent were quite 6 inches in length. When the size of the individual flowers is considered, it may be regarded as an abundant

reproduces itself by means of bulbils as freely as some of the seedling *G. Lemoinel*. It has a most vigorous constitution, growing 4 feet to 5 feet high, the flower-spikes, fully 2 feet long, bearing some twenty large flowers of an intense bright scarlet, with white markings in the throat. I measured carefully some of my flowers last summer, and they were 11 inches long from petal to petal. I have little doubt

that in a few years this grand new hybrid will find its way into most gardens, and by reason of its rapid increase will become as popular as the old *G. Brenchleyensis*. The raiser of this fine acquisition was an American gentleman, Mr. W. Van Fleet, who read a paper on the hybridisation of Gladioli before the International Plant Breeding Conference, held in New York last September. In the course of his paper he mentioned *G. princeps*, and I cannot do better than quote his remarks:

"My European correspondents report different results from crossing *cruentus* with other species and garden varieties, the seedlings being inferior to the parents in substance or colouring. This is my own experience in the main, but the first batch of hybridised seedlings yielded the magnificent variety since known as *G. hybridus princeps*. It came from a seed of *G. cruentus* and *G. Chibid*. It is not necessary to describe *princeps* farther than to say it almost exactly reproduces *cruentus* in its scarlet-crimson colouring, with white and cream featherings in the lower segments, but the flat, circular flower is expanded to 10 inches in diameter both ways; the plant is doubled in size in all its parts, retaining the dark green, lustreous, and profuse foliage, and is of a vigour of growth and easy increase hitherto unknown in the genus. It appears to succeed wherever tried, and can doubtless be grown anywhere and in any soil. A peculiarity of *G. cruentus* in developing its flower-spikes after the first buds open is fully retained. When the spike first appears it is short and blunt, looking as if only a few blooms would develop, but growth proceeds until often nineteen to twenty-two of these immense flowers are open, the last being about as large and perfect as the first. This progressive growth continues in water, if frequently changed, almost as perfectly as on the plant. From two to four blooms are fully expanded at the same time, thus giving a flowering period of nearly five weeks for a plot of *princeps*, taking into consideration the successive side spikes and extra flowering growth sent up from strong corms. During this period, from the first of August to near the middle of September, a bed of this variety equals in brilliancy an equal expanse of *Scarlet Salvia*."

Colchester.

R. WALLACE.

CORRESPONDENCE.

Questions.—*Queries and answers are inserted in GARDENING free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editors of GARDENING, 17, Furnival-street, Holborn, London, E.C. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as GARDENING has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.*

Naming fruit.—*Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming, these in many cases being strips and slices of the same. In many cases, so differing between varieties of fruits are, that in many cases, it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.*

PLANTS AND FLOWERS.

Ambrosia mexicana (J. R.)—Is a half hardy annual with beautifully veined leaves. It has a peculiar but pleasant scent, and grows about 2 feet high. Its stems are covered with small flowers quite to the top. It is said to thrive best in a rich sandy soil, with full exposure to the sun.

A weedy lawn (C. E. R.)—Seeing your lawn is in such a poor condition, the best thing would be to have it dug up deeply, picking out when doing so all the bad weeds, adding at the same time some good manure. Having allowed it to settle, make it firm and level, and procure some good lawn Grass seed and sow it down early in April. No surface treatment will do any good. The Moss shows that the land is very wet, and would be benefited by being drained.

Amaryllis leaf diseased (H. A. Walker)—This *Amaryllis* disease has puzzled many, and given rise to a good deal of controversy, but it is now generally recognised that it is caused by an excess of moisture, particularly just as the bulbs are starting into growth. Collections where it has given a great deal of trouble have been restored to a healthy condition simply by a sparing use of the water-can till the plants were in active growth.

Lilium aratum and L. candidum (R. M. C.)—1. You cannot do better than plant some of the strong-growing kinds. 2. Your query is very indefinite. You do not say whether your bulbs have flowered or not. Neither do you say when you potted them. If you potted them in the autumn leave them alone, and in all probability they will flower in due course. In any case, it is too late to pot now, and the only thing you can do is to find them when they are coming into bloom.

Echinocystis lobata (J. F.)—The *Echinocystis* embraces about fifteen species of stove, greenhouse, or hardy prostrate, or climbing annual or perennial herbs, all American. In *E. lobata* the flowers are greenish-white, small, and produced from July to September. It is a hardy climber, thriving in a moist, rich soil, and is easily reared from seed. Any gritty, loamy soil will answer for the Saxifraga, giving them a good position in the rock garden.

Cyclamens after flowering (A. B. C.)—The plants that have done blooming should be stood in a cold-frame and watered as carefully as if in bloom. They must be covered with a mat if there are signs of frost. Do not crowd the plants, and as the plants show signs of going to rest the water should be lessened, very little being necessary during June and July. After this, if kept a little moister the young leaves will soon start, when the corms may be shaken clear of the old soil and repotted in a mixture of loam, leaf-mould, and sand.

Pelargoniums repotting (A. B. C.)—As no doubt your plants will be leggy, we should suggest cutting them down rather than shifting them on at present. After having been cut down they should be kept rather dry and to a light position till the young shoots make their appearance, when they may be shaken nearly clear of the old soil and repotted. Put them into small pots as the roots can be conveniently got into, shifting on as may be necessary. You may trim the roots a little.

Roman Hyacinths (Dutchman)—As soon as potted they should be given a good watering, and when the surface soil has dried they may be covered with ashes that have been weathered for the open for some time. Quite half the battle is overcome by potting as soon as the bulbs come to hand, which is usually during the month of August. A great point is to have the bulbs well rooted before introducing to heat, as without this the spikes will be poor and insignificant.

Genistas (O'Donnell a Boo)—These may be cut back after flowering, as they will readily push forth new shoots, especially if they are kept close and syringed occasionally. Should they require repotting, reduce the ball of soil, repot, and keep them under glass for a few weeks until they become well rooted. They may be stood in the open air during the summer, being careful as to watering, as if allowed to become in the least dry the plants are likely to lose their foliage.

Tradescantias (J. C. Bloomfield)—The creeping species of *Tradescantia* are very useful for draping hanging-baskets containing other plants. They are also well adapted for growing as an edging to plant-stoves or trailing over rockwork in the stove. The shoots root like weeds at any season if given a moderate heat and shaded from the sun. When rooted they may be potted off singly, and when fairly established put into their permanent quarters. Two good varieties are *T. discolor* and *T. discolor variegata*.

Deutzia gracilis after blooming (Toxteth)—*Deutzias* that have been forced or flowered in the greenhouse should be gradually hardened off, so that when all danger of frost is past they may be stood out-of-doors. At that time any old and exhausted wood should be cut out in order to allow room for the development of young and vigorous shoots, while, if necessary, the plants may be repotted. The great point is to have the wood well ripened by standing them in a sunny position during the summer, taking care that during growth they never suffer from want of water. *Deutzias* will stand for years in the same pots and flower well each season, provided they are occasionally watered with liquid-manure during the growing period.

Plumbago growing (Grateful)—Want of air and consequently a damp, stagnant atmosphere seem to be at the root of your difficulty, and until this is remedied you cannot hope for much success. In your *Plumbago* in a pot? If so, it is a good time to repot it, and alter this be particularly careful not to overwater till the roots take possession of the new soil. As spring advances syringe occasionally and maintain a free circulation of air whenever the weather is favourable. Is the blight to which you refer a form of insect? If so, vaporise with the N.L. All Vaporiser. If mildew, sulphur will help to check it, but renewed vigour will do more.

Spiraea (Hortia Japonica) (W. Clark)—You can purchase the clumps very cheaply in the autumn, when they should be potted and stood in a cold-frame, covering them with ashes. Introduce them into heat as you want them, taking care that when in full growth they never want for water. It is a good plan to stand them in a pan of water when growing freely. When flowering is over stand them in a cold-frame, watering freely until the foliage has ripened. You can then divide them and set them out in good rich soil, keeping them well mulched with rotten manure, and watering freely during the summer. Let them remain thus for two or three seasons, when they may be lifted and again used for forcing.

Renovating lawn (Hastemere)—When referring to any previous reply it is well to mention the date of the publication. When you are advised to pare off and burn foul or weedy turf, of course, it is supposed to indicate that these turves must lie exposed to the weather to dry, and then before being burned have as much of the soil as possible removed from them. If, however, there be the turf, all the same, more Grass than weeds, by far the best plan is to peg away and cut the weeds out, as then you could by top-dressing with fine soil, sowing good seed over it in April, well raking and rolling it in, in time get a really good lawn. The cost of paring off the turf, burning it, spreading the ashes, reworking the soil, and resowing it with Grass seed, will be considerable, and even then there may come up as many weeds as before. Sulphate of ammonia, applied in May, is a capital Grass manure.

Chrysanthemums—growing plants on the decorative system (Amateur)—We have looked through the list of thirty-four varieties submitted to us for an opinion of their merits for decoration, and find that the majority of them are essentially exhibition kinds. Many exhibition Japanese kinds are quite unsuited for developing freely-flowered plants, although, of course, there are among them varieties equally well adapted for decoration as well as for exhibition. The likely sorts in your collection are subjoined, and no time should be lost in commencing their propagation. Best and most paged, therefore, the following varieties: *Australis* Gold, Vivand Morel, Charles Davis, Lady Hanham, Golden Gate (late), N.C.S. Jubilee, Phœbus, Col. W. B. Smith, Florence Davis, Nirveum, Gloire du Rocher, W. H. Lincoln, Lord Brooke (late), Rayonnaute, and Thomas Wilkins. Decorative *Chrysanthemums* should be grown on to the terminal buds, as this ensures a free display of blossoms, and those resulting from a terminal bud selection are rarely known to suffer from damping-off of the petals.

TREES AND SHRUBS.

Staphylea colchica forced (Toxteth)—This plant requires in a thorough ripening of the wood, which is done by keeping the plant under glass after flowering until frost has gone, and then placing in a sunny position outdoors, watering and syringing daily during hot weather. If you have a good stock of plants it would be well to plant out one-half each year in a well prepared bed, forcing the other half. It gives the same treatment as *Azalea mollis* the plants may be kept in pots for several years by top-dressing and repotting every third or fourth year.

FRUIT.

Grafting Plum and Vine (Norvic)—The present time for grafting a Plum-tree is the middle of April. That end you should obtain some stout young shoots from a tree of the variety you propose to graft on to your old Plum-tree, tie them into a bundle, and bury 6 inches of their bottom ends in the ground in a shady place. By doing you keep the grafts resting longer than they otherwise would be left on the tree. You may behead your wild Plum-tree now back to within 2 feet of where you propose to graft it. Whether that will be on two or three branches or on to a single stem you do not say. But to ensure success, rather than attempting to perform a trying operation, you had far better get some local gardener to do it for you, as it is no easy task. With respect to the grafting that should be done at some time. Vines, however, are usually propagated that is, bringing the young stem of a Vine as yet close to a low down green branch from a Vine, slicing a portion of the bark from each, tying the cut parts together, and in time they grow and become united.

VEGETABLES.

Growing Mint (Taber)—In growing Mint it is advisable to have beds in two aspects—one on a south border for early spring use, and the other on a north border to produce green Mint in summer. It does best in rather light well-drained soil, and the addition of road screenings or old mortar-rubbish is better than manure a stiff, adhesive soil. Mint is easily increased by division of the roots when growth is starting in spring, or by cuttings which may be taken with a root attached when the young shoots are 3 inches or 4 inches long. When taking cuttings thrust a knife into the ground, severing the under ground stem. The little shoots will thus come away with plenty of roots, and may be at once planted in a new bed 6 inches apart each way. A top-dressing of leaf-mould the spring just before the young shoots appear is very helpful.

SECRET REPLIES.

P. B. S.—See article on "Garden edgings" in our issue of Jan. 3 of this year, p. 578. —**J. E. Deane**—See article on "Outdoor aviary" in our issue of Dec. 2, p. 628. —**"Pigeon keeping for Amateurs"**, price by post, 1s. 2d. L. Upcott Gill, 171, Strand. We do not reply to queries by post. —**E. M. P.**—The only thing you do do is to persevere, and directly any scale appears it must wash it off. —**E. P.**—All weed killers are poisonous and have to be carefully used. —**City of York**—We have no idea, as we have no knowledge of the street in question in your district. —**J. E.**—See note in our issue of Feb. 22, 1902. —**Bertram Alder**—See article in our issue of Nov. 9, 1901, which may be had of the publisher, price 11d. —**York**—You ought also to get a copy of "The English Flower Garden," in which the subject is fully dealt with. —**Hydrangea**—From the appearance of the leaves you should say that the fumes of sulphur from the stove have been the cause of the mishap. We have had the same thing happen several times. —**Flora**—You cannot do better than follow the advice given to "Flora," "Roses for bank." In our issue of Feb. 7, p. 602. —**Variegata**—You cannot do better than get a variety named *Reine Olga*, the finest *Grape* we have seen for outdoor culture. —**Tyrro**—1 cwt. per acre = roughly 180 lbs. per rod; 5 cwt. (a dressing often given) = about 112 lbs. per rod. If you can mix some old potting soil with it, it will be the better. 2. Cut your *Coronilla* back immediately after flowering, but the less cutting the better. —**Thornhill**—"Hobday's Villa Gardening," from our office, 6d. post free. —**Chill**—Write to some of our best seedsmen, who will be able to advise you. —**Capota**—Just the position for the many beautiful hardy *Ferula* either planted out or in pots. —**R. M. T.**—We suppose you mean the *Belladonna Lily (Amaryllis Belladonna)*. You will find it figured and treatment given in our issue of Nov. 2, 1901, p. 469. —**J. C. P.**—Apply in time Ferry, Winchmore-hill, London, N.

NAMES OF PLANTS AND FRUITS.

Names of plants.—*Cornubia*.—Evidently a form of *Rhododendron Nobileanum*. —**H. Munro**—*Saxifraga verticillata*. —**James Scott**.—The common *Berberis* broom (*Ruscus aculeatus*). —**O'Donnell**.—Specimens insufficient. —**Maud**.—*Pestocia glauca*. —**P. B. S.**—The Sweet Alyssum (*Alyssum maritimum*) increased by cutting. —**Weston**.—The Spring *Saxifraga* (*Leucocjum verum*). —**J. C. Bloomfield**.—The variety you refer to is no doubt *Adiantum capillus-Veneris*. —**Fuendree**.—1, *Polystichum acuminatum*; 2, *Polystichum angulare Kitsonii*; 3, *Polystichum Filix-mas cristata*; 4, *Polystichum vulgare semilacerum*.

Names of fruit.—**Mrs. W. J. Villar, Toronto**.—1, Golden Noble; 2, Welford Park (conchoc); 3, Royal way Magnam Bonum. Pear Winter Orange.

Catalogues received.—**Kelway and Sons, Letchworth**.—*Manual for 1903*. —**E. H. Taylor, Welwyn, Herts**.—*Illustrated Catalogue of Beckeney's Supplies*. —**Van Roozen and Son, Haarlem, Holland**.—*Seed and Soil Book for 1903*.

The Fire at Vi-Cocca Factory.—Mr. Theodor Smith, the chairman of Dr. Tibbles' Vi-Cocca, Limited, writes: "So many enquiries have been made by the Vi-Cocca customers as to whether the recent fire at the Vi-Cocca factory will make any difference to the supply of Vi-Cocca, that we should esteem it a favour if you will state that all demands for the same can be supplied. We will be glad to state that the slight delay from the London factory is being made up by the supply of Vi-Cocca from the factory at Bunnhill-row, Gray's-inn-road, and the Minorca."

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FRUIT.

PRUNING THE PEACH AND NECTARINE.

THE pruning of these may well be undertaken in mild weather, though where surplus wood has cut out after the fruit was cleared in early autumn very little will be required. In case this was not carried out at the proper time, these remarks will apply. I prefer to cut out unnecessary wood before the trees are taken down from the wall, as one can the better judge which shoots can be dispensed with. It should be the pruner's aim to keep the wall well covered with wood made the previous year, as this is on this, when well ripened, the finest quite are borne. Ill-ripened or badly-placed shoots should be cut out, also those that bore fruit last season, shortening to a wood-bud likely to form spurs close to the wall. After the pruning done, loosen the trees and wash every particle of wood with a good lather made of soft-soap and flowers of sulphur, using a soft hair-brush, such as painter's use, drawing the same towards you on the bearing wood so as not to knock off the flower-buds. If the wall requires repointing it should be done before training begins, but where the walls are wired, merely colouring will suffice, and in replacing the trees get all the main branches in position first, which should be equally adjusted right and left from the centre, so as to form a fan, which is the best mode or all stone fruits. Next lay in the young wood, which should be about 3 inches asunder, and no objection can be offered to covering old and bare branches with young wood, especially near the base of trees. In nailing or tying see plenty of space is left in shred or raffia, using no more nails than are absolutely necessary to get the branches in position. After the training is finished, clear up all rubbish and work up the border 2 inches or 3 inches deep, and remove the soil, replacing with fresh loam, a little lime or mortar rubble, wood-ashes, and bone-meal, all well mixed together.

J. M. B.

PEACH STONES SPLITTING.

I HAVE a cool Peach-house with four trees that ripen in succession. I found last summer that before the fruit was quite ripe it fell off, and that in nearly every case the stone was split and it was more or less mouldy. I should be much obliged if you could tell me the cause and the remedy through your excellent paper.—H. S. F.

[Some kinds of Peaches are more addicted to stone-splitting than others, though it happens sometimes in a variety not commonly given to that failing. To imperfect fertilisation of the flowers may be traced the origin of some such cases. Stone-splitting is not an outgrowth of indifferent health; indeed, the reverse is more likely to be the case. When Peaches are flowering it is never safe to trust to chance in the setting, for without being fertilised with their own pollen or with that of other flowers by the aid of a camel's-hair pencil, rabbit's tail, or something of a similar character, the fruit may swell away for a time, even to ripening, and then drop from premature softening accelerated by the unsound stone. In this condition the fruit sometimes

falls and appears ripe, but an examination shows that it is soft only on one side, the other being congested and hard. It is among the early sorts that these troubles most frequently occur.

In too rich borders some Peaches drop when nearing the ripening period, and if they remain until they can be gathered they invariably ripen some time before the remainder of the crop is ready, which the expert grower at once recognises as a symptom of stone-splitting. Freshly slacked lime applied in quantity sufficient to whiten the surface is a good remedy in such cases, giving it once or twice during the growing season. With trees that are over-luxuriant, root-pruning, lifting, and placing the roots nearer the surface correct more than the one evil, bringing with it the lessened tendencies to splitting of the stone. Overhead shade from other trees hinders proper ripening of the wood, and without this neither perfect setting nor stoning can be assured. Extremes of root-moisture or drought are both inimical to the progress of the tree's growth in summer, and should be as far as possible avoided, as also should strong doses of animal or artificial manure, because they stimulate an excess of vigour which is undesirable. With a comparatively new border and healthy trees clear water is all-sufficient. It is for older trees in borders fully occupied with roots and carrying heavy loads that feeding is necessary. Lime, however, may be given in small quantity with advantage to Peaches, as this assists the formation of the seed-shell or stone. Unripened wood caused from overhead shade, imperfect fertilisation of the flowers, or an absence of lime in sufficient quantity may, however, give the clue to the failure complained of. Carefully lifting the trees and replanting will correct grossness, the autumn, when the leaves begin to fall, being the most suitable time. A mistake that is often made is neglecting the watering of the borders and syringing the trees after the crop is cleared.]

FILBERTS.

A WELL-ORDERED garden is not complete without a few bushes, and it is not yet too late for planting. In making a selection include the Gosford and Pearson's Prolific, which produce many catkins more freely than some kinds. Any good garden soil will grow Nuts, and in planting allow a spare of 9 feet to 12 feet between each bush, choosing those having a clean stem of 1 foot or more, or else a thicket of suckers will persistently push up, and if not cut out annually the bushes soon get crowded and produce but little fruit. If planted now, defer any pruning until next spring, but established bushes should soon have their annual thinning now the tiny red or pink female flowers are to be seen, reserving as many twigs as possible having fruit-blossom on, neither must too clean a sweep of the catkins be made, as on the two depends a great deal what sort of a crop we get. Should the male catkins be few and far between, it would repay to cut a few twigs of the common hedge Nut and tie on the bushes while in flower. In

thinning endeavour to keep the centre of the bush well open, so that sun may ripen the growths, as Nuts bear on wood made the previous year. Any robust shoots should be cut back to quite half their length, this thinning to make several branches break out, which, if well ripened, cannot fail to have plenty of fruit-blossoms on next year. Branches inclined to cross each other should be removed, but if looked over each spring little of this should be necessary. A stock may easily be increased by layering in autumn and by cuttings prepared in a similar way to Currants or Gooseberries. It is best not to rely on seedlings, as they are liable to deteriorate. Nuts keep plump for a long time if placed in earthenware jars and a little sand placed with them after they are freed from their husks and thoroughly dry.

EAST DEVON.

THE BEST CURRANTS.

CURRENTS, more especially the black and red varieties, are grown largely for market, and are also in request in most private gardens. In most cottage gardens, too, space is usually found for a few Currant bushes. The white-fruited Currant, compared with the black and red varieties, is cultivated but sparsely. It is, however, useful for the dessert, and is also valuable for clarifying Red Currant jelly.

BLACK CURRANTS.—A great advance has been made, both in size of berry and length of bunch, among those introduced of late years, and there are now many sterling sorts of this description. Of these there are Baldwin's Champion, a large-berried, heavy-cropping kind, good either for market or garden cultivation. This is also known and grown under the name of Carter's Champion in some localities. Lee's Prolific is another highly-esteemed Black Currant which bears heavily, the fruit being large and sweet. Then there are Naples, Ogden's, and Victoria, all worthy of cultivation, and a new kind named Paragon, or Boskoop Giant, is spoken most highly of, and should be given a trial. Black Currants prefer a moist, not a stagnant soil, such as a deep holding loam, and the site for them can hardly be made too rich. Plenty of well-rotted manure should be dug in and incorporated if the subsoil has not been disturbed or broken up for some time. Then trench the plot two spits deep and work a quantity of manure in with the bottom as well as the top spits. Once planted, all that is required is to keep the ground clean, well mulching the surface every winter so soon as the bushes have been pruned. Pruning consists in thinning out the heads of the bushes—i.e., removing the oldest of the wood after it attains full size, and shortening back any shoots that are too long. Never spur the young or side growths in, as with Red Currants, for instance, as the crop is always produced on these. By cutting out a certain proportion of the old wood annually and by keeping the roots in an active condition, the bushes will then be always well furnished with vigorous fruitful wood.

RED CURRANTS.—Among the red-fruited kinds American Wonder is a very large new-

berried sort that stands high in the estimation of market-growers in the West Midlands. It is a vigorous grower, bright red in colour, and flesh firm, which renders it a good traveller. Raby Castle is still one of the best for general use, the bunches being very long, berries large, dark red in colour, and hanging and keeping in good condition till late in the season. This is one of, if not the best, variety to grow on a north wall for very late supply. Cherry, also known as La Versailles, is an exceedingly large Currant, and is, moreover, very prolific. Where large quantities of Currants are required for cooking and preserving, this is the best kind to grow. Comet or Fay's Prolific is another large fruited kind, the bunches being unusually long and the fruit not so acid as that of the Cherry. This is an abundant bearer, and should be in every garden. Red Dutch or Grape is a very prolific old variety, but does not compare with any of the foregoing for size of berry or length of bunch, and is not now so largely planted as formerly. The two best white kinds are White Dutch and Transparent, the latter being, if anything, the finer. Current of the two, and more handsome from the fact of its semi-transparent skin disclosing the seeds and becoming quite a golden colour when fully ripe. Any ordinary garden soil, providing it is enriched with manure, will suit Red and White Currants, and it always pays to treat them liberally in this direction after they are once established, when they continue to yield heavily for years. I once had a break of Raby Castle that had occupied the same site and bore continuous crops of fruit for nearly twenty years. The pruning of these varies considerably from that of Black Currants, inasmuch as once the bushes are properly furnished with main branches, all side shoots must be stopped to form spurs, and when this has been accomplished, the growths emanating from the spurs should be cut back to three or four buds every winter. A little more latitude may be allowed with regard to the shoots issuing from the ends of the main branches, as, if it is desired to extend such branches, they may be left one-half or two-thirds their entire length. It is also good practice to remove an old branch now and again and to train a young one in its place, this keeping the bushes in a healthy condition.

A. W.

NOTES AND REPLIES.

Watering fruit-trees under glass.—When should fruit-trees under glass not have water?—FRUIT.

[There is really no set time when fruit-trees under glass should not have water. Very much less is, of course, required during the winter months when the trees are resting, but even then no good cultivator would hesitate to apply it if he found his borders were approaching dryness. As a rule, borders, if properly constructed, will remain in a moist condition from two to three months in the depth of winter, but it is far the best and wisest plan to ascertain their condition every few weeks, and to act accordingly.]

Pruning a maiden Peach-tree.—I bought a maiden Peach-tree last autumn, and have not yet pruned it. It has four fan-trained branches about 3/4 yard long. Should I shorten them in March, and how much?—F. M. G. P.

[As vegetation is in a forward condition, you may prune your maiden Peach-tree at once. With regard to the distance to which each branch should be shortened back, it is good practice, when the shoots on a maiden Peach are vigorous and the wood well ripened, to merely tip them, and to lay them out in a nearly horizontal or oblique position (which leaves the centre open), and then the shoots break throughout their entire length, which enables the grower to quickly clothe his tree with branches, and a whole season's growth is then gained. Seeing that the branches on your tree are but 18 inches in length, and therefore, we fear, but weak in growth, we would advise you to shorten them back to within four buds, counting from the base of each shoot. These buds, when they break, will supply you with plenty of shoots with which to lay the foundation of the tree this season.]

Pruning fruit-trees.—I have three Peach-trees (Royal George and Hale's Early) that I planted in December last on the wall at the back of an unheated lean-to conservatory, with a view to training them up the wall

(12 feet by 20 feet). How and when should I prune? They are nice fan-shaped trees with some six rods about 4 feet long on each. I have also some standard cooking Pear-trees and Victoria Plums planted in the open in December. How should these be pruned? The Pears have a stem about 4 feet, and then four or five good branches about 3 feet long coming out at the top of the stem. The Plums are on stems about 5 feet high, and have a little nest of weak branches at the top.—BURLING.

[If the growth of the Peach-trees is of last year and has reached a length of 4 feet, the tree is very vigorous, and probably would have few fibrous roots and a tendency towards those of a thong-like nature. If this is so the trees would repay somewhat more severe pruning so as to cause them to break from near the base, which they would not do well if lightly pruned. Should this not be the case the shoots could be shortened to about one half their length. The principal object in dealing with young trained trees is to first get a good foundation, and once they are established and growth becomes more free prune less and tie in the shoots, in some cases without shortening, in others with only moderate pruning. Disbudding and summer pinching may be made the better means of control, as by pinching the vigorous shoots the weaker ones gain an advantage. Many good gardeners find that standard trees are best left unpruned the first year, except so far as thinning-out of those branches that are crowded. The stronger and main shoots are, when left unpruned, a support to the roots, and help to set up a freer root action. Once they have become well rooted, pruning may be modified to suit the tree. If they were not of good shape some would cut them back to, say, 1 foot from the point of issue, and by these means a well-balanced head may be set up. Much depends on root treatment. They do not need manure if good fresh soil, a little burnt refuse, and leaf-mould can be used at planting time.]

Liquid-manure for fruit-trees.—When may this be applied to Peaches, Nectarines, and other wall fruit-trees, either under glass or out-of-doors?—FRUIT.

[Your query opens up a wide question, as liquid-manure is not, we fear, used to anything like the extent that it might be, neither during the growing season nor in the winter months. Provided the drainage is good and the trees fully established, Peach and Nectarine-trees under glass are greatly benefited if the border is thoroughly moistened throughout with liquid-manure, diluted little or much, according to its strength, during the winter, and in the case of a late house this may yet be done. As a general rule, winter applications are best given while the trees are at rest, either in or outdoors, say, during the latter part of November and any time in December. Outdoors you may use it in the winter season for old but healthy trees of Peaches, Nectarines, Plums, and Pears on walls, the two latter fruits out in the open, also Apples, Raspberries, and bush fruits of all kinds, with excellent results. During the growing season liquid, diluted as advised, may be used under glass after Peach-trees have set their fruits, but they will derive the greatest benefit from its employment after the fruits have stoned, when it may be applied whenever water is required at the roots right up to the time the fruits are about to ripen. Figs also come under this category, and in their case it is best to wait until the fruits are taking what is termed the last swelling before applying it in liberal doses. You may also use it during the growing season outdoors for the kinds of fruit already named, with Apricots added to the list, from the time the trees swell off their crops till they are nearly ripe, at the same time remembering in the case of stone fruits that it is safest and best to apply it in larger quantities after the stones have set than before.]

Planting fruit-trees.—If one wishes to plant a garden or a wall with bearing fruit-trees it will cost a deal of money, but young trees may be purchased very cheaply if bought in quantity, and anyone having room might buy the stocks and work his own trees, or, if he did not care to do that, maiden trees might be bought in at a cheap rate, and be planted either in a nursery bed or thinly round or across the vegetable garden, and they would, without costing anything for their keep, be growing into money. In this matter of fruit-tree planting there is much delay—so much waiting till the old is removed before planting

the new. The same thing should be done with wall-trees. Wherever there is room for a young tree let one be planted, and the removal in two or three years' time will just give that check that will throw the tree into bearing.

Pear Bergamotte Esperen.—Five samples of this Pear came before the R.H.S. fruit committee at the Drill Hall on the 13th ult. They were evidently well grown, and from Ginton Park, Suffolk. Some time since efforts were made by some members of the committee to obtain for this Pear an award of merit as a recognition of its merits as a late variety. Although defeated, it was to them specially interesting to see it presented at so late a period in such fine form and of such excellent quality. The fruits were of medium size, broadly round, having moderately long stems, and fairly handsome. Many gardeners have shown this Pear well and speak highly of it. It is evident that it is well entitled to rank as a good late Pear with Winter Nellis, Beaumance, Easter Beurre, Josephine de Malines, and Olivier des Serres. Late Pears, as a rule, need wall culture, otherwise the fruits are apt to be rather disappointing.—A. D.

Apple Rymer.—I gathered last year a heavy crop of remarkably fine fruit of the excellent cooking Apple from an orchard standard. Although the past season has been anything but a sunny one, the majority of the fruits were well coloured, and exhibited that polished appearance which is characteristic of this variety. It is somewhat similar to Wellington or Normanton Wonder at first sight, but a close inspection reveals the fact that Rymer is slightly different in shape, and that it has a beautiful reddish-brown cheek—a depth of colour that Wellington never assumes—and a very short stalk. It has a yellowish firm flesh and sub-acid flavour, a sure indication of its cooking qualities, and is in season during December and January. It is a capital cropping Apple when grown as a standard in the orchard, the habit of growth then being spreading, and the crop is, therefore, not so liable to be damaged by high winds. The Apple also succeeds remarkably well in the Midlands, and I have on several occasions seen very highly coloured and fine specimens grown in the neighbourhood of Birmingham, and in a district largely affected by smoke. It is also known under the name of Green Cossing, but the above is the more popular one, and as such I have known it for the past thirty years as a first-rate cooking Apple.—A. W.

Currants on north walls.—It is the gardener's duty to prolong the hardy fruit supply, so that mixed dishes may be had over as long a period during the summer and autumn as the season will allow. This is best achieved by planting on late positions, and, while not claiming that flavour is quite so good as in fruit grown in the full sun, nevertheless, Currants and Gooseberries are very passable for dessert when favoured with hot, dry weather during the months of August, September, and October. I have known the Red Currant hang on well into November in Devonshire, but if not equal to dessert the fruit is most acceptable in the kitchen, and comes in useful to mix with autumn-fruiting Raspberries, Logan Berry, etc. Black Currants I have grown in this position, but the Red are more valuable, the Black unfortunately were dropping when fully ripe, but not so with the Red or White even. The White Currants are not so useful as the Red, neither are they so sweet, even when grown in the open quarter. Three or more shoots can be trained up, shortening back the leading shoot to about one-third its length at the winter pruning until the allotted height is filled, and keeping all side shoots spurred in as with those in the open. To keep these late fruits, netting must be put on soon after colouring commences, or the birds will sample them even ere you are aware of it. Currants enjoy a good, rich soil, so a top-dressing should be given yearly and lightly forked in after the necessary pruning and cleaning-up have been done, and if liquid-manure be applied while the fruits are swelling, and a mulch of straw stable-manure be given, fine berries, clean growth, free of red-spider, should be the result. Keep eyes that caterpillars do not get a footing, or they soon do a lot of harm.—EAST DEVON.

TREES AND SHRUBS.

CEDARS IN A THAMES VALLEY GARDEN.

The multiplicity of catalogues and fine names very often calls attention from the good old things. Half-hardy Conifers and their varieties, pyramidal, prostrate, and all the rest of it, things of doubtful good in various shapcs, have obliterated the handsomest Pine ever brought to England, and the Cedar of Lebanon,

in severe winds and snowstorms, which so often destroy it when standing by itself, it is much more likely to escape disaster. For shade in summer and shelter in winter there is nothing like it, and we hope it will never be neglected in garden planting of the best kind. Like most of the Pines, the Cedar of Lebanon is better planted young, although usually planted rather as a specimen—an expensive and not always successful way. Rabbits are very fond of the young plants, and it must be carefully protected where they abound.

Berberis Aquifolium (Mahonia), and the Tree Ilex. We fear Berberis Darwini and B. stenophylla would not succeed, as these prefer a lighter, sandy loam.]

Lifting Araucaria.—Would you kindly let me know the best time to shift an Araucaria? It is about 5 feet high, and I would like to get it shifted this spring if possible. When is the best time to cut Box edgings?—A. B. C.

[You ought to prepare your Araucaria now by digging a trench round it about 3 feet from the stem and filling in with some good loamy soil to which has been added plenty of leaf-mould. This will encourage fibrous roots, and then you can lift in the spring of 1904. Be careful that you have a good ball of soil when lifting, as otherwise failure will follow. You ought to keep it well watered until the young roots have got a hold of the fresh soil. Cut your Box in April.]

PLANTS AND FLOWERS.

CHRYSANTHEMUMS.

EARLY-FLOWERING CHRYSANTHEMUMS.

SEASONABLE WORK.

It is a mistake to insert the cuttings soon after the plants have ceased flowering in the late autumn. Much better results may be obtained by encouraging the old stools to produce a quantity of nice healthy and stocky growths by the second or third week in February. To achieve this object it is important that some of the old stools should be lifted and plunged in some light and gritty compost on the greenhouse bench; or, failing this, a cold frame may be used. In the latter case the development of the new shoots will not be so rapid as in the case of those placed in the cool greenhouse; nevertheless, advantage may be gained by either method. I propagate the early sorts from the end of the second or third week in February and many succeeding weeks. The increasing length of day as the month progresses is important. Cuttings put in during the dull and dark days of early and mid-winter must of necessity remain in a somewhat dormant condition, and the quality and condition of the cuttings, too, cannot be nearly so good as in those developing later, when the plants have regained the vigour which was lost during their flowering period. The flowering must tax the constitution of the plants, and unless ample time be given to them to regenerate it seems unreasonable to expect them to do well in the succeeding season. These early-flowering varieties do not want codding. The cuttings may either be inserted in shallow boxes



Cedars of Lebanon in Thames Valley garden. From a photograph sent by Mr. P. Hargreaves, 18, Dean Street, Hammersmith.

NOTES AND REPLIES.

Evergreen shrubs for clay soil.—I should be much obliged if you would give me a list of evergreen shrubs likely to grow on a smoky and draughty site? Our hospital buildings lie north and south, and there is a very strong current of air between them in windy weather. Some of the borders are large, 30 feet to 70 feet long, and 20 feet to 30 feet wide. We have a large number of deciduous flowering shrubs in them, but they look so bare in the winter that I wish to introduce more evergreens. The soil is a poor heavy loam over clay, but we have plenty of stable-manure and old road-sweepings. Would Tree-Ilex and Box-trees do among others? I should like to use Berberis Aquifolium, Darwini, and stenophylla, but am doubtful if they will stand the bitter wind.—M. A. B.

(Among suitable plants for your purpose we would recommend Deubaa, Hollies, Box, Cherry Laurel,

containing loam and leaf-mould in equal parts and plenty of coarse silver-sand, all having been passed through a sieve with a rather fine mesh, or they may be inserted around the edge of 3-inch or 5-inch pots. Where a large number of plants is required a kind of shallow trough may be made up on the greenhouse bench, not far from the hot-water pipes. This trough may be made of a length to suit the requirements of the propagator, and if the compost be filled in to the depth of about 3 inches it will answer the purpose intended very well. The cuttings should be dibbled in in rows, and as each new variety is taken in hand a label with

like some other good old things, looks as if it were out of fashion now, owing to the many new things offered in the shape of trees. Here is a tree which after trial of two hundred years is as happy in our climate as in its own. We exempt the town, and yet it makes a hard fight in both Paris and London, in spite of the smuts; but in the open country no native tree is happier. In gardens generally it is too much grown as a separate tree, although its finest effect is, we think, in such a group as is shown in our illustration. Where it has the companionship of its own kind, and is held together as a group, its shade and dignity are no less and

its name should be put in, and thus avoid confusion. A distance between each cutting of about 2 inches, and slightly less than 3 inches between the rows of cuttings, is sufficient. Each cutting should be about 3 inches long. Cut through with a sharp knife, and trim off the lower leaf close to the stem of the cutting. Make a hole of sufficient depth to embed the cutting to the second joint. Before making the hole, sprinkle some silver-sand on the surface of the soil, and by these means ensure a small amount of sand being carried down to the bottom of the hole on which the cutting should rest. Press the soil firmly around the base of each cutting, or it may be left suspended in the hole, and, in consequence, is sure to damp off. There is no need to cover the cuttings with glass. With the temperature maintained at about 45 degs. to 50 degs., the cuttings should be nicely rooted within three weeks. In a few special cases the time may, perhaps, be rather longer. During the rooting, when the soil becomes somewhat less moist than is considered desirable, it is well to give another watering, and an occasional sprinkling overhead when the surface soil is dry is also an advantage. The propagation of the early sorts may be continued right through the spring and until May, or even later. C. H. N.

Chrysanthemums—sturdy plants (*Chrysanthemum*).—We are disposed to believe the reason for your plants being weak and drawn is because you fail to ventilate your cool greenhouse satisfactorily. It is not necessary in their early history to treat the plants to the "air-tight" method which you adopt. This in itself is undoubtedly the beginning of the trouble, and although you have no artificial heat, except on frosty nights, there are periods of bright sunshine at intervals during the day which increase the temperature very considerably. Under such conditions the young plants become drawn and weakly. The soil when first repotting the young plants should be firm. The greenhouse should, at all times, be freely ventilated, taking care, of course, to avoid draughts. The young plants, too, should be arranged on shelves as near to the glass roof as possible. It would be far better, however, to transfer the young plants to cold-frames, where a far harder and more sturdy character of growth may be encouraged. This is what you should strive after, and if you are without a cold-frame you would be well advised to procure one without delay. Plants in cold-frames can be kept up near to the glass, and air is easily afforded. Just a "crack" of air, or a very liberal supply may be given, according to the weather. The varieties mentioned in your letter represent several of the taller sorts, and on this account you cannot very well expect to raise from them a batch of sturdy plants. As there are so many excellent dwarf to medium plants possessing a sturdy habit of growth, and these, too, capable of developing blooms equal in point of merit to those mentioned in your query, we should be disposed to acquire a collection of these more suitable kinds. We shall be pleased to give you a selection if you desire us to do so.—E. G.

OUTDOOR PLANTS.

NOTES AND REPLIES.

Plants for filled-up pond.—Will you advise me as to the best way of planting a cleared space—a filled-up pond—in the middle of a belt of high trees? What sorts of evergreens, Ferns, bulbs, etc., so as to have a screen of shrubs with a carpet of flowers?—E. T. MARSHALL.

[You cannot do better, if the soil is composed of leaf-mould, than plant *Rhododendrons*, hardy *Azaleas*, intermingling with these any of the *Liliums*, such as *L. superbum*, *L. pardalinum*, &c., with *Epilobium*, *Spiraeas*, &c. Among Ferns any of the hardy varieties will answer, including, of course, the Royal Fern (*Osmunda regalis*), while you can plant *Daffodils*, *Snowdrops*, &c., along the edge.]

Flowers in February in the Thames Valley.—The mild weather has brought the flowers a little earlier, not so much on the cold and windy hills and clay flats as in the Thames Valley, from which Messrs. Barr at Long Ditton send us a large collection of their alpine and early flowers, including several

varieties of hardy *Cyclamens* very pretty in colour, various wild *Crocuses* like *C. Tommasianus* and its forms, some early Eastern *Iris*s and *Scilla taurica*, and a very handsome lot of Lenten *Roses*, *Helleborus*, early *Heaths*, *Primroses*, *Hepatica*, and two *Daffodils*, cyclamineous and *minimus*. These ought to show us that in a good collection of hardy flowers beauty is hardly ever absent nine months out of the twelve.

Raising Primrose.—Will you kindly tell me how to raise *Primroses* in quantity for a thin wood in my garden? For two years running I have sown seed, the first year in boxes in a frame, the second in the open ground in the end of April, and it did not come up. This was the common *Primrose*, but *Japonica* failed also. I grudge robbing the woods.—HALLGROVE.

[Be sure your seed is good, and sow in April in leafy soil on a shady border. You may also, as soon as the seed is ripe, which generally takes place about midsummer, sow in boxes or pans, planting out the seedlings in the open ground, and thus having strong plants to flower the following spring. We think you would be more successful with the garden *Primroses*, good seed of which can always be had in the trade. *Primrose* seeds have very hard cases, and should the soil become at all dry, failure to germinate is sure to follow.]

A summer garden.—Will you give me some ideas for a new piece of walled garden I am converting from a kitchen one into a summer flower garden? It will open by an arch into the rosary. It is to have a sundial in the centre. Masses of colour together are wanted, but the corner beds seem too large for one thing. Green angles where plants are wanted coming out of the Grass. There is a border at east side, 70 feet by 10 feet, water filling, Box as a background. I want it quite a summer garden—no *Phlox* or *Michaelmas Daisies*, *Dahlia*s, or those sort of autumn things.—M. S.

[Read the chapters in the "English Flower Garden" on the "Summer Garden Beautiful." Plant Monthly and Tea *Roses* and the best of the half hardy bedding plants. In the corner beds you could have groups (say six or twelve plants) of the best of the Tea *Roses*, with an undergrowth of Tufted *Pansies*. *Carnations* also would answer well.]

Sowing lawn Grass seed.—I have a piece of ground 108 square yards, which is intended for a lawn. It has been well dug over and rolled and levelled, and laid open all the winter. Can you tell me how much Grass seed I ought to get for it, so that I may have a respectable looking lawn this summer? Any hints as to making the lawn will be acceptable. Also, would March be too early to begin, the climate here being somewhat mild? Thanking you very much for your helpful answer a week or two ago.—C. W., Worthing.

[No doubt, in your comparatively warm district, you may sow Grass seed for a lawn so early as March, but generally April is soon enough. You should obtain 2 lb. of lawn seed, and in ordering state whether your soil be light or heavy, loamy or chalky, that you may have Grasses suited for the soil. Before you sow, assuming, as you say, that the soil is settled and well levelled, stir the surface with the point of a fork, or else with a long toothed iron rake, then sow the seed with the greatest care when the weather is quiet, so that it falls on the ground perfectly even, then lightly rake over and well roll it in. Birds must be kept from scratching and eating the seed. Growth should follow in a week, and in a month you should have a thoroughly green lawn. The first mowing should be with a scythe.]

Dividing hardy plants.—I have beds and borders of *Saxifraga Wallacii*, *Tiarella cordifolia*, *Arabis*, etc., that have grown very straggling and untidy, not having been divided and replanted during a long absence from home on my part. When is the best time to lift and replant under these circumstances?—MAIDENCOMBE.

[All of the plants named by you may be taken in hand at once. The *Arabis* and *Saxifraga Wallacii*, indeed, submit to division and replanting at any time during early spring: the *Tiarella* likewise, though in this case being, in some few instances, inclined to send up quite early in spring its flower spikes, it is advisable to take this plant first in hand. You will find little difficulty in increasing it, but we may warn you not to cut through the tufts in any haphazard way, as, owing to its mode of rooting and growth, a large number of root fibres may in this way be sacrificed. By lifting the clumps and washing away the soil, you will find that it is easier to pull this plant to pieces than to attempt to cut it up. We strongly advise the former mode, and if the short rhizomatous growths are firmly replanted, you have done the best possible. In certain instances the young outlying shoots root freely, and this may be so in your old established plants. But at any time when March is with us

you may start, and the sooner the better. The other plants are less difficult to please in this matter, and may be taken in hand almost at any time.]

Californian Bush Poppy (*Romneya Coulteri*).—I wish to plant the Californian Bush Poppy (*Romneya Coulteri*), but as the plant is reputedly tender, I should be glad if, on hearing of the results of the year, you would tell me if it would be likely to succeed? The soil is light, warm, and of fair depth (about 2 feet), inclined to be gritty, and well drained. Its one fault is that it does not retain the moisture well enough during periods of drought, but this is provided against by deep trenching, a layer of manure well down in the bottom, and surface mulching. *Phloxes* have succeeded remarkably in it. *Roses* do well with an admixture of somewhat stiffer soil, and Sweet Peas bloomed continuously until October, both during last summer, which was wet, and the summer before, which was dry. The position intended for the *Romneya* is a bed of irregular outline (all my wall space is filled up) facing south, but not receiving the sun until between 10 and 11 o'clock at this time of the year. It is about 12 feet across in its widest part, and of a similar measure in the perpendicular direction. It is well sheltered on the north and east by high banks, topped by thick hedges some 10 yards distant, but exposed to the north-west wind, the prevalent current here during the winter. The climate is, however, very mild, the sea being about four miles off. It is a rare occurrence for the mercury to fall more than 4 degs. below freezing point. That has not happened yet this winter, and only on one occasion was it down to the 28 degs.—ROMNEYA.

[We see no reason why the *Romneya* should not succeed. It is quite hardy in general soils, enjoying best a warm loam. It does best on warm soils in different parts of the country, so that no one need doubt the fitness of this noble plant for English gardens. The best winter protection is a mulch over the roots of some light porous material, such as Cocoa-nut-fine. During very hard frost a mat may be placed over the branches, but this should be removed as soon as the weather becomes less severe.]

Manuring flower border and *Roses*.—Will you kindly advise me as to the above? The soil is dry. The herbaceous lawn south bed so far I cannot do in top-dressing every season, and I fancy it may be better this spring to give it some artificial manure. What does advise? The *Roses* are in a long bed by themselves. Can I put bone-meal or nitrate of soda down the centre between the rows, forking it in? I want you to advise me to use that manure which will give the best results, and it is because the herbaceous things are so close that I think they will possibly do better if I can feed them well. I find most things do well here, especially *Roses*, and I have all the best kinds, though my garden is small, but I love every inch of it, and enjoy your paper immensely every week.—(MRS.) J. W. EMERY.

[One very important item is omitted—viz., the length of time since the *Roses* and other things were planted. Usually in soils of a clayey character the roots run deep, and the ordinary surface mulch accorded freely to the lighter classes of soils would avail but little in this case. We therefore advise that for the herbaceous plant border a dressing of air-slaked lime be given at once, sowing it thinly between the plants and not too near the crowns. If any difficulty is felt in obtaining the lime, a good dressing of soot may be given. Sow on the surface in each case and lightly point in with a fork. This should be done before mid-March. A month later another dressing may be given from what is recommended hereafter. Obtain 1 cwt. each of bone-meal, kainit, and blood manure, mixing thoroughly together, and then add three barrowloads of comparatively dry potting soil. Thoroughly incorporate soil and manure in one heap by several times turning over, and place in a rather dry shed. After two days this mixture may be used as a top dressing for all your beds. The above quantities would afford three liberal dressings for April, May, and June. If possible, apply the dressing before rain, and if rain does not quickly follow, then wash in the manure with a heavy watering from hose-pipe. The *Roses* and herbaceous things may all be liberally treated, and if in July you could apply a liberal soaking of liquid stable manure you should have the success you desire to obtain.]

Godetias.—*Godetias* are not grown nearly so much as they ought to be, considering how full of blossoms, ranging from pure white to the deepest crimson, they are for weeks together. They are particularly adapted for growing in masses, and I recommend them to the notice of those whose garden soil is poor. *Godetias* give a better display in a town garden than most annuals, and if each plant is given sufficient room to grow, then one may expect a good display. Seed may be sown in the open air in April, thinning freely when the plants are large enough to handle.—TOWNSHEND.

PRIMULA FRONDOSA AND OTHERS.
 THE excellent illustration that accompanies these remarks shows a group of this alpine Primrose, providing an object lesson in the free grouping of alpine flowers that is worthy of



The Bird's-eye Primrose (*P. farinosa*).

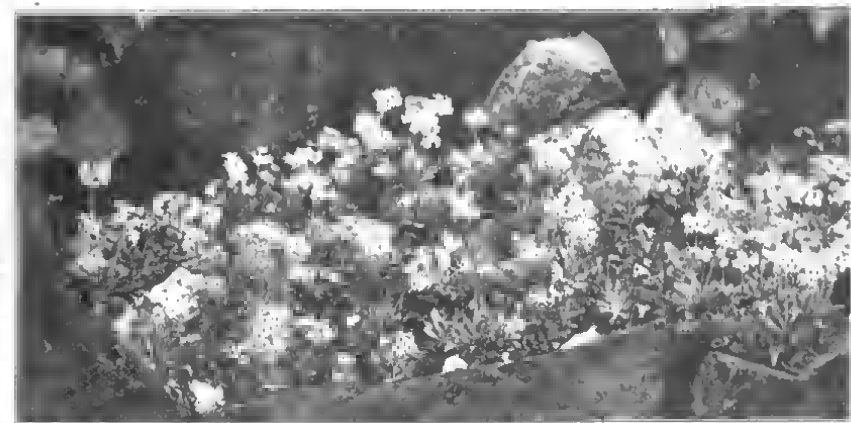
widest part only 3-inch broad. The margin is distinctly notched. The whole plant is covered with a thickish meal or farina. In the winter season all that is visible of this pretty-eyed species is a few imbricated mealy buds on the surface, that in the older plants cluster together quite closely. The yearling crown may give but one spike of flowers, but, with this flowering over, as many as three or six crowns may be seen, each of which will flower later in the year. Thus it will be seen that this gem alpine is also a good perennial; indeed, it may worthily be classed among the best alpine Primulas. The plant succeeds quite well in rich loam with plenty of grit and sand, and a free supply of water during the season of growth. Some plants in loam, old mortar, and fine charcoal have made splendid headway of late, and plants having many crowns are the result of a let-alone policy.

P. FARINOSA (Bird's-eye Primrose).—This is one of the most dainty of all Primulas, growing some 6 inches or 9 inches high, and producing blossoms of a lilac colour with a yellow eye. Seedlings vary occasionally in colour, and tints of pink and rose are frequent and pretty. The blossoms are rather less in size than in *P. frondosa*, and the leaves more silvery, perhaps. There is much in common, however, between the plants.

P. SCOTICA.—This is a dwarf or miniature *P. farinosa*, so to speak, but it is a stout and sturdy plant, notwithstanding the 3 inches or 4 inches that it attains. It is an exquisite

soil need not be sandy. Any good fibrous loam, with a little manure finely sifted added thereto, will do quite well. Make the soil moderately firm and level, and use pots, say, 7 inches or 8 inches in diameter. These may be filled nearly three parts full of the soil, and at this level the seeds may be thinly placed. It is important in the raising of these plants from seeds that the pots be sunk in the water sufficiently deep to just cover the seeds, hence the reason for not tilling the pots with the soil. As the seedlings appear—and in the case of *N. Lotus*, *N. L. dentata*, and *N. corulea* it is but a question of weeks—the pots may be sunk a little deeper in the water, and with the appearance of second leaves pot them off singly into pots 4 inches across, using rich loam and manure. A tank placed over the hot-water pipes would answer quite well for the seed raising, or shallow pots or pans placed inside much larger ones would do equally well, inasmuch as all would be under control. The larger pans would require to be perfectly watertight. The three kinds named above may be flowered the first year if grown quickly and allowed to suffer no check. Of these three *N. corulea*, which is synonymous with *N. stellata*, may be grown in the open after June in tanks where the water is warmed, and quite a number of plants may be accommodated in a tank 6 feet square. The other kinds, *N. Lotus* and *N. Lotus dentata*, must be grown indoors, though even in their case it is but a question of a right temperature and quick growth to make them flower in the first year. For these kinds water heated to 70 degs. will be ample, and with a house temperature similar no difficulty should be experienced. The other kind, *N. alba*, is quite hardy and must be treated accordingly, placing the seed-pans in the water in the open air and observing conditions akin to the above. This kind you will not flower in the first year and probably not before the third year, when a rhizome of good size should be forthcoming. When of this age the roots should be given permanent quarters in at least 2 feet deep of water, and with a bushel or two of soil to start into. The former set may be dried off somewhat in winter—that is, the temperature lowered and the water drained away gradually, never permitting the roots to become quite dry or subjected to a lower temperature than 40 degs. This may be done each year and kept up for three months or more. As to space required, *N. Lotus* and *N. L. dentata* are large-leaved kinds, and send their leaves far and wide where opportunity is afforded. At the same time a good flowering may be secured in a way similar to that for *N. corulea*; indeed, the great essential to quick development and an early flowering is heat and water, as already stated. A tank 2 feet in depth will answer, and if possible to arrange for a circular tank in the stove, no better place could be given. The following are all hardy kinds of the colour you wish for: *N. odorata*

imitation. We note some miniature growing alpine plant in blossom, and see all the beauty it reveals by a close inspection, but in the majority of instances no adequate measures are taken to reproduce the one great essential of all alpiners in their mountain home—viz., a free, natural grouping in colonies and the like.



An alpine Primrose (*P. frondosa*). From a photograph sent by Mr. H. S. Fish, Edinburgh.

How suitable is *P. frondosa* for this method of grouping the picture shows, and in turn proves also that the species is easily raised from seeds. In certain of the smaller growing class of alpiners, and in the species of Primulas in particular, the raising of the plants from seed is by far the best method of increasing the stock. Indeed, it is only in this way that a flowering group such as is now seen could be produced. Seeds, therefore, are of the greatest value, and should be preserved in every instance, if only for the rapid increase of any one kind, and more especially on account of the greater vigour of the young seedlings when compared with divided examples. Of those species producing seeds freely, dividing the old plants may be regarded as a waste of time almost, and it is not advised for the above, or even suggested as worth the trouble. Seeds are abundantly produced and young plants easily raised. In the same category with the above-named kind are two other species that for all practical purposes may be treated in the same way. These are *P. scotica* and *P. farinosa*, and the three constitute a most pleasing set in any rock garden where they are treated with a generous hand.

P. FRONDOSA.—This attains to 6 inches high, or, perhaps, rather more occasionally where soil and other things are favourable to its well-being. The blossoms are about 1/2 inch across individually, of a pale lilac, and sometimes a rosy-lilac hue is seen in the younger flowers. The leaves, which are firm and thick for their size, are 3 inches or 4 inches long, and in the

species, and when in flower, colonised as it should be, it forms a sumptuous array of rich purple that the yellow eye but renders the more intense. It is a true British mountain plant, found wild in damp pasture land in the north of Scotland. This fondness for pasture soil should not be lost sight of when the plant is under cultivation, and, in truth, the kinds named above all have a preference for rich, moist loam and of good depth.

In growing these Primroses from seeds it is well to sow them in early autumn, especially home-saved seeds. Where the seeds have to be purchased the present time is excellent, and with progress following a successful batch of seedlings, capital plants will be forthcoming during the season. It is advisable, periodically, to raise seedlings of these last two kinds, as in this way only is a good flowering group maintained from year to year. E. J.

Raising Water Lilies from seed.—I have some Water Lily seeds of the following varieties: *Nymphaea dentata*, *N. Lotus*, *N. alba*, and *N. corulea*. Will you be kind enough to give me directions for the raising of same? I shall also be glad to know how long it will be before they come to maturity, space that should be allotted to each sort, the habit of the plants, and if they will stand the frost? Can you also give me the name of a rose-coloured sort for growth outdoors?—A. L. PLUM-BROOK.

[Only one kind named by you, *Nymphaea alba*, is quite hardy; the others are tender, and *N. Lotus*, with its variety *dentata*, requires, to do you justice, almost a stove temperature. The seeds of all the kinds should be sown in the usual way in pans of soil, but in this case the



The Scotch Bird's-eye Primrose (*P. scotica*).

rosa, *N. e. rubra*, which is pure rose in colour, *N. o. rosacea*, fragrant, *N. e. exquisita*, rose-carmine. In the Marlene hybrids, which are the largest flowers, there are many richly-coloured sorts, *N. M. carnation*, *N. M. rosea*, *N.*

M. ignea, the last of a deep rose-crimson hue. If you could find room for more than one, we recommend the second and last named.]

CACTUS DAHLIA WINSOME.

This, which was given an Award of Merit by the R.H.S. when shown by Hobbies, Limited, Perchaun, on Sept. 23rd last year, is pure white in colour, with the exception of the faintest tinge of yellowish-green towards the base of the centre petals of the flower, and is the first incurved variety in this colour. The petals are long and of good substance. Every bloom is produced boldly above the foliage upon a long, wiry, stout footstalk.

Iceland Poppies.—These are very attractive when planted in groups in the borders, and their blossoms are delightful when arranged in specimen glasses. Their colours are white, yellow, and orange-scarlet. Seed sown at once in heat will provide plants, some at least of which will bloom in the autumn, and will winter safely on a sheltered border. Then, too, there are the alpine Poppies, with blooms similar to those of the Iceland Poppy, but having a greater variety of colours. These being dwarf are particularly suited for the rock garden. These also may be raised from seed sown now. Then one can not lose sight of the perennial hybrids, and the Giant Poppies, which range in colour from palest pink to deepest crimson, and from white to orange, and make a border quite showy, even when one cannot make much use of them when cut on account of their rather objectionable aroma. Who after growing them would care to be without the bright orange-scarlet blooms of the Oriental Poppy in June? Sometimes one needs bright colours in the garden. Poppies, I maintain, will meet such a want. The fear is lest one should overdo the thing in the introduction of glowing coloured flowers in the border.—W. F. D.

Panocratum maritimum.

—"A. E. K." asked on page 580 for information about the above plant. I fear there is but little hope of flowering this beautiful herb in the open, even in the warmest and most favoured spots in England. It is but rarely seen, and in the few gardens in which it is to be met with, which are those where rare and tender plants are made a speciality, it seldom or never flowers. I grow *Panocratum illyricum* and have seen the species in flower also in other gardens, but have never attempted *P. maritimum* on account of its generally unsatisfactory behaviour. Sandy soil at the foot of a south wall is most conducive to success in the case of the former, and from the nature of its habitat the same conditions should be the most suitable for the latter, but there is small likelihood of blooming it except under glass shelter.—S. W. F.

***Campanula persicifolia*.**—A correspondent drew attention a few weeks ago to the Peach-leaved Bellflower, but referred only to the original purple type and its white variety. Neither of these is, however, so extensively grown as the double white, a favourite flower, often cultivated in large quantities for cutting, the blossoms being very lasting. Two forms of comparatively recent introduction deserve especial mention, as they are far superior in every way to the older varieties. These are *C. persicifolia Moorhoimi*, with very large semi-double white flowers, quite twice the size of those of the ordinary double white, which often blooms well into the autumn, and Backhouse's variety, which bears single white bells of great size and whose flower-spike is sometimes nearly 3 feet in height. The culture of these is quite as simple as that of the older and less showy relatives.—S. W. F.

ROSES.

SEASONABLE NOTES.

It will not be too early to dig in the manure which was applied to the Roses in November. Less harm will be done now by the use of the spade among the plants. I do not favour deep digging among Roses at any time, especially where the plants are on Brier cutting or Manetti stock. If on own roots, and the plants are in a light soil, the spade should never be used among such. A far better plan to adopt is to remove a shovelful or two of the soil from about each plant, place some well-decomposed cow or pig manure in the cavity made, and return most of the soil. An annual application such as this will generally prove efficient if supplemented by summer feeding with liquid-manure.

BURIED BRIERS, both dwarf and standard, should now be cut back. The standard Briers are usually budded upon threolateral branches. All other growths are now removed, and these three shortened back to within 3 inches

side, and let both press their heel against the Brier simultaneously. After this treading dig up the alleys to admit air and sunlight. The ground trenched up for dwarf stocks will now be in workable condition for planting seedling Briers. Where it is found at all difficult to procure these, common Sweet Briers, planted out, answer equally as well for Tea and Hybrid Tea Roses. They should not be larger than an ordinary pen-holder. Set them out in rows 2 feet 6 inches apart, and use a dibber sufficiently long to prevent roots from curling. Do not attempt any work on the land when it is wet. Better far wait until the surface has dried.

CUTTINGS INSERTED in the autumn will be found considerably raised out of the ground. They should be carefully gone over and pushed down, so that their base rests on soil. Where land has not yet been dug, it should be at once ridged up ready for later planting in March. This is more especially necessary with heavy soils. I have planted out Roses end of March and early April, and they have succeeded remarkably well and flowered rather later than



Cactus Dahlia Winsome.

or 4 inches of the inserted bud. There is usually found a small portion of the Brier stem at the extreme end that has died back to the lateral branch. This dead stem must now be cut out, taking care to have a sharp pruning saw and secateurs for the purpose, also smoothing over the jagged edges with a sharp knife. The dwarf Briers budded with Teas have their tops trimmed back right to the base, and finally cut back close to the bud at the end of March or early in April. This prevents the buds from starting, to be ruthlessly cut back by frost. When the buds are cut back, shallow digging down the alleys should be performed. Do not expose the buds more than can be helped. If the soil is turned on to them they will not suffer, provided it be not a heavy clod—in fact, the buds are much better covered up until May. They will probably push through the soil, but should a heavy frost cut them back the base buds will be safe.

STANDARD BRIERS planted this last autumn will need securing by pressing the heel against the Brier. It is a good plan for two diggers to perform this work, one on either

the established plants—consequently of much value on that account. Planting may now be done with every prospect of success. All who have missed adding to their Rose garden the many lovely decorative kinds now so popular should do so at once. Kinds like Mme. Abel Chatenay, Mme. Jules Grolez, Killarney, Coralline, Caroline Testout, Mme. E. Bouliet, Mme. Antoine Mari, etc., should be found in every collection, not as single specimens, but in groups of three, five, or more, according to space available. I would also recommend the planting of some of the charming dwarf Teas, Chinas, and Polyantha Roses against any odd bits of wall space available. Princesses de Sagan I have seen 3 feet to 4 feet high in such a position. Naturally, a south or west aspect should be chosen, and good soil provided and thoroughly drained. I think we often make a mistake in planting the rampant growers when those of more moderate vigour would be more suitable. If we can in a few years have a Marie Van Houtte, Safrane, Anna Ollivier, Souvenir d'un Ami, etc., covering a wall, 7 feet to 8 feet high, why is it necessary to plant Mme.

Berard and the like, merely because of a quicker growth? In planting Roses for pergolas at this season of the year, and where response is no object, I would advise pot grown plants for the purpose. These have usually growths some 6 feet to 10 feet long, and need not be pruned back, as is the case with plants from the ground, for the ball of earth will enable the plants to support this growth. Crimson Rambler planted in this way does well the first season. I would also commend to landowners the desirability of planting hedges of Roses about their estates. Surely, if we can do anything to add to the beauty of the landscape at a trilling cost it is a worthy act. I believe we are far behind our American friends in this respect. I have been informed that it is not at all unusual to find a hedge of Crimson Rambler by the public highway. I should like to say a word relative to the Wichuriana Roses as ornamental plants in our gardens. I mean not merely as trailing ramblers, but in pillar form. Plant one against an iron or wood pillar and allow it to gracefully droop over, and I can promise anyone who plants such, a very beautiful and elegant column of growth. Something might be invented for these Roses in the form of a draped column, so that the growths may hang gracefully downwards after attaining the required height. As weepers huddled on tall stems they make perfect and beautiful objects.

ROSA.

NOTES AND REPLIES.

Feeding Roses in pots.—I read with much interest your excellent article on "Roses under glass," by "Flint." Should be glad of further information as to whether and when manure-water should be applied to established plants in pots in a cold-house. I have some two dozen (mostly Teas) bought at a sale from private gardens recently, and they have now been pruned and are starting nicely. Growth is 2 inches long in some cases. Your advice will be much appreciated.—E. U.

[If the pots are well filled with roots you can give liquid manure weak and often as soon as the buds have formed, withholding when you can see the colour to the buds.]

Pruning Roses planted last November.—Last November I planted about a dozen roses of various kinds, chiefly climbers, H.P.'s, and H.T.'s. Up to the present all look healthy and strong. I have used methods of protection as suggested at various times in your paper, but I read further that I should prune them about March. Is this really necessary, except in the case of weak or "dead" buds, as they were considerably cut back when planted? Thanking you for many things learned already.—F. M. H.

[March is the best month to prune such roses, pruning them rather hard—that is, cutting the growths back about half way and thus laying a good foundation. Next year cut out only the weak wood. In the case of the climbing roses one shoot should be selected each year and cut hard back to the ground, thus insuring a constant supply of new wood from below, and thus the baroness at the bottom, so often seen in climbing roses, is avoided.]

Roses for pillars.—Please give me the names of eight good hardy roses, suitable for pillars 6 feet high? Soil is good, also situation, except that it is a little exposed to wind. There are only four pillars, and I would like two of contrasting colours for each pillar, or one good summer flowerer, such as The Garland or Longworth Rambler, and one autumn flowerer.—S. S.

[We should advise you to plant alternately a Rambler rose and one of the Tea, Noisette, or Hybrid Tea tribe, so that your pillars would not be entirely devoid of blossom in the autumn. The frost-growing and hardiest of these latter tribes are Reine Marie Henriette, Gloire de Dijon, Mme. Alfred Carriero, Souvenir de Mme Joseph Motral, Jeanne Desprez, Marie Robert. Revo d'Or, Climbing Devonians, and Climbing Kaiserin Augusta. Victoria are wonderfully vigorous, but, we fear, not sufficiently hardy for the position. Reine Olga du Wurtemberg is a grand kind, but not very free as an autumnal. Six other excellent kinds that would clothe the pillars but would not reach far beyond are Longworth Rambler, Mme. Brard, W. A. Richardson, Waltham Climber No. 1, Pink Rover, and E. Veyrat Hermanos. The best Ramblers for your purpose are Crimson Rambler, Aglaia, Thalia, Floro, Psyche, and Felicite-Perpetue.]

Roses for bank.—Why does not your correspondent, "Flint," try the new Wichuriana hybrids, such as Alberic Barbier and René André? These are crosses between R. Wichuriana and Tea roses, the first named having for parents R. Wichuriana and Shirley Hibbard, and the latter R. Wichuriana and

l'Idéal. Both these varieties have all the vigorous character of the Wichuriana roses, but far finer foliage and larger semi-double flowers. There are other varieties of these hybrids, such as Augusto Barbier, François Fouchard, Adelaïde Moullé, etc., which as yet have not made their appearance in the catalogues of the Rose growers of this country. This is quite a new class of roses, and for the rock garden, rough banks, and similar purposes simply superb. I strongly recommend "Flint" to give the varieties I have mentioned a trial.—M.

INDOOR PLANTS.

LINDENBERGIA GRANDIFLORA.

This pretty but uncommon subject was very noticeable among a group of plants exhibited by Messrs. James Veitch and Sons, Limited, at the meeting of the Royal Horticultural



Lindenbergia grandiflora.

Society on September 2, and visitors to Kew during the autumn and early part of the present winter may have noticed it in good condition in the cool end of the T range there. It is a plant of a sub-shrubby character, and of a somewhat straggling habit, which necessitates stopping when young in order to induce a bushy style of growth, in which condition it bears a considerable resemblance to some of the Salvias, though the flowers are a good deal in the way of those of the common Musk (to which, indeed, it is nearly related), but considerably larger. The colour is a clear, bright yellow, a very effective tint during the dull weather often experienced at its blooming period. This Lindenbergia is a native of the Himalayas, where it occurs at an elevation of 2,000 feet to 6,000 feet, and is in this country essentially a plant for the cool greenhouse. It can be readily propagated by cuttings of the young growing shoots in early spring, treated much as Fuchsias, Salvias, etc.—that is, given a gentle heat and kept somewhat moist and shaded till rooted. During the

summer it may be grown in a cold frame, or even outside. If the cuttings are potted off when rooted and shifted into larger pots when necessary, they will by the autumn be well established in pots 4 inches in diameter, and good for at least three months' flowering. Though it has been known to botanists for some years, this Lindenbergia is at present rare in gardens; but now that attention has once been directed to its merits it will soon be better known. T.

NOTES AND REPLIES.

Growing Chinese Primulas.—Will you kindly tell me how to grow Primula sinensis for conservatory to flower in December? I sowed seed last February, and scarcely any came up, and those that did come up never seemed to grow, and, not being worth keeping, were thrown away.—E.

[To grow Primulas so as to have a good display in November and December, seed should be sown in heat in February or March in boxes or pans of soil composed of loam three parts to two of leaf-soil, with a small quantity of silver-sand, keeping them in the house where the minimum temperature is about 55 degs. If a small hand-light can be brought into use it will be found advantageous to place it over the pans until the seedlings are large enough for pricking off, when thumb-pots should be got ready, potting again later when it is seen they are in need of a further shift. When potting use a little decayed cow-manure, or sprinkle a little guano amongst the compost, but cow-manure is to be preferred, as it is cool. Nothing is better for Primulas than a cool pit, where the plants may be stood on sand or ashes, and where shade may be given them during the middle of the day. Shade, as much as sunshine, is necessary for the ultimate success, and, of course, as soon as the weather permits in May the lights may be removed altogether until September. Almost before they are removed into the pots intended to bloom them in, which may be anything from 5-inch to 7-inch, according to the wish of the grower, flower-buds will show up at intervals in the summer, which should not be retained, as to do this would be at the expense of bloom in winter, besides weakening the plants. As the autumn approaches one should be prepared to give them stimulants. In placing them in position in the greenhouse it cannot be emphasised too much that a light position in the house where air may be unlimited is the very best spot one can assign them, and plants from seed sown in February and March will commence to bloom towards November, and keep up a good display until January or February.]

Asparagus foliage light green.—I have some Asparagus plants, but cannot get the foliage to assume the light green shade that is so much in vogue. I see in the shop windows some is almost yellow. Can you tell me how it is done, and what soil, heat, and feeding are required to produce it like that?—H. J.

[When in a healthy state the Asparagus is naturally of a pleasing light green tint, hence, to obtain this, it is necessary to keep the plants in good condition. A very suitable soil for the Asparagus is fibrous loam two parts, peat or leaf-mould one part, well decayed manure one part, and half a part of sand, the whole thoroughly incorporated together. The temperature required is a minimum of 50 degs. during the winter, rising to 60 degs. on bright days, with, of course, a corresponding increase as spring advances. Indeed, what is

known as an intermediate house—that is to say, warmer than a greenhouse and cooler than a stove—is most suitable to the Asparagus. Feeding should only be given when the pots are full of healthy roots, and then it must not be overdone. A pinch of some artificial manure, or a little manure-water about every three weeks will be sufficient. The long sprays that one sees in the better class shop-windows are usually obtained from planted out specimens—that is to say, a well-drained border is prepared for their reception, and good plants of Asparagus planted therein, the twining shoots being trained up strings, after the manner usually followed in the case of *Myrsiphyllum asparagoides*, popularly known as Smilax.]

Top-dressing plants.—I have in a bed in my conservatory, which faces S., but has no artificial heat except an oil-stove at night to keep out frost, two *Plumbago*, two huge Ivy Geraniums, an *Abutilon*, and a very large Asparagus Fern. The bed has been made three years, and I think, although the plants are doing well, that I ought to renew it a little. Would you kindly tell me how I should do this? I have at my disposal leaf-mould, loam, lime, and sand. I should add that at the foot of the climbing plants are three large common Ferns.—G. A. L.

[Clear off a little of the surface soil, being careful that you do not injure the roots of the plants in any way. Then mix the leaf-mould, loam, and sand, adding at the same time some rotten manure, and top-dress the border well with this.]

Arum Lillies.—Many who grow Arum Lillies lose sight at least of two important factors in their cultivation, and they are these: (1) Comparatively cool treatment; (2) a period of outdoor growth. It is, I think, a mistake to unduly force plants into bloom by placing them in a high temperature, which, so far as these *Richardias* are concerned, is likely to weaken them and make them an easy prey to green-fly, to which they are subject. I long since formed an opinion that planting in a shady part of the garden during the summer months, where they were fed with liquid-manure and liberally supplied with water, was the right course to pursue, as the plants which had been kept in the house were weak and puny in comparison. Those grown out-of-doors were reported in September and again brought under glass, being kept cool and free from frost until March, when they were brought into gentle heat and supplied with stimulants. The spathes produced from them were in every way superior to those on plants which had been kept in the house the year round.—WOODBASTWICK.

Pelargoniums.—It often happens when Pelargoniums are kept in pots in the greenhouse from year to year that they exhibit a leggy and altogether an undesirable appearance. This is brought about very often by their being mixed up with taller-growing subjects, and so they become "drawn." A few short, bushy plants are to be preferred to a number like those described, and should anyone possess plants that really ought to have been cut down last autumn, they will be well advised to bring the knife into use now. I have noticed invariably that whenever Pelargoniums have been allowed to get into this leggy condition the pots containing them have been covered over with that greenness which is a true indication that there is something radically wrong with the drainage. Plants in such a state should, in addition to their being cut back, be repotted, removing most of the old compost and shifting them into clean pots, using a little old turf, with leaf-mould, sand, and bone-meal, keeping them rather close for a few weeks until new growth takes place. Such plants, if stood out in the open in July and August, will give such a supply of bloom in the autumn as will astonish those who have been accustomed to look upon them as almost "having had their day." If, as suggested, cutting back is done at once, the cuttings which are worth retaining will root quickly with a little bottom-heat, and will doubtless be found useful for filling spaces in the borders in June and July rendered vacant by failures that will occur at times, no matter how careful one may be.—WOODBASTWICK.

Mimulus.—Although, strictly speaking, the well-known Monkey-flowers are perennials, they may be easily raised from seed and flowered the same year if sown in heat in March. *Mimulus* are hardy and bloom freely in the open air. It is, however, for indoor blooming that a sowing is suggested during the present month. Seed little more than

covered and kept moist in boxes or pans of very light soil will soon produce plants in a warm greenhouse ready for potting off in April. They are exceedingly showy, and must at all times be kept well supplied with water. Once let them get dry and their beauty is soon marred. They are, however, lovers of sunshine, and no doubt this is one reason why they do so well in rottage windows. *Mimulus* also form a convenient groundwork for standard Roses.—LEAHERST.

ORCHIDS.

ANGREECUM SESQUIPEDALE.

The illustration of this Orchid shows the plant when in flower last January in the gardens at Carton, Co. Kildare. The plant was over 4 feet high, with two growths, and carried ten spikes with 38 flowers. The thick, waxy flowers of this Madagascar Orchid, their ivory whiteness, and their extraordinary form are wonderful. The *Angreecum* are all epiphytal in habit. The specific name—sesquipedale—means a foot and a half, and refers to the long spur. The plant is grown at the warm end of the Orchid-house, with a night temperature not under 60 degs.



Angreecum sesquipedale. From a photograph sent by Mr. V. de O. Hughes, Carrygrane, Edgeworthstown.

by day; 65 degs. to 68 degs. during the winter months. In summer the temperature at night is 65 degs.; by day, 70 degs. to 80 degs. The potting compost consists of Sphagnum, rough crocks, and lumps of charcoal. The plant is never freely watered, but kept in a moderately damp state, not allowing it to get dry even in winter, although much less water is then required. V. DE O. HUGHES.

Coronilla glauca in small pots.

Since *Chrysanthomums* have become so popular this old plant has not been seen so much, which is to be regretted. The *Coronilla* blooms over a much longer period than *Chrysanthomums* and will bear the damp much better. This is of considerable importance to those with cold or only slightly heated houses. Few things are more ornamental than nice, small plants of this for placing in prominent positions, and especially for associating with Ferns, *Euonymuses*, *Veronicas*, etc. A good way to grow these small plants is to root cuttings in the autumn, potting them off early in the year. When the pots are full of roots pot the plants into 4-inch, 5-inch, or 6-inch pots, growing them in the open, in a sunny position, through the summer. When frost

sets in remove into a cold pit or house. These young plants will bloom through most of the winter. They thrive best in a sandy loam.—DORSKOT.

GARDEN PESTS AND FRIENDS.

Fruit-tree Bark-beetle (*Alexander*).—Your letter is attacked by the grubs of the fruit-tree Bark-beetle (*Scytalus rugulosus*), mentioned in *Gardening Illustrated*. I have nothing to add to what I there wrote, except to say that it is of no use trying to kill the grubs with an insecticide, as the latter would have no effect on the pest through the bark.—G. S. S.

The common ant (*A. Concolor* Reader).

—The insects you sent in a glass bottle were specimens of the common garden ant (*Lasius niger*). This species varies very much in size, your specimens were quite small ones, but ants, like all other insects which have attained their perfect condition, never grow. It is only in their immature states that they increase in size.—G. S. S.

Grubs in field (*Cuscuta*).—The grubs you sent are those of the common Cockchafer (*Melolontha vulgaris*). They are decidedly injurious, as they feed on the roots of various plants, and are very voracious. This insect takes three years to undergo its transformations, and the amount of food it consumes is very considerable. The Cockchafers feed on the leaves of trees, and in this country seldom do any appreciable harm to them, but on the Continent, where they are at times very much more numerous than they are here, they injure the trees very much. There are no means of destroying this insect except by turning up the ground and killing all you can find. No insecticide would have any effect on them. Rooks and Pewees are very useful in destroying them.—G. S. S.

Ross scale (*H. M. T.*).—Your Roses are badly infested with the "White Rose scale" (*Anilacaspis rosae*). I should cut away as much as possible of the affected shoots and burn them, and then spray the plant or paint the shoots over with paraffin emulsion, made as follows: Boil $\frac{1}{2}$ lb. of soft-soap in 1 gallon of soft water. When thoroughly dissolved, and while quite hot, add 1 gallon of paraffin, and churn the ingredients together with a syringe until the mixture becomes white and creamy. In this condition it may be kept for some time, and if properly made the paraffin will separate from the soap. Before using, dilute it with nine times the quantity of water. When applying it, either with a brush or spray, be careful not to leave any part untouched by the insecticide. It is well to use it before the buds open, for otherwise this mixture might be too strong for the opening leaves, which are naturally very tender.—G. S. S.

Black Currant mite.—I enclose a few pieces of a Black Currant bush, which seem to be affected with some sort of disease. As you will notice, the buds have already begun to swell, but in the summer months they form into a knot, resembling a Rose about to open. They never get into leaf, however, and seem to remain dormant all summer. The wood seems to be healthy enough, although I have sent a small piece which seems to be affected.—CONSTANT READER.

[We fear you have not fully read your *GARDENING ILLUSTRATED*. If you had you could not fail to have noticed numerous references to the Black Currant mite (*Phytosus Ribis*). It is that very tiny insect which has infested your Black Currant bushes. Every bud which is swollen or burst is a nest of these mites, and the best remedy is to pick those off and burn them. We judge by the appearance of the piece of shoot sent that your bushes sadly need thinning. Do that first, cutting out all crowded or weak branches, then pick off carefully, as advised, every burst or swollen bud, burning those and the prunings. That will partially check the insect this year; you must, however, follow up the bud-picking each winter, doing it early. Any external applications seem to be of no use in helping to destroy the mite. If you can, remove a few inches of the top soil over the roots and replace with fresh soil and some manure. The sample of wood seems to be none too ripe, showing the need for thinning the bushes freely.]

Value of refuse from making acetylene gas.—Can you tell me if the sludge or lime refuse from acetylene gas is of any value as a manure? I know from experience it is most useful in killing slugs, worms, etc.—ESQUIZZA.

VEGETABLES.

WORK IN FROSTY WEATHER.

WHEN the weather is very frosty then is the time to press forward manure wheeling. Then it can be done cleanly, with less than half the effort required when the ground is wet and pasty, and, moreover, the land is so much better without the puddling attendant on wet weather wheeling. The manure on the ground, the work is practically half done. Gardens infested with insect pests are the better for digging and moving about in frosty weather, and it is the best opportunity for trenching for special crops. Some will say do not bury frozen soil because it will make the ground cold, but I have not found in medium and light soils that any injury is done, but rather a benefit, because of the extra depth to which the ground is pulverised and sweetened by frost. The surface of ground that has been recently dug, and on which, maybe, much rain has fallen, we go over and break up with pickaxe if too hard for forks, which at once exposes an additional depth of surface soil to the action of frost. When frost is past, this soil crumbles down finely, and is in prime condition for seed sowing. Clayey soils are, perhaps, not so well for this extra frosting. Those who have had a long experience declare that spring digging gives the best returns on the clay. When the wind is not too cold, and there is a little sunshine, pruning of garden trees can be done much more cleanly when there is just enough frost to harden the soil. It would not be a good practice, when the wood is hard frozen, to prune. Frosty weather makes the gardener keen on covering up his Celery rows, Potato clamp, Endive, and other things likely to suffer, and provide for everyday use by digging up sufficient root vegetables to carry him over a frosty period. It is a good plan to spread some manure over the ground occupied by roots, as this prevents the frost penetrating deeply, and makes it easier to obtain vegetables should the frost be prolonged. Newly-planted trees, shrubs, or Roses need some provision to keep their roots safe: if strawy manure cannot be given, leaves or clippings from shrubs will afford temporary protection. Anything newly planted repays a covering of some non-conducting substance—leaf-mould, animal manure, dry leaves, Bracken, and Cocoa-nut-fibre are each severally of great value should newly-planted, though hardy, subjects be overtaken by severe weather. The dry stems might be gathered up from herbaceous borders, where this has not already been done, and burned, and returned to the soil while yet dry and fresh. Some fertility by these means would be restored to the soil, and the same may be said of the fruit-tree prunings; they can easily be gathered up when frosty, and those of no value as stakes, cuttings, or grafts, charred in a slow fire.

W.

SPRING-SOWN ONIONS.

If there is one vegetable the gardener prides himself upon growing well it is the Onion, nor does it end here, as the cottager and amateur alike are always eager to point out their Onion bed to those interested in vegetable culture. A clean, well-grown, and well-ripened plot of Onions always proves a source of pleasure to the grower. The ground should have been dug early in the year, but it sometimes happens such work gets unavoidably delayed, hence the remarks given here at so late a date. The ground for Onions cannot well be too rich or too deeply dug, trenched if the soil allows; if not, then it should be double dug or bastard trenched, as it is often called, burying part of the manure with the second spit, and the remainder between the two, and digging the soil or throwing it up roughly as digging proceeds. Manure from the piggery takes a lot of beating for this crop, except it be that from the cow-yard, though many of us have to do without either, and rely upon ordinary stable-manure and decayed leaf-soil thoroughly incorporated together, and the application of some approved artificial manure while the crop is in active growth. Gardeners of the old school thought if the seed were not committed to the ground before the 21st of February, the crop would be anything but

satisfactory, but quite as hoovy crops are harvested to-day if not sown until the second week in March. Soot, as every gardener knows, is an excellent fertiliser for Onions, and I always scatter a moderate layer over the plot before breaking down with the fork, with the addition of a thin coat before the rakes are put over it. The soil must be in good working order ere this work is undertaken, as it requires a deal of preparation before and after sowing the seed, and to attempt to put the crop in on heavy soil while at all wet is to court disaster. The soil ought not to adhere to the feet much while the work is being carried out. Light or sandy soils cannot well be too firm, and a bright, windy day should be chosen to prepare it by forking back the piece early in the morning (especially retentive soils), and allowing it to stand over until the next day if fine weather is likely to last. Give a second forking, then tread the ground over thoroughly before raking off the stones, etc. I prefer treading to rolling, which many advise, as I consider the ground can be made more even with the feet. Next draw the drills, which should not exceed an inch in depth. A three-cornered or triangular hoe is the best tool for this, and the rows are better if running north and south, and must be 12 inches or 14 inches asunder. As regards

Sowing, an evil to guard against is using too much seed, which is frequently done. The labour required when thinning has to be done to what is necessary when thinly disposed in the row is very great. Fill in the drills with the feet and tread the whole plot over again before the final raking is given, making the edges neat with the spade. A fairly calm day is necessary for sowing, or the seed is liable to get blown about. Showery weather is best for thinning the crop, which should be undertaken as soon as the plants are large enough to handle, and it may be necessary to lift the soil a bit with a pointed stick in some cases, but this should be made firm again with the fingers, allowing a space of 4 inches or 5 inches between each plant. In the early morning, while the foliage is wet with dew, dust over with soot once a week or so, which will greatly benefit the crop and assist, if not actually ward off the Onion-fly. Weak manurial waterings occasionally will help to swell the bulbs, when, towards September, the grower should be rewarded with firm, solid bulbs that ought to keep well into early summer. J. M. B.

Samphire.—The story is often related of a party of shipwrecked people climbing up the rocks until they discovered a tuft of Samphire, and then they knew they were safe, for the Samphire never grows when the tide can reach it. Is the above statement true? My opinion differs from this, as I have the recollection of gathering Samphire at the head of Morecambe Bay, on a part of the beach covered by the tide at every time of high water. Wild Celery grows in the same locality. Is this the plant from which our garden Celery has been cultivated?—T. EDWARDS, *Oldham*.

[By the seashore the Samphire is gathered from the rocks, where it grows naturally. Yes, the Celery of our gardens is a cultivated variety of the wild Celery (*Apium graveolens*).—Eu.]

Tomatoes in unheated houses.—In the South of England a very large number of glass-houses are erected without any artificial heat, these being mostly employed for Tomatoes during the summer, and for any catch crop that needs protection in the winter. The time has now arrived for starting operations, even in cold-houses, as the borders need deeply cultivating and liberally manuring, adding also a good proportion of new soil. There is no other crop with which I am acquainted that exhausts the soil so much as Tomatoes. To get the plants strong, the seed should be sown at once in gentle heat, and the seedlings grown on into dwarf, sturdy plants, ready for putting out next month. Sow the seed in good new loam, and keep the seedlings moving gently. Do not give guano or other highly stimulating manures until the fruit is set and swelling, or the chances are that over-luxuriant growth will check the production of fruit. As regards varieties, it is better to

rely on good well-known sorts than to risk the loss of a crop by trying novelties. Chemin Rouge and Ham Green are good useful kinds. —J. G., *Gosport*.

GARDEN WORK.

Conservatory.—Hanging Campanulas, *C. isophylla*, blue and white, and others, are among the useful, easily-grown subjects which can be grown in either the large or small conservatory or the poor man's cottage window. They are pretty in a basket, and equally good in a pot standing on a bracket in the room. All the indoor Campanulas may be increased by cuttings or seeds or by division of the crowns. Cuttings rooted now will flower during the summer if helped on for some time in heat and shifted into larger pots when necessary. There are various greenhouse and conservatory plants which may be raised from seeds, and this is the time to sow. Among these are Balsams and Cockscombs. Balsams will grow anywhere if there are heat, moisture, and light. The last is important to keep the plants dwarf and sturdy. We generally sow in a hot-bed, and move the plants to a drier, but still fairly warm, atmosphere for a time before potting off. Equal parts of loam and leaf-mould, or very old manure and some sand, will grow all this class of plants well. The quality of the blossoms depends a great deal upon the parentage; especially is this the case with the Cockscombs. It is not the ordinary purchased Cockscomb-seeds that will produce the large combs exhibited at the shows. I have generally obtained a small supply of seeds from an exhibiting friend, but this large, highly-fod bloom does not produce many seeds, and therefore they do not often reach the seedsman. The Germans used to have a very decorative strain of Cockscombs, not abnormally large but pretty and interesting; the plant, instead of throwing all its force into one large comb, developed quite a number of smaller ones that were very pretty, and there was considerable variety in colour. This house now will be very gay with various spring flowers. Years ago we had many of the New Holland plants in flower at this season, now we grow Narcissi by the thousand, Lily of the Valley, Spiraea, Azaleas, Rhododendrons, and other forced things in large numbers. Well-grown Lilacs are very useful now, and Arum Lilies, either in groups or dotted about, are striking. Basket-plants may be had in flower all the year round by working on a system of change, which is not difficult or expensive to carry out.

The etove—This is the best season for propagating all plants under glass. Plant life seems more alert, and cuttings root quicker and with more power. It is not necessary to particularise anything. One may take the whole range of the etove and take cuttings from any plant which has young shoots 2 inches or 3 inches long. Bouvardias which have been rested and cut back will be breaking into growth, and when the young shoots are 2 inches long they can be cut just beneath a joint, the bottom pair of leaves removed and inserted in pots or pans of sandy soil and plunged in a good bottom-heat. As regards potting off rooted cuttings, they should be lifted out of the striking bed and hardened for a few days before being disturbed at the root, and after they are potted off, should be returned to the bed for a time to get them started into growth to avoid giving a check. Some plants are now going to rest, others are just waking up to a new life. Among the former are the Poinsettias and Euphorbias, and Gloxinias and Achimenes are just commencing another season's work. The last-named were made much of years ago; at many shows a class was created for them, and very handsome specimens they made when well done. A little two-year-old cow-manure will be an advantage in the compost at the last shift when large specimens are made up.

Early Peaches—regulation of the growth.—The proper thinning of the young shoots (commonly termed disbudding) is among the most important operations in Peach-culture. Under glass we are not compelled to think so much about the value of the shelter of the

foliage to the young fruits as in the open air; still, to avoid checks by the removal of too much foliage at once, the work is best done gradually. This extends for several weeks, beginning, of course, by the removal of all badly-placed shoots which cannot be used for training in to fill up open spaces. So long as there is vacant space on the trellis free growth should be permitted in this direction, but in the case of a full-grown, well-furnished tree, the number of shoots required when the thinning is completed is surprisingly small. One good shoot near to base of each bearing shoot is generally all that is required. The leader, also, must be retained, though, if space upwards is limited, the leader may be pinched when a foot of growth is made.

Early Tomatoes.—Whether grown in pots or planted in troughs or boxes, the soil should be open and sweet, though made firm by pressure or ramming. We want sturdy growth that will set its blossoms, and firmness of the soil assists this in hardening the fibres of the growth. Good sound loam, enriched with soot and some bone-meal, will be suitable. Room can be left for top-dressing if in pots or boxes, and when the bottom trusses are set these top-dressings of rich material will add much to the weight of the crop and do away in some measure with the necessity for so much liquid-manure, which, if used in excess, leads to cracked fruits in the final swelling. The question as to which is the best early Tomato is mainly a matter of opinion. I have had good crops of Early Ruby and Comet. The latter I am growing this season. The old Red was a heavy cropper, but its shape will not do now. Chemin Rouge is a good Tomato. Up-to-Date is not bad, but I want something a little larger. Freedom I have had for a number of years, but it is not quite early enough. Holmes' Supreme is very free, but, like Up-to-Date, rather small. For late work, Lawronson's No. 3 is the heaviest cropper I have had yet, though it is rather coarse in appearance. There is, however, any number of varieties to select from. Keep all growth pinched from main stems, and the leading shoots trained in regularly. Keep the roots reasonably moist and ventilate freely in warm weather.

Figs in pots.—Thin the young shoots freely, and when five leaves have been made pinch the ends of the shoots sufficiently to destroy the tissues and stop further growth. The second crop will start from the axils of the leaves of these young shoots. The cause of fruit-dropping generally arises from irregularity in the treatment, especially as regards watering and temperature. Anything in the nature of a chill, either from using cold water or a rush of cold air through the house, may cause the fruit to drop.

Window garden.—Boxes outside may be gay with bulbs or hardy spring flowers, such as Tufted Pansies, Primroses, Wall-flowers, Forget-me-nots, and autumn sown annuals, such as Nemophila and Saponaria, with trailing Ivies and Periwinkles to hang over box. All these things are cheap, and can, later on, be replaced with others that will last through the summer. Boxes can be planted now with Musk, or some other form of Mimulus for shady windows. Other boxes can be sown with Mignonette by those who desire fragrance. In all cases good soil should be used.

Outdoor garden.—All those who have large flower gardens to fill are now busy working up stock. Cuttings of everything in the soft-wooded way will root now in heat, Geraniums in a dry atmosphere, and Heliotropes, Verbenas, and other things in the hotbed, kept close and shaded for a time. Tuberos and other Begonias are being largely used for filling beds now, and may be raised from seeds sown in heat and grown on in a warm pit for some time. Tubers of Begonias in separate colours may be bought as cheaply as Geraniums now. Petanias and Verbenas are easily raised from seeds, and the plants are more robust and do not involve so much trouble as cuttings. Seeds should be sown in heat now, and the seedlings pricked off as soon as strong enough and started again in heat. These and other things should not be kept in a high temperature longer than is necessary to give them a start, as they will be more robust

grown under cooler conditions. The dwarf Camus make splendid beds on the lawn. These are easily propagated by division, but should have heat enough to start them into growth. Of course they can be raised from seeds, but seedlings do not make such a nice group, as the growth is not regular or sufficiently refined for the work. There is yet time to sow seeds of the various fine-foliated plants used for sub-tropical bedding. The large-leaved plants must have time and warmth to get strong before planting time. Hardy edging plants may be replanted now. The House Leeks have disappeared from many gardens. Golden Thyme makes a neat edging.

Fruit garden.—Flower-buds on fruit-trees, especially Pears, are in some gardens almost ready to burst. The Pear crop is, I fancy, in a critical condition, unless some way can be devised for sheltering the blossoms. Plums and Apples are still backward, but Pear-trees always seem excitable in mild springs. Everything in the way of suitable material for affording shelter should be got ready. It is the cold winds and the storms of sleet which do most of the damage. It would be comparatively easy to arrest the frost, which descends perpendicularly from the clouds, by erecting copings over the trees on walls, and drawing a double thickness of fishing-net over pyramids and bush-trees. At the present time, and in the near future, the Pears, Apricots, and Peaches are the trees we must first think about. To keep up a supply of forced Strawberries, fresh plants with plump crowns must be introduced every ten or fourteen days. The latest batch that forms the link between the crop under glass and those altogether outside may come on in cold pit, or be growing on a south border sheltered by frames. I should like to know how those who have adopted what are termed "travelling houses" find them answer? No doubt good crops could be grown under glass in this way by a competent man, but will it pay for the increased outlay and extra wear and tear? Houses may travel easily when new, and all things work smoothly, but what is the result after five or six years?

Vegetable garden.—The land which has been turned up during the winter works splendidly now, and a good many amateurs are busy in the garden. Of course, the practical gardener always has his hands full, and will have his seed bags out sowing various small crops of early things. The main thing, of course, is to get the land into condition, reasonably manured to suit the various crops. No one would apply fresh manure to land intended for Carrots or other tap-rooted plants, neither should the plants which bear pods receive much nitrogen, as they can gather what they require from the atmosphere, and nitrogen runs the plants into straw, and reduces the pods. Basic slag was first brought into notice as a manure for Grass land, but it is now being used for Potatoes and other crops, and its price being reasonable, it is likely to be more called for as a dressing for land deficient in potash and phosphates. Many of the proprietary chemical manures are too high priced for profitable use in our changeable climate, when the absence of rain at a particular season may render the manure of no avail. One of the most valuable crops in the garden now is the Winter Spinach, but the result is often spoiled by sowing too much seed and leaving the crop unthinned. I often see it in this condition in modern-sized gardens. The good gardener, of course, knows better.

E. HODGAY.

THE COMING WEEK'S WORK.

Extracts from a Garden Diary.

March 2nd.—Pruned back Ivy on walls and edgings. Several overgrown shrubs in the backgrounds of shrubberies have been cut back—some of the oldest have been grubbed to make room for better things. Details of this kind of work are done every season. In some cases openings are made for choice Conifers, Hollies, or coloured-leaved trees, as the Purple Beech, Scarlet Oak, or Silver Poplar (P. Boleana). The roller is used often now on lawns and walks.

March 3rd.—Moved from Mushroom house Rhubarb roots which have been forced. The roots are placed outside for winter and sheltered

with a little long litter. By-and-by the strongest crowns will be planted out again to make stock. Sowed several kinds of Onions, including White Globe and James' Long Keeping. For earlier use we sow in boxes and plant out in April. This follows the autumn-sown plants. Parsnips also have been sown. Early Carrots in the frame are now nearly fit to draw. Successions are sown on the warm border. Radishes are plentiful.

March 3rd.—Peas and Beans which have been started under glass have been planted out, the Peas protected by a few evergreen branches on the windward side of the row. Sowed Asparagus-seeds to raise young plants for transplanting. Removed covering the Globe Artichokes, and forked in all the soil material to improve the soil round the plants. By-and-by, when they begin to grow, suckers will be taken from the old plants and new plantations made. We plant a row or so every year, and clear off some of the old stock.

March 5th.—Potted off autumn struck cuttings of Geraniums. Heliotropes, Fuchsias and Marguerites are shifted into 5-inch pots, early blooming, and cuttings of the young shoots are also taken and rooted in hotel. Pruned back winter-flowering Heaths which have done blooming. The vaporiser is used wherever a green-fly is seen under glass on damp, still nights. Late Peach-house is kept drier when trees are in bloom and the ventilation is free, without draughts.

March 6th.—Gloxinia and Begonia bulb-tubers have been started, the former in pots and the Begonias in boxes. Planted a south-span-roofed house with Melons. Temperature at night 65 degs., air given at 80 degs. A moist atmosphere is maintained. Cleared the winter bearing Cucumbers as another lot is now in bearing, and preparation is being made for planting others. Early Lettuces are being grown in pots.

March 7th.—Thinned early Grapes in forcing-houses, are closed early to shut out some of the sunshine and save fire-heat, damping down at the same time. Put in cuttings of Tree-Carnations and White Finks. The latter are now coming into flower and will be useful for cutting. Hydrangeas and other plants coming into bloom are given liquid manure. Shifted on young plants of various kinds. Put in cuttings of Gardenias and other stove plants.

LAW AND CUSTOM.

Witnessing a will (L. S.).—A witness to a will cannot derive any benefit from its provisions. So long as he is concerned any legacy will be void, but the will as a whole will not be void, and the other provisions, if duly executed, will stand good. A husband cannot derive benefit from a will witnessed by his wife, and an individual who has anything to bequeath should employ a solicitor to draw up a will. It is the foolish and extravagant "economy."

A gardener's house.—I am a groom-gardener and occupy a house sub-let to me by my master at an annual rent of £5, payable quarterly, and the quarterly rent is due on March 25th. I am leaving my service in April, and he tells me I must leave the house at the same time, but there was never any stipulation that I must leave the house when my service terminated. I am rated for the house. Can I claim a quarter's notice, or can he turn me out when my service expires?—READER.

(On the facts stated you are a yearly tenant and are entitled to half a year's notice to quit, and the notice must expire with the end of the year of the tenancy. If your master had desired to retain the power of compelling you to quit when your service expired he should have made an express stipulation to that effect.—K. C. T.)

Agreement for letting house and garden.—A fellow-servant has had bequeathed to her by her master a house and garden. She wishes to let same to a suitable tenant, and wants a form of agreement to be drawn up to him at the rent of £1 per four weeks, to pay rates and taxes, and she wishes it to be understood in the agreement that he is not to sublet any part of the property, and that four weeks' notice is to be given either side to determine tenancy, and that the tenant to keep the house in tenable repair. She is unable to read or to sign her name. In what manner was she to affix her mark? Can I witness her mark? I am a gardener by trade, and am over 21 years of age and a house-owner.—DUMMO.

(The following form will suit your purpose. Agreement made this — day of —, 1903, between A. B., of —, hereinafter called the landlord, of the one part, and C. D., of —, hereinafter called the tenant, of the other part. The landlord hereby lets and the

tenant takes all that dwelling-house and garden, with the appurtenances, situate at —, in the parish of —, and known as —, for the term of four weeks from the — day of — next, and thenceforth upon a four-weekly tenancy, at the rental of five shillings per week, to be paid monthly, the first payment to be made on the — day of —. The tenant agrees to pay the said rent in the manner and at the times aforesaid, free and clear of all outgoings, and to pay all rates and taxes and impositions and assessments made or charged upon the said premises. The tenant further agrees not to sub-let or assign or part with the possession of any part of the premises, and that he will keep the house in good and tenantable repair. The tenancy to be determined on any day by four weeks' notice previously given by either of the parties to the other. (Signed)

"A. B.
"C. D."

The landlord should make a cross against her name, and you may sign as a witness.—K. C. T.]

A question of letting and sub-letting (*Continued*).—A cannot determine the tenancy of the allotment ground by a quarter's notice, but I cannot, from the information before me, say precisely what notice is necessary. If you want advice on the point, you must send an exact copy of the whole of the agreement, and you must say what rent is paid for the land in question. I presume that the rent reserved in the agreement is in respect of the dwelling-house, greenhouse, etc., and that a separate rent is paid for the land. In all probability the tenancy of the land can only be determined by a year's notice, expiring with a year of tenancy, but whenever the owners of the land determine A.'s tenancy by a proper notice, B. and C. may be compelled to quit also.—K. C. T.

BIRDS.

Canary troubled with insects (*Continued*).

—An old wooden cage is often infested with parasites which cause distress and irritation to the inmate. You must scald the cage with boiling water, well scrubbing with strong soda and soap and then rinsing with clean water. When quite dry carefully paint the cage with Fir-tree oil. The nits upon the bird can be destroyed by dusting it with Pyrethrum-powder, or paraffin-oil may be used. To do this hold the bird firmly in one hand, and, with a small camel hair brush, dipped into the oil, touch it here and there whilst blowing up the feathers, taking care to use but a small quantity of paraffin, so that the feathers do not become soiled. If the cage is not very valuable it would be advisable to destroy it and provide your bird with a new one.

Treatment of Nonparail (*F. B.*).—This handsome bird should be fed upon dried ants' eggs, ripe fruit, groats, and Millet. The Nonparail, being mainly insectivorous, cannot thrive on a diet of seed alone, and the injudicious feeding has in this case caused the constipation and fits. It is remarkable that the bird should have remained so long in health upon a diet of Canary and Millet. It would be well to give it a cage to itself, suitably regulate the diet, and, to avert the fits, give two grains of bromide of potassium in a little syrup. The Pin-tail or East Indian Nonparail should have, in addition to the above diet, a liberal allowance of Paddy Rice—that is to say, Rice in the husk.—S. S. G.

Mule breeding (*O. W. L.*).—Very beautiful mule birds are produced by mating a male Goldfinch with a hen Canary. It would be well to remove the Goldfinch from the cage before the breeding season commences. The protracted moulting of the hen Canary may be caused by her being kept in an artificial, over heated temperature, and as such loss of feathers weakens the constitution it would be advisable to provide her with a mild tonic by putting a rusty nail or a little gallon in the drinking water. It is too early in the season for the birds to pair, but about the beginning of April you may encourage this by supplying them every other day or so with a little hard-boiled egg, minced fine, and powdered Osmunda biscuit in equal parts, adding a pinch of each

seed, together about a teaspoonful. Some old mortar should then be pounded and mixed with the grit-sand, and building materials provided, which may consist of dry moss as a staple, together with a little soft meadow-lay and cow-hair. For green food give Groundsel, Lettuce, and Dandelion flowers.—S. S. G.

Treatment of Canary (*V. P.*).—You should, if possible, induce your Canary to partake of a larger proportion of Canary-seed. It is much more likely to remain in good health if fed upon a variety of seeds than if allowed to partake of Rape-seed only. It would be well to gradually lessen the supply of the latter till the staple diet becomes plain Canary-seed—the bird will consume more of this as the allowance of Rape-seed is decreased—and then every other day add a pinch of German Rape. On the days you do not give the Rape place a piece of Apple between the wires of the cage for the bird to nibble. A little Poppy-seed or crushed Hemp may be supplied occasionally. For green food give the flowering tops of Groundsel, Watercress, or Chick-weed.—S. S. G.

Death of Goldfinch (*J. J. Martin Purson*).—Consumption of the bowels caused the death of your Goldfinch, which must have been in a very unhealthy condition when it came into your possession. This complaint would arise from the bird having been improperly fed—its feeding greedily was the result of the disease from which it was suffering. The food for Goldfinches should consist of Canary-seed, the small summer Rape, and Hemp-seed, together with Thistle-seed (or the heads when ripe), Plantain, and the flowering tops of Groundsel. Hemp-seed may be supplied more freely to caged Goldfinches than to any other birds, but care should be taken to decrease the quantity towards the moulting time, or the plumage is liable to become darkened, and the natural beauty of the bird lessened. If properly treated, these birds will live long in confinement, and are fairly hardy. Being lively birds and requiring much exercise a large cage should be provided for them—a square, wooden-topped cage is the most suitable. Sharp grit-sand must not be forgotten, while fresh water for drinking must be supplied daily, and for bathing two or three times a week. This appeared to be a young bird, and was in very good plumage.—S. S. G.

POULTRY.

Scaly legs in fowls (*Old Subscriber*).

You should well scrub your fowl's legs daily with soap and warm water, then rub in zinc ointment. You must use your own judgment as to the amount of scrubbing required, as some fowls are affected more than others. It would be well to treat in this way all birds that may be suffering, and we would advise you to limewash and thoroughly clean the roosting places and perches occupied by the ailing birds.

Water-glass for preserving eggs (*H. P. Brown*).—Water-glass, or silicate of soda, is an excellent thing for keeping eggs fresh for a long time. It is sold by most chemists, and as it is put up in varying strengths, the directions of the vendor should, of course, be followed as to quantity to be used. The usual proportions are, however, 1 lb. of water glass to 1 gallon of water. It should be mixed in an earthenware vessel.—S. S. G.

Indian Runners (*E. P. Weston*).—The drake should have a narrow line of white dividing the base of the bill from the head markings, and the cap from cheek markings. The colour of the breast should be divided evenly from the white. The neck should be long, and the head of a bronzy-green colour; the legs and feet bright yellow and beak dark green. The colour of the shoulders and top of wings should form a heart flattened on the back. The chief features by which pure bred birds can be recognised are the long and slender neck, the quick and active run, the upright carriage, and the narrow body.—S. S. G.

Table birds and egg-producers (*Novitich*).—Houlians and Plymouth Rocks are generally considered the best breeds combining beauty and eating qualities. The Houdan and

binos the shape, size, and quality of flesh of the Dorking, with earlier maturity, is a prolific egg-producer, while the chickens are hardy and rapid in feathering. This breed is generally white (some individuals having black spots about the size of a shilling), boarded, and has top knots of black and white feathers falling backward. The comb is somewhat remarkable, being composed of two flattened spikes of long and rectangular form, opening from right to left, which are thick and fleshy; a third spike grows between these two, having the shape of an irregular Strawberry, while another, quite detached from the others, about the size of a Pea, shows between the nostrils and the beak. The Plymouth Rock is hardy and vigorous, being good at winter egg-production, and, consequently, profitable; the chickens of this breed grow quickly and soon attain maturity, the pullets often laying at five months. Being good foragers and small eaters, they furnish more flesh at a less cost than many table varieties. The hens are good sitters, and careful, patient mothers. Some cross-bred fowls also possess the desirable qualities of being good both for egg-producing and for table purposes, such as a cross between the Mulry or Game and the Brahma.—S. S. G.

CORRESPONDENCE.

Questions.—Queries and answers are inserted in *GARDENING* free of charge if correspondents follow these rules: All communications should be clearly and concisely written on one side of the paper only, and addressed to the Editor of *GARDENING*, 17, Farnham-street, Holborn, London, E.C. Letters on business should be sent to the Publishers. The name and address of the sender are required in addition to any designations and addresses used in the paper. When more than one query is sent, each should be on a separate piece of paper, and not more than three queries should be sent at a time. Correspondents should bear in mind that, as *GARDENING* has to be sent to press some time in advance of date, queries cannot always be replied to in the issue immediately following the receipt of their communication. We do not reply to queries by post.

Naming fruit.—Readers who desire our help in naming fruit should bear in mind that several specimens in different stages of colour and size of the same kind greatly assist in its determination. We have received from several correspondents single specimens of fruits for naming; these in many cases being unripe and otherwise poor. The difference between varieties of fruits are, in many cases, so trifling that it is necessary that three specimens of each kind should be sent. We can undertake to name only four varieties at a time, and these only when the above directions are observed.

PLANTS AND FLOWERS.

Good Pompon Dahlias (*W. J.*).—Twelve good varieties are George Brinkman and Snowflake, white; Emily Hopper, yellow; E. F. Jungler, pale yellow; Baccus, marlet; Arthur West, crimson; Nerissa, rose; Captain Boyton and Douglas, maroon; Unionist and Demon, shades of crimson.

Tulips falling (*Helen Shaw*).—We imagine your culture is at fault. Very probably you placed them in the stove, which was far too hot for them before sufficient roots had been formed. They ought to have been plunged in the open air in ashes or Cocoa-nut-fibre, so as to encourage the formation of plenty of roots before the top growth started.

Streptocarpus (*Flora*).—Plants that have done flowering should be kept moderately dry in a greenhouse temperature till the middle of March or thereabouts, when they must be shaken clear of the old soil and repotted in a mixture of equal parts of leaf-mould and loam, with a liberal dash of silver sand. He sipping of the water until growth begins.

The Karaka Nut (*Corynocarpus levigatus* (*Mex. Hartwegii*)).—This is a native of New Zealand, with white flowers in terminal panicles, fruit somewhat resembling a Plum. It grows well in peat and loam, with silver-sand added, and will do well in a warm greenhouse; in fact, the same treatment as is given to the *Ardisia* will suit it. The other plant you ask about we do not know.

Cineraria leaves unhealthy (*A. Constant Reader*).—Your *Cineraria* leaf has been attacked by the grub of the Marguerite Dandy-fly. The best way, if the plant has been attacked severely, is to cut off the leaves and burn them, or if the attack has only just begun, to pinch the leaves at the place where the grubs are. Spraying with an insecticide can do little good, as it would not reach the grubs. It might, however, prevent the flies laying their eggs if the insecticide could be applied at the right time.

Genista fragrans, striking (*A. B. C.*).—The half-pint shoots of the *Genista* and *Sauria* fringed with inserted in sandy soil and the pot plunged in a tub of cold water. They may be also struck during the summer if the cuttings have a bell glass put over them and the glass shaded; but they take much longer to root in this way than they do in heat. Cut down the old plants directly they have finished flowering, and when the young shoots commence to grow repeat, using a compost of equal parts of loam and leaf-mould, with a sprinkling of sand. Stand them out-of-doors during the summer in a sunny position, so as to ripen the wood well, and thus cause the formation of flower-buds.

Potting Tuberous Begonias (*Leon*).—One year old tubers are very suitable for growing on. Pot them in size into 3-inch pots, shifting them on as may be necessary. If you have any more, they will, of course,

need an increased size of pot at first and also later on. A mixture of equal parts of loam and leaf-mould, according to its consistency, will suit Tuberosus Begonias, while as the pots get full of roots a little liquid-manure will be beneficial. Do not allow your plants to carry any seed pods as these are very weakening.

Ericas after flowering (*Mrs. E. M. Bird*).—Cut the plants into shape, shortening back the long, vigorous shoots to one-third their length, then place them in the greenhouse, where they will start into growth. As soon as the young shoots have grown about half-an-inch, repot into sandy peat, pressed very firmly. Keep them in the greenhouse or in a frame kept close till they have recovered from the check, then stand them in the open, watering carefully till the cold nights come, when remove to the greenhouse.

Clematises from cuttings (*L. H. White*).—The usual stock on which Clematises are grafted is the roots of the Traveller's Joy (*Clematis Vitalba*). In increasing from cuttings select the young shoots when about 4 inches long, with a small heel of the old wood, and insert them round the edges of clean, well-drained pots in sandy soil. Then place in a propagating-case in a warm greenhouse, treating in the same way as cuttings of Fuchsias, etc. Layering may also be done now, burying some of the flexible shoots that are handy for the purpose. Tongue the stem below each joint and bury not too deeply in the soil.

Plants for greenhouse (*R. L. Allen*).—Had the question been more explicit it would be possible to answer it in a more satisfactory manner, but a selection of a dozen greenhouse plants without any clue to your requirements, or to the facilities you have for their culture, is almost impossible to give. If for maintaining a display during the coming season, perhaps you would prefer such subjects as Tuberosus Begonias, Pelargoniums of different sorts, particularly the double-flowered Ivy-leaved class, Fuchsias, Heliotrope, Abutilons, flowering Cannas, Lilium longiflorum, Lilium speciosum, and Lilium auratum, with Passiflora Imperatrice Eugenie, the white-flowered Passiflora Constance Kilini, and Plumbago capensis, with pretty light blue flowers. If we have not fallen in with your views please give a more detailed account of your requirements.

Furnishing a window-box (*J. A. W.*).—If you could put in the front of your window-box in May, or so soon as you could after the Crocuses were out of bloom, a few plants at the hardy Caring Jenny, then obtained a dozen or so of Panies of two or three colours, but especially white, and amidst those planted some three or four small white and red Fuchsias, your box, although on a north window-sill, should look gay for the summer. It is not wise to plant too many kinds of plants, but a few such as those named, done well, give the best effects. You should, ere you replant, turn out all the old soil, thoroughly wash the box, then refill with quite fresh soil, largely of fresh loam, with some well decayed manure, leaf-soil, and sand added. See that the holes in the bottom of the box are open, and place a little rubble drainage in the bottom before filling with soil. When so doing, place the rougher portions over the drainage first. The middle at Manchester is hardly a good place for flowers.

Growing Daphne indica (*V. A. G.*).—After flowering keep the Daphne in a greenhouse—that is to say, a structure with a night temperature of 45 degs. to 50 degs., with a rise of 10 degs. or so during the daytime. It should be given sufficient water to keep the soil moderately moist, and is greatly benefited by an occasional syringing during bright weather. It will often stand for two or three years without repotting, but when necessary this operation should be carried out directly the flowers fade. A good soil for this Daphne is a mixture of equal parts of loam and peat, with a liberal sprinkling of sand. When the spring frosts are past it may be gradually hardened off and stood out-of-doors. This is not an easy plant to strike from cuttings. The best cuttings are the shoots of the current season's wood, taken about July when they have become fairly woody. Dibble these into well-drained pots filled with sandy peat, and stand, after having well-watered them, in a little bottom-heat. This Daphne, too, can be increased by layers. In nurseries it is grafted on the Spurge Laurel or the Mezereum, but such plants often die off suddenly.

TREES AND SHRUBS.

Pruning Pyrus japonica (*A. K. L.*).—This will always flower better when allowed to grow naturally than when closely pruned. Such being the case, it should only be cut back so far as is really necessary to keep it within bounds. Any old or exhausted shoots should be cut clean out, as by so doing the young, clean growth on which depends a good deal of the future display is encouraged. A good time for doing this is as soon as the flowering period is over, as then there is a long growing period before it. You may, if you do not wish the plant to grow too far away from the wall, shorten in the season's shoots, and thus induce the formation of spurs or flower-

buds. This can be done, of course, immediately after flowering. Lay in the best of the young wood, and spur back any that is weak.

FRUIT.

Soil for Strawberries (*W. H. N.*).—Any fairly good loamy soil does Strawberries well. If yours is too light and porous, as is so much of the soil about Richmond, the addition to it of some clay from deep drains or sewers, spread on the surface 2 inches or 3 inches thick early in the winter, allowed to lie two months, then dug in and well mixed with the soil, some half-decayed manure being added, should do great good. Failing that, you should obtain, if you can, one or two cartloads of loam from a field where new houses are being erected. A few bushels of fresh soil would be of little use added to a breadth of ground from 2 rods to 3 rods in area. To have any material effect you need much more. If you got from where building is proceeding, a few spadefuls should not cost very much. You can obtain plants from any nursery in your neighbourhood. Runners of last year dibbled out thinly then should be extra strong well-rooted plants now.

Fruit-trees on walls (*C. M. N.*).—As your note refers to Peach as well as Plum and Pear-trees, we assume that you have your trees against walls, and flat-trained. As they were planted but fourteen months since, we hope then that you gave them a fairly hard pruning. It so, it will be the growth of last summer you now refer to. These shoots may well be cut back to from one half to two-thirds their length, as if left full length back buds would not break, and the branches would thus be rather bare. Peach fruit from young wood as well as from spurs; and in pruning them the best or stoutest of the shoots should be nailed to the wall and be partially shortened, weak ones being cut out. Any that break out from the fronts of branches should be cut clean out also. Treat Plum in the same way. These chiefly fruit from spurs, which are formed naturally, or by cutting back in July young shoots to four leaves, then in the winter to two buds, and these eventually form rooting spurs. Pears need similar treatment. Apply manure to the trees in May after the soil has become warm, and then only as a surface mulch.

VEGETABLES.

Growing Land Cress (*H. Johnson*).—The culture of this is very easy. The seed may be sown during the whole of the spring, summer, and autumn in any kind of garden soil. Successional sowings are not necessary, as there is no fear of the plants running to seed too soon. Its produce is not so valuable at that of the Water Cress or the common Garden Cress, as the leaves are always hardish, and their pungent flavour is always accompanied by a certain amount of bitterness.

Manuring garden (*K. L. D.*).—If you have already given your garden a fair dressing of manure, the proposed dressing of artificial manures seems rather superfluous. Most probably you would have obtained far better crops had your ground been trenched 2 feet deep, leaving the bottom soil below, but well broken up, and adding the animal manure to that before putting the top 6 in. of soil on it; that would have encouraged the roots to go deep in search of the manure, and they would have sustained crops in dry weather so very much better. Then you could have forked into the upper soil a dressing of about 5 lb. per rod, of artificial manures. You have in your order of these overdone the phosphate, as superphosphate and bone-flour are practically the same. The phosphate and potash (Kainit), well mixed and crushed, should be cast evenly over the ground at the rate of 4 lb. per rod of 30 square yards at once, and be well forked in; then add a dressing of 1 lb. of sulphate of ammonia soon after crop-growth has begun, well boxing it in.

Growing Cucumbers (*J. O. D.*).—You could raise Cucumber plants from seed in a cool greenhouse, but not very well yet. You must wait till the middle of April, when the sun gives warmth. Set eight seeds in a 5-inch pot, equally distant, in good, fine soil, burying them a little. It would help the seeds to grow if you stood the pot in a larger one, then placed a piece of glass over that, as it would help to box in the sun warmth. You would need four plants for your frame. These should be first got into 4-inch pots singly, or be in pairs in 5-inch pots, and have become strong before they are planted out. If you can fill your pits with some stable-manure and tree-leaves, well mixed and trodden down hard up to within 12 inches of the glass, then on that put 2 inches of turfy loam, and in the centre of each light a mound 5 inches deep, you should put out the plants into those mounds, two in each. Between the dung below and the sun-heat above you should find ample warmth then for Cucumbers.

NAMES OF PLANTS AND FRUITS.

Names of plants.—*Samuel Tuke*.—Kindly send a specimen, and we will name it for you.—*F. L. P.*—1, *Pyrus japonica*; 2, *Comunon Hepatica* (*Anemone Hepatica*).—*Tinsperley*.—Quite impossible to name from only one flower.—*Flash*.—*Kuscus racemosus*.

SHORT REPLIES.

E. P. S.—We doubt very much if you will be able to move your Nectarine tree with any hope of success so late in the season. If you do you must be prepared to sacrifice all hopes of a crop.—*M. C. L.*—Leave the mulching as it is, or if you object to the manure you can sprinkle some soil over it.—*M. B.*—Your best plan will be to write to some large grower of fruit-trees, such as G. Buoyard and Co., Maidstone.—*J. M.*—Apply to Amos Perry, Winchmore-hill, N.—*Mrs. L. Edrington Malton*.—Very possibly it is owing to the unfavourable season we had which prevented the wood becoming properly ripened.—*Hoadenshire*.—You can buy weed-killer readily prepared cheaper than you can make it. Consult our advertisement columns.—*C. T.*—We suppose you mean *Doronicum*, which is known as *Leopard's-bane*.—*J. B. D.*—See reply to J. R. Clements in our issue of Dec. 27, 1902, p. 505, re "Hardy Flowering Plants for shady positions." Of course, any of the hardy native Ferns will do well.—*Buquiter*.—We can find nothing on the Black Current shoots that you send.—*D. M. G. Peck*.—We have no knowledge of what the rule in your neighbourhood is.—*E. Wynora*.—You ought to have protected your blooms with handlights in some way, as then they would develop well and be fine in colour. They have evidently been preyed on by slugs and injured by storms.—*Mrs. E. M. Bird*.—See article on Asparagus, in our issue of Jan. 31, p. 617.—*American*.—Consult our advertising columns.—*A Lover of Flowers*.—Quite impossible to advise unless you can give us some more information as to what conveniences you have for raising and growing plants.—*J. H. Wright*.—You need not be alarmed, only take care that you do not buy any trees that are suffering from American blight.—*A Constant Reader*.—Do you mean an outdoor or an indoor Hibiscus?—*Acton*.—The only cure is to fumigate the house in which the plants are.—*Mac*.—See reply to "S. W." in our issue of Jan. 31, p. 618, and also reply to "S. W." in the issue of Feb. 21, p. 620.—*Reader*.—You will find an article dealing with the City of the Field (*Sternbergia*) in our issue of Nov. 22, 1902, p. 467, which can be had of the publisher, post free, 4s.—*Harold Shaver*.—You will find a fully illustrated article dealing with wall gardens in our issue of Dec. 20, 1901, p. 553, which can be had of the publisher, post free, 1s.—*M. J. K.*—You had best write to the Secretary, Zoological Society, Regent's Park, London, N.W.—*K. N.*—Yes, you might plant the Myrtle, but if the soil is heavy you will have to add some material to lighten it, also taking care that the position is well drained. If the weather is very severe, you will have to protect during the winter.—*Anxious*.—If you not leave the creepers alone altogether? It will die on Nos. 1 and 2, seeing that you will, by cutting the part covering No. 3, have severed the connection with the roots. You cannot compel the owner of No. 4 to cut it off No. 3, but you can do so yourself. It is a pity you cannot allow a little "give and take." The litter of leaves is very slight and only in the autumn, and yet you intend spoiling the effect of a row of creeper-clad houses by laying bare the one in the centre.—*Mrs. Harvey*.—See reply to H. C. Wilcox on Hyacinth culture in our issue of Feb. 7, p. 624. You kept your Hyacinths too warm when first potted, and it is not at all surprising that they have failed.—*Wilde*.—You ought to get a copy of "The English Flower Garden," in which the subject is fully dealt with. We have no objection with the subject in our issue of Feb. 1, 1902, p. 611 (with illustration), which can be had of the publisher, price 1s. See article re "Christmas Roses," in coming issue.—*B. K.*—"Table Decoration," by Wm. Low, Chapman and Hall, publishers, London.—*Obituary*.—Not a gardening question.—*Tulip*.—The Hyacinths you have grown in water are of no value for next year's flowering. You can, of course, lay them in boxes of soil, watering till the foliage dies down, and then treat in the same way as recommended for Hyacinths in pots.—*A. C. G.*—The manure you refer to is of no value, as the wood-shavings will only breed fungus and cause you a deal of trouble.—*H. G. Thomson*.—Far better defer the pruning till the early weeks of March.—*Tulip*.—See reply to your query re Ferns, in our issue of Feb. 14, p. 623, under "Short Replies."

Catalogues received.—Sutton and Sons, Reading.—*Parmer's Year Book and Grower's Manual*.—W. H. Hudson, 34, Chiswick High-road, W.—*List of Bulbs, Lilies, Seeds, and Plants*.—Gartons, Warrington.—*New and Improved Breeds of Farm Seeds for 1903*.—Amos Perry, Winchmore-hill, N.—*Supplement to Paris I and 2 re Hardy Border and Rock Plants*.—Little and Ballantyne, Carlisle.—*Agricultural Seeds*.

United Horticultural Benefit and Provident Society.—The annual general meeting of this society will be held at the Caledonian Hotel, on Monday, March 9th next, at 8 p.m. Mr. John Green, of Dereham, Norfolk, has kindly consented to preside.

END OF VOLUME XXIV.

